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REPORT

GROUNDWATER MONITORING – JULY 2015
BINARY INDUSTRIES SITE
MAGNESIUM COURT, NARANGBA, QLD

Prepared for:
DEPARTMENT OF ENVIRONMENT AND HERITAGE PROTECTION (EHP)

August 2015
Ref N^{o}: 5010/7GW

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13th August 2015

Our Ref: 5010/7GW
Your Ref: LQ5010/7

Ms. Nadine Cooper, Principle Environmental Officer
Department of Environment and Heritage Protection, Brisbane Moreton Bay
Environmental Services and Regulation
33 King Street
CABOOLTURE, QLD 4510

RE: REPORT
GROUNDWATER MONITORING – JULY 2015
BINARY INDUSTRIES SITE
MAGNESIUM COURT, NARANGBA, QLD

Dear Nadine,

We have pleasure in submitting one hard copy and one e-copy of our Final Report entitled "*Groundwater Monitoring, July 2015, Binary Industries Site, Magnesium Court, Narangba, QLD*" as requested by **EHP** on 17th June 2015 (PO No. 4500050258).

GeoEnvironmental Consultants conclude, on the basis of this monitoring event that groundwater conditions at the site have stabilized and are sufficient to support a qualitative and quantitative risk assessment of the site. Elevated concentrations of the heavy metals Cr, Cu, Pb and/or Zn (in up to 16 monitoring wells), pesticides, herbicides and phenolic compounds were detected in monitoring wells surrounding the Binary Industries facility and the un-named creek.

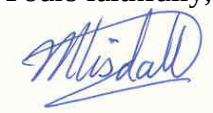
The concentration of herbicides and phenolic compounds has been generally decreasing in all wells from concentrations measured in June 2007. Measured concentrations increased significantly during the May 2014 monitoring event but have generally returned to levels consistent with levels measured prior to 2014. The results of this and prior monitoring events continue to indicate evidence of downgradient migration of herbicide and phenolic compound impact away from well MW4 in a north westerly direction toward wells MW23 and MW24. Further contaminant migration in this direction may require future installation of additional monitoring wells.

Three monitoring wells (wells MW1, MW2 and MW19) were damaged and/or destroyed by earthmoving equipment since completion of the May 2014 monitoring event when damage to well MW4 was noted. Both wells MW4 and MW19 were able to be repaired and resurveyed so that accurate static water level elevations could be determined and groundwater samples were obtained. However, wells MW1 and MW2 were destroyed. It is our opinion that the data obtained from wells MW4 and MW19 appears consistent with historical results and results obtained from similar wells on this site. Further sampling of wells MW4 and MW19 is recommended with results closely scrutinized to evaluate the integrity of data from the wells.

GeoEnvironmental Consultants recommend that **EHP** conduct further monitoring of groundwater conditions at the site on a yearly basis until a qualitative and quantitative risk assessment of the remaining contamination is conducted. The results of this risk assessment can be used to evaluate future site risks, management and monitoring options.

It has been a pleasure performing these environmental services on your behalf. Should you have any queries regarding the contents of this report, please contact either Steve Termont-Schenk (0418-883-152) or myself (07-3367-2266).

Yours faithfully,



Michael Tisdall BSc. PGDipSc.
for **GeoEnvironmental Consultants Pty Ltd**

Encl: Final Report (1 copy, one electronic copy via e-mail)

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GLOSSARY OF ABBREVIATIONS

The following abbreviations used in this report are defined here as a reference to assist review and understanding of the report:

AHD	Australian Height Datum
ALS	Australian Laboratory Services Pty Ltd
ANZECC	Australian and New Zealand Environment and Conservation Council
As	Arsenic
BTOC	Below Top of Casing
Cd	Cadmium
Cr	Chromium
Cu	Copper
EHP	Department of Environment & Heritage Protection, Queensland
EC	Electrical Conductivity
FMAE	Fresh and Marine Water Aquatic Ecosystem trigger levels as presented in the publication "*Australian and New Zealand Guidelines for Fresh and Marine Water Quality"*, (ANZECC, 2000)
Hg	Mercury
LOR	Level of Reporting
NATA	National Association of Testing Authorities Australia
NEPM	National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013
Ni	Nickel
OC/OP pesticides	Organochlorine and Organophosphorus pesticides
PA Herbicides	Phenoxyacetic Acid Herbicides
Pb	Lead
QC	Quality Control
SPH	Separate phase hydrocarbon
TOC	Top of Casing
Zn	Zinc

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1.0 INTRODUCTION

Department of Environment and Heritage Protection (EHP) engaged **GeoEnvironmental Consultants Pty Ltd** (EHP Purchase Order No. 4500050258 dated 17th June 2015) to undertake environmental groundwater monitoring services at the Binary Industries site at Magnesium Court, Narangba, Queensland. The commission was for provision of groundwater monitoring and reporting services at the subject site in July 2015. The results of this monitoring round are presented in this report. All monitoring locations are shown on Drawing No. 1, *Monitoring Well Locations.*

1.1 Objective

The objective of this groundwater monitoring program is to monitor groundwater quality at the site as part of an on-going environmental monitoring and remediation program being undertaken by **EHP**. **EHP** conducts the groundwater monitoring to ascertain if there are any threats to groundwater as a result of the chemical fire that occurred at the site in August 2005.

We were advised by **EHP** that the primary contaminants of concern at the site are Phenols, herbicides (including Phenoxyacetic Acid Herbicides (PA herbicides) and Metolachlor) and Organochlorine and Organophosphorus pesticides (OC/OP pesticides) associated with the pesticide manufacturing, storage and distribution center that formerly operated at the Binary Industries site.

1.2 Scope of Work

The scope of work for this monitoring event to meet the stated project objectives consists of the following tasks:

- Gauge depth to water, purge four casing volumes of groundwater using dedicated disposable bailers supplied by **EHP** (or wells which purge dry in accordance with AS5667.11 1998: Water Quality Sampling or more recent additions) and allow groundwater to recover in the existing monitoring wells installed at the site and the **EHP** Background well (designated Backg'nd in this report);
- Sample each of the 20 operational groundwater monitoring wells located around the Binary Industries site and the **EHP** Background well using the dedicated disposable bailers;
- Collect two (2) duplicate samples, one (1) triplicate sample and one (1) rinsate sample for quality control purposes;
- Field measurement of groundwater samples for pH, temperature and electrical conductivity;
- Request analysis of 21 groundwater samples, two duplicate samples, one triplicate sample and one rinsate sample to detect the presence of site specific target analytes (per the list requested by **EHP** – 8 heavy metals including arsenic, cadmium, chromium, copper, mercury, nickel, lead and zinc (As, Cd, Cr, Cu, Pb, Ni, Zn and Hg), OC/OP pesticides, herbicides including Metolachlor and PA

herbicides) and 8 groundwater samples (Well Nos. MW4, 5, 6, 19, 22, 23, 24 and the **EHP** Background well) one duplicate sample and one triplicate sample for phenols in the NATA-registered laboratory of either ALS (primary laboratory) or SGS Australia (secondary laboratory for quality assurance) which are accredited for the methods performed as requested by **EHP**;

- On completion of sampling the monitoring wells were left in a secure condition with the caps locked, if requested. A condition report for each well is provided in Table 1 of this report; and
- Preparation of tabulated results of the groundwater sampling and analysis and a report including observations and well conditions, field monitoring results, a plan showing groundwater contours based on the gauging results and a summarised assessment of the results compared to the results of the November/December 2006, June and December 2007, August 2008, July 2011, May and November 2012, May 2013 and the May 2014 monitoring rounds and the potential impact of groundwater discharge to the receiving environment based on the assessment criteria provided by **EHP**.

1.3 Previous Groundwater Monitoring

Previous rounds of groundwater monitoring at this site have been conducted by GHD and **EHP** intermittently since August 2005. Results of prior monitoring events were not made available to **GeoEnvironmental Consultants**. **GeoEnvironmental Consultants** conducted rounds of monitoring on all known groundwater monitoring wells in November/December 2006, June 2007, December 2007, August 2008, July 2011, May 2012, November 2012, May 2013 and again in May 2014 with the results presented to **EHP** in January and July 2007, December 2007, September 2008, August 2011, June and November 2012, June 2013 and June 2014, respectively. In addition, **GeoEnvironmental Consultants** installed and conducted monitoring on four new groundwater monitoring wells (MW21 through 24, inclusive) in May 2008. All known current monitoring locations at the site with the exception of the **EHP** Background well are shown on Drawing No. 1, *Monitoring Well Locations and Groundwater Contours*. The **EHP** Background well is located along the west side of Potassium Street north of the intersection of Boundary Road (UBD Ref: Map 79, F12).

2.0 SAMPLING AND ANALYSIS PROGRAM

2.1 Monitoring Well Inspection, Gauging and Purging

GeoEnvironmental Consultants visited the site on 30th June and 1st, 4th and 5th July to carry out fieldwork associated with the July 2015 monitoring event. The condition of each monitoring well on arrival is noted on Table 1, *Well Condition, Groundwater Gauging Results and Field Water Quality Parameters*.

Most wells appeared to be in good condition except for:

- MW1 has had significant washout impact since the May 2014 monitoring event. The steel roadbox cover and surrounding concrete are off the bore and broken up, the PVC cap had been removed and the well was full of soil/silt;

- MW2 was not able to be located. Significant earthworks/regrading has occurred where it was located since the May 2014 monitoring event and it assumed that the well was damaged or removed;
- Monitoring Well No. MW19 appeared to have been hit by a vehicle or machine while earthworks were conducted in the area since the May 2014 monitoring event. The protective well standpipe was bent over and the PVC well casing was bent below ground level but the base of the bore and the internal casing appeared to be intact. Following rectification work consisting of removal of the steel protective casing and cutting off the aboveground portion of the PVC well casing the well was able to be gauged and a groundwater sample was obtained from the well. On 30th July 2015 a new flush-mounted steel surface cover was installed and the well was resurveyed by Schlencker Mapping;
- Monitoring Well No. MW9 which has been hit and has been bent over for some time but is still operable;
- It is our assumption that Monitoring Well Nos MW8 and MW18 were never installed;
- Monitoring Well No. MW12 which was destroyed by construction of the fire access road prior to July 2011; and
- MW14 has been filled with silt since early-2007 and is now dry.

Four of the wells (MW7, MW10, MW13 and MW15) located off-site along the un-named creek were not locked at the time of this monitoring event. In addition, all wells which are located within flush-mounted steel roadbox covers (MW6, MW17 and the **EHP** Background well) were not locked.

Water levels were gauged in all monitoring wells on 1st, 4th or 5th July 2015 using an electronic interface probe equipped to measure the thickness of separate phase hydrocarbon (SPH), if present, and the depth to the static water level below the top of the well casing reference point. All wells were gauged prior to purging and again prior to gathering groundwater samples.

Field sampling was conducted in accordance with the EPA's "*Water Quality Sampling Manual*" (3rd Edition, December 1999) and with reference to AS/NZS 5667.11:1998, "*Water Quality – Sampling*" and the "*Guideline, Contaminated Land Professionals, Queensland EHP* (August 2014)". Monitoring wells were purged of at least three casing volumes, or until dry, using a disposable acrylic bailer or a submersible electronic pump. The volume of water purged from each monitoring well was measured and recorded on Table 1.

2.2 Water Sampling

Samples were gathered using a disposable acrylic bailer for each well. Field parameters were monitored during purging and sampling operations and recorded. Water quality parameters measured in the field are presented on Table No. 1, *Well Condition, Groundwater Gauging Results and Field Water Quality Parameters.*

Samples were collected in laboratory supplied and prepared bottles provided by the NATA-certified laboratory of the primary laboratory, Australian Laboratory Services (ALS) of Stafford, Queensland. To evaluate the accuracy of the primary laboratory one duplicate sample and one triplicate sample were collected in laboratory supplied and prepared bottles provided by the NATA-certified laboratory of SGS Environmental Services (SGS) of Pinkenba, Queensland.

Samples intended for metals analysis were field-filtered through a field-filtering unit and pump equipped with disposable 0.45µm filter papers. All sampling equipment was decontaminated with phosphate free detergent and double rinsed in fresh water before gathering successive samples.

Samples were designated by a number that corresponded to the sample location (e.g. Sample No. MW3 relates to the groundwater sample collected from monitoring well MW3, Sample No. Backg'nd relates to the groundwater sample collected from the **EHP** Background well). Two field duplicate samples designated Sample Nos. DUP1 and DUP2 were gathered for quality control purposes during this sampling event from Monitoring Well No. MW19 and MW23, respectively. One field triplicate sample designated Sample No. TRIP1 was gathered for quality control purposes during this sampling event from Monitoring Well No. MW19. One rinsate sample designated Sample No. RIN1 was gathered for quality control purposes after gathering a sample from Monitoring Well No. Backg'nd during this monitoring event.

A water sample was obtained from damaged Monitoring Well No. MW19 by removing the steel protective standpipe and cutting off the PVC well casing which was kinked just below ground surface. A new flush-mounted steel roadbox cover was subsequently installed at the ground surface, the well was resurveyed and a well plug was inserted into the standpipe of well MW19 following sampling.

A water sample could not be obtained from Monitoring Well Nos. MW2 and MW12 as the wells are assumed to have been destroyed and could not be located. No water was obtained from Monitoring Well Nos. MW1 and MW14 as the wells were full of soil and were dry. All groundwater samples were placed immediately into a chilled esky and transported on 7th July 2015 to ALS and SGS for analysis under strict chain-or-custody documentation.

2.3 Analytical Program

Nineteen water samples, one duplicate sample and one rinsate sample collected during this monitoring event were analysed by the primary laboratory, ALS. Analyses included a suite of eight heavy metals including arsenic, cadmium, chromium, copper, lead, nickel, zinc and mercury (As, Cd, Cr, Cu, Pb, Ni, Zn and Hg); OC/OP pesticides; herbicides (including Metolachlor and PA herbicides) and phenols (wells MW4, 5, 6, 19, 22, 23, 24 and Backg'nd and quality control Sample No. DUP1). ALS is NATA-certified for each of these analyses.

One duplicate sample (Sample No. DUP2) and one triplicate water sample (Sample No. TRIP1) collected during this monitoring event were analysed by the secondary laboratory, SGS. Analyses included a suite of eight heavy metals including As, Cd, Cr, Cu, Pb, Ni, Zn and Hg; OC/OP pesticides; herbicides (including Metolachlor and PA herbicides) and phenols. SGS is NATA-certified for each of these analyses.

Details of laboratory methods and method detection limits (or LOR, level of reporting) utilised by ALS (the primary laboratory) for the various analyses are as follows:

ANALYTES	**GROUNDWATER WATER**	
	Laboratory Method	**Level Of Reporting**
Trace Elements		
Arsenic	ICPMS (USEPA 6020)	0.001 mg/L
Cadmium	ICPMS (USEPA 6020)	0.0001 mg/L
Chromium	ICPMS (USEPA 6020)	0.001 mg/L
Copper	ICPMS (USEPA 6020)	0.001 mg/L
Lead	ICPMS (USEPA 6020)	0.001 mg/L
Nickel	ICPMS (USEPA 6020)	0.001 mg/L
Zinc	ICPMS (USEPA 6020)	0.005 mg/L
Mercury	CV-FIMS	0.0001 mg/L
OC/OP Pesticides	ALS EP068A/B	0.5 - 2 µg/L
PA Herbicides: 2,4-D & MCPA	LCMS (ALS EP202SL)	10 µg/L
Multiresidue Pesticide Screen: (Incl. Metolachlor &Chlorpyrifos)	LCMS (ALS EP215LL)	0.005 µg/L
Phenols	SIM (ALS EP075)	1 – 96.2 µg/L

Table No. 2, *Groundwater Analytical Results, Metals, Pesticides and Herbicides,* present the analytical results for all water samples collected for analysis during this and prior monitoring events. Table No. 3, *Groundwater Analytical Results, Phenolic Compounds*, presents the phenolic compounds analytical results for wells MW2, 3, 4, 5, 6, 11, 19, 21, 22, 23, 24 and Backg'nd from all monitoring events as well as the results for samples DUP1, DUP2 and TRIP1 from this monitoring event. Full NATA-certified laboratory reports from both ALS and SGS, Sample Receipt Notification and Chain of Custody documentation for samples collected during this monitoring event are included in Appendix A of this report. Laboratory quality control (QC) reports from ALS and SGS are also included in Appendix A.

3.0 ASSESSMENT CRITERIA

There are currently no established guidelines available for the assessment of groundwater in Queensland. However, for the purpose of evaluating the groundwater quality the Australian National Environment Protection Council publication, *National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013* (NEPM, 2013), groundwater investigation levels (GILs) for protection of fresh, marine and drinking water quality are provided.

GeoEnvironmental Consultants have compared the results of this monitoring event with:

1. NEPM 2013 GILs for the protection of freshwater aquatic ecosystems based on ANZECC 2000 guidance levels for slightly to moderately disturbed ecosystems (95% level of protection) have been used, allowing for possible chronic effects and bioaccumulation with the exception of Metolachlor. **EHP** recommended a site-specific water quality criteria of 1 μg/L applicable to stormwater discharges from the Binary Industries site be used as a trigger value for Metolachlor in groundwater. The ANZECC 2000 freshwater guidance levels were used to assess monitoring results prior to 2013.

4.0 GROUNDWATER MONITORING RESULTS

Results of field and laboratory testing conducted during this monitoring event compared with the results obtained during previous monitoring events are discussed in the following sections. Refer to Table No. 1 for the results of field results from this monitoring event and Table Nos. 2 and 3 for analytical results for all water samples collected for analysis during this and prior monitoring events.

4.1 Field Measurements

4.1.1 Static Water Levels

Static water levels measured in monitoring wells during this monitoring event ranged between 0.015m (Monitoring Well Nos. MW10) to 12.245m (Monitoring Well No. MW22) below top of casing (BTOC). Groundwater elevations vary between a low of 10.722m Australian Height Datum (AHD) in Monitoring Well No. MW16 to a high of 22.271m AHD in Monitoring Well No. MW17.

Groundwater elevations in the vicinity of the Binary site were an average of approximately 0.19m higher than measured during the previous monitoring event (May 2014). Elevations ranged between 1.265m lower (MW22) to 2.635m higher (MW17). These wells are located immediately adjacent to the west and east sides, respectively, of the Binary site and the Binary Dam. The groundwater elevation in the **EHP** Background well was 1.535m higher than measured in May 2014.

Schlencker Mapping surveyed all existing monitoring wells in either November 2006 or April 2008 to provide accurate top of casing elevations for all wells. However, due to damage to well MW4 (noted in May 2014) and MW19 (noted in July 2015) the elevation of these wells was resurveyed by Schlencker Mapping on 1st August 2015. Refer to Table No. 1 for the results of gauging conducted on the 19 existing monitoring wells included in this monitoring event.

Separate phase hydrocarbon (SPH) was not measured in any of the monitoring wells at this site during this monitoring event. Groundwater elevation contours inferred from gauging results for this monitoring event are presented on Drawing No. 1. Review of Drawing No. 1 indicates that the groundwater hydraulic gradient is approximately 0.0243 to the east/northeast and 0.0106 to the west/northwest from a groundwater high mound located east of the Binary Industries Dam (wells MW5 and MW17). Historically the groundwater high mound was located below the Binary Industries site (well MW4 near the Binary Dam) but appears to be moving east/northeast in the last 2 years.

The amount of this gradient, calculated as the difference in static water level across a given horizontal distance measured along the direction of travel, has been increasing over the past 2 years. The gradient in May 2014 compared to gradient to the east/northeast measured in May 2013 was 0.0195 and in November 2012 it was 0.0196. The flow direction is consistent with prior monitoring events although the location of the groundwater mound has moved east/northeast over the past 2 years.

4.1.2 Electrical Conductivity (EC)

Electrical conductivity measured in the field varied between a low of 178μS/cm in Monitoring Well No. MW13 to a high of 741μS/cm in Monitoring Well No. MW4 during this monitoring event. The **EHP** Background well had a field EC value of 1,048μS/cm. EC values measured in all monitoring wells surrounding the Binary Industries site were generally consistent with the EC value measured in May 2014 indicative of generally consistent to slightly higher groundwater levels.

EC values in excess of 1,500μS/cm are indicative of either brackish groundwater conditions or organic chemical impact. No EC value in excess of 1,500 μS/cm was measured during this monitoring event. Previously, only EC values in the **EHP** Background well have exceeded this level.

4.1.3 pH Measurement

Water pH measured in the field indicates that the groundwater is generally moderately to slightly acidic with a pH of between 3.99 (MW23) to 6.31 (MW20) in the eighteen monitoring wells while the pH measured in the **EHP** Background well was pH 3.94). The lowest pH levels (levels less than 5.0) were all measured in wells located in close proximity to the perimeter of the Binary Industries site with the exception of the **EHP** Background well.

4.2 Analytical Results

4.2.1 Heavy Metals Results

The July 2015 monitoring event results indicate the heavy metals Cr, Cu, Pb, and Zn are present at concentrations above the adopted environmental criteria in four or more wells of the nineteen (19) site wells and the **EHP** Background well. The metalloid As as well as the heavy metals Cd, Ni and Hg were detected at concentrations below adopted environmental criteria and/or below laboratory levels of reporting in all monitoring wells in this monitoring event. These results are consistent with the May 2014 results.

Review of all individual metalloid/metal concentrations and distributions for the July 2015 and preceding monitoring rounds has been undertaken to assess any distribution patterns and trends that may be emerging. The review indicates the following:

Arsenic (As)
In July 2015 As concentrations were below adopted criteria in all wells and were only detected in 5 wells. This is a slight reduction from the 7 wells with detectable levels in May 2014 and the 14 wells in which As has previously been detected. In previous rounds As has been detected at concentrations above environmental criteria in wells MW7, MW11, MW14 and MW20 located along the creek to the south east of the Binary site. Detectable As in July 2015 was present in one area centered on MW7/MW19/MW20 and two non-contiguous wells, MW16 and MW21 all located along the creek.

Cadmium (Cd)
In July 2015 Cd concentrations were below adopted criteria in all wells and below the laboratory level of detection in all wells. This is similar to May 2014 and a reduction from the 21 wells in which Cd has previously been detected. In previous rounds Cd has been detected

at concentrations above environmental criteria in most monitoring wells at the site, but consistently in none of the wells. No pattern or trends are apparent from this data.

Chromium (Cr)
In July 2015 Cr concentrations were above adopted environmental criteria in 4 wells and were below levels of reporting in all other wells. This is similar to the 5 wells above criteria in May 2013 but a reduction from the 8 wells in May 2014 and the 13 wells in which Cr has previously been detected. In previous rounds Cr has been detected at concentrations above environmental criteria in 11 wells distributed widely over the monitored area. Cr concentrations above adopted criteria in July 2015 were present in three non-contiguous areas, the southern portion of the site (well MW7), an area in the eastern portion (wells MW11 and MW21) and in the western portion (well MW4), representing a mostly similar area of detectable Cr occurrence as observed previously. Cr was detected at concentration of 0.002mg/L in all 4 wells which is slightly above the laboratory level of reporting and the environmental criteria level of 0.001mg/L.

Copper (Cu)
In July 2015 Cu concentrations were above adopted environmental criteria in 7 wells and were detected below criteria or levels of reporting in all other wells including the **EHP** Background well. This is a reduction from the 12 wells and 11 wells with Cu above adopted criteria in May 2014 and May 2013, respectively. In previous rounds Cu has been detected at concentrations above environmental criteria in up to 18 wells distributed widely over the monitored area. Cu concentrations above adopted criteria in July 2015 were present in three broad non-contiguous areas. The largest area is centered around the western side of the Binary site (wells MW4, MW22, MW23 and MW24) which is smaller in lateral extent compared to the May 2013 and 2014 results. The other two areas are located on the eastern edge of the site in wells MW6 and MW17 and along the unnamed creek in well MW7. Comparison of the wells with concentrations above environmental criteria from this monitoring event with those measured in May 2014 indicates 2 wells had concentrations higher than measured in May 2014 (wells MW4 and MW6) while 5 wells had the same or lower concentrations.

Lead (Pb)
In July 2015 Pb concentrations were above adopted environmental criteria in 5 wells and were detected below criteria or levels of reporting in all other wells including the **EHP** Background well. This is slightly more wells than in May 2013 and 2014 but a reduction from the 16 wells in which Pb has previously been detected at concentrations above environmental criteria in 16 wells distributed widely over the monitored area. Pb concentrations above adopted criteria in May 2015 were present in one contiguous area of wells on the western boundary of the Binary Industries site, wells MW3, MW4, MW22, MW23 and MW24. The May 2015 results are higher in 4 of the 5 wells but there is no apparent trend or pattern when compared with historical results.

Nickel (Ni)
In July 2015 Ni concentrations were below adopted criteria in all wells. Ni concentrations were detected in 13 wells and were below levels of reporting in 6 wells including the **EHP** Background well. This is a reduction from the 8 widely distributed wells in which Ni has previously been detected at concentrations above environmental. Previously detected Ni concentrations were present in two broad areas centered around the west, south and east sides of the Binary site and in non-contiguous wells along the unnamed creek. The Ni

concentrations in July 2015 were all the same or lower than the concentrations measured in the May 2014 monitoring round.

Zinc (Zn)
In July 2015 Zn concentrations were above adopted environmental criteria in 16 of the 19 wells sampled including the **EHP** Background well. The concentration of Zn in the **EHP** Background well was less than the level measured in all wells with exceedances surrounding the Binary Industries site. This is a slight reduction from the results in 2013 and 2014. In previous rounds Zn has been detected at concentrations above environmental criteria in all wells monitored. The Zn concentrations in July 2015 were lower or the same in 9 wells and higher in 7 wells than measured in May 2014 with no apparent trend or pattern when compared with historical results. Significantly, the Zn concentration measured in well MW4 was consistent with historical results (0.074mg/L) after the highest level ever recorded at the site (0.635mg/L) was measured in May 2014.

Mercury (Hg)
In July 2015 Hg concentrations were below levels of reporting in all 19 wells sampled. In previous rounds Hg has only been detected once (MW7 in 2007) and this was at a concentration below the adopted environmental criteria.

Summary
In summary, metal concentrations above environmental criteria have generally reduced or maintained a similar order of magnitude compared to historical results. The distribution of metal occurrence above criteria and levels of reporting appear to have reduced in area from historical distributions. The distribution of metals in the July 2015 monitoring event reflects two broad areas. The first is centered around the Binary site where Cr, Cu, Pb and/or Zn exceedances are present in wells MW3, MW4, MW5, MW6, MW17, MW19, MW22, MW23 and MW24. The second area is along the unnamed creek from MW7 to MW16 where predominantly Zn exceedances are noted although Cr and Cu also exceed criteria in well MW7 and Cr exceeds criteria in wells MW11 and MW21. Wells MW10, MW14 and MW20 tend to separate these two areas with all metal concentrations at or below the levels of reporting.

There have not been notable increases or decreases of any metals during this monitoring event as variations measured were similar to historical variations. The zinc concentration measured in well MW4 was within historical average in July 2015 after the highest level ever recorded at the site was measured in this well in May 2014. Continued close scrutiny of the zinc results in this well is required in the future.

The level of all heavy metals except Zn were less than the level of reporting and the adopted criteria during this monitoring event in the **EHP** Background well which aids comparison of metals in near-site wells versus background levels. Historically, elevated concentrations (compared to the concentration detected in the **EHP** Background well) of As, Cr, Cu, Pb and/or Zn were detected in as many as 18 of the 21 wells sampled.

Concentrations of three or more metals exceeded the **EHP** Background well concentration in wells MW4, MW7, MW22, MW23 and MW24. Previously there has not been apparent spatial pattern to these wells. During this monitoring event 4 out of the 5 wells which contain three or more metals which exceed background concentrations are located on the west side of the Binary Industries site.

In our opinion it is difficult to state with any certainty whether the spatial distribution of wells with elevated concentrations of Cr and Zn are naturally occurring, are site related or are the result of impact from adjacent industries. However, the spatial distribution of wells with Cu and Pb exceedances are generally centered on the Binary Industries site (wells MW3, MW4, MW6, MW17, MW22, MW23, and MW24).

4.2.2 Pesticide Results

In the July 2015 and previous monitoring events, OC pesticide compounds were not detected at concentrations above the laboratory level of reporting or the adopted assessment criteria in any of the monitoring wells sampled.

The OP pesticide chlorpyrifos was detected adjacent to both the east and west boundaries of the Binary Industries site at concentrations of 0.200μg/L (MW4) and 0.051μg/L (MW6) during this monitoring event. These levels of chlorpyrifos are above the laboratory level of reporting (0.02μg/L) and the adopted assessment criteria (0.01μg/L). Chlorpyrifos was not present above the laboratory level of reporting in any of the remaining wells. Chlorpyrifos was previously detected in well MW2 in June and December 2007 and again in May 2013 at concentrations of 1.6, 0.9 and 0.032μg/L respectively and in well MW4 at concentrations between 0.03μg/L to 4.1μg/L during the November 2006, June 2007, August 2008, May 2012, November 2012, May 2013 and May 2014 monitoring events. These concentrations were above the then current laboratory level of reporting (0.5μg/L) and also the adopted assessment criteria. Chlorpyrifos was previously detected in well MW6 at concentration of 0.024μg/L and 0.057μg/L during the May 2013 and May 2014 monitoring events.

The OP pesticide dimethoate was only detected in well MW11 in December 2007 at a concentration of 0.60μg/L which is above the adopted assessment criteria (0.015 μg/L). No other OP pesticides have been detected during any previous monitoring event.

4.2.3 Herbicide Results

In July 2015 detectable levels of herbicides were measured in ten (10) monitoring wells - Well Nos. MW3, MW4, MW5, MW6, MW7, MW9, MW17, MW19, MW20 and MW23. Most of these are the same wells that have contained detectable levels of herbicides since the November 2012 monitoring event except wells MW7, MW9 and MW17 have not contained detectable herbicides since 2011. Herbicides detected in these wells in this monitoring event included Metolachlor, 2.4-D, MCPA, Triclopyr, 2.6-D, 2.4.6-T, Picloram, Clopyralid, Simazine, Trifluralin and Diuron. Only well MW4 contained all of these compounds while six (6) of these wells (wells MW3, MW5, MW7, MW9, MW17 and MW20) only contain Metolachlor at a concentration which is above the laboratory level of reporting (0.01μg/L) but below the established criteria level of 1.0μg/L.

The only compounds detected that have NEPM 2013 guideline levels established are the herbicides 2,4-D (280μg/L), Simazine (3.2μg/L) and trifluralin (2.6μg/L). 2.4-D is the PA herbicide compound detected at the highest concentration at the site (1,890μg/L in well MW4 in July 2015) and the only herbicide measured at a level which exceeds NEPM guideline levels. Historically, the level of 2,4-D in all wells has decreased steadily from concentrations measured in 2006/07 with the exception of an increased level measured in May 2014. In well MW4 the level of 2,4-D was as high as 65,300μg/L in the June 2007 monitoring event and decreased to a concentration of 2,420μg/L in the May 2013 event before increasing slightly in May 2014 to 4,030μg/L and falling to1,890μg/L in July 2015.

The PA herbicide 2,4-D was also measured during this monitoring event in well MW23 (downgradient of well MW4) at a concentration of 1,260μg/L which is above the adopted criteria and in wells MW6 (196μg/L), MW19 (194μg/L) at levels below the adopted criteria. Historically 2,4-D was not detected in well MW23 prior to November 2012 and was measured at concentrations which were less than the adopted criteria until the May 2014 monitoring event. It should be noted that well MW24, located downgradient of wells MW4 and MW23, did not contain detectable concentrations of any herbicides and is therefore considered to be a good indicator of the extent of impact in this area. In well MW19 2,4-D has been measured at concentrations between less than detectable to 322 μg/L with an apparent increasing trend. In well MW6 this is the second time 2.4-D has been detected, the first time being in November 2012. Wells MW4 and MW23 are located adjacent to the north west corner of the Binary Industries site while wells MW6 and MW19 are located adjacent to the east boundary (Magnesium Street) of the site.

Historically, the PA herbicide compound with the second highest concentration detected was MCPA. No guideline levels have been established for MCPA. MCPA was detected in monitoring wells MW4, MW6 and MW23 during this monitoring event at concentrations of 26μg/L, 10μg/L and 12μg/L, respectively. MCPA concentrations have previously been steady or slightly trending lower in all wells except well MW6 where MCPA was detected during this monitoring event for the first time.

Detectable levels of the herbicide Metolachlor were measured in ten (10) monitoring wells - Well Nos. MW3, MW4, MW5, MW6, MW7, MW9, MW17, MW19, MW20 and MW23. during the July 2015 monitoring event. These wells are located in an area centered on the Binary Industries site and downgradient of the north west corner and east side of the Binary Industries site.

Similar to May 2013 and May 2014, Metolachlor was measured at the highest concentration in wells MW4, MW6, MW19 and MW23 (22.5μg/L, 50.6μg/L, 11.4μg/L and 6.49μg/L, respectively during this monitoring event). The NEPM 2013 indicates there is insufficient data to determine a freshwater Trigger Value for Metolachlor. However, **EHP** previously recommended a pre-release water quality criteria of 1μg/L for Metolachlor for stormwater discharges from the Binary Industries site be used as the adopted criteria for groundwater. Utilising the criteria of 1μg/L for Metolachlor, samples from monitoring wells MW4, MW6, MW19 and MW23 exceed the nominated Trigger Value.

Levels of Metolachlor had been showing a decreasing trend or have been generally steady although the concentration measured in well MW6 in July 2015 is the highest level ever measured. All these wells are located immediately adjacent to the Binary Industries site. It should be noted that applying a stormwater criteria to groundwater is a very conservative approach. The concentration of Metolachlor, 2,4-D and MCPA are reported on Table 2, *Groundwater Analytical Results*.

4.2.4 Phenolic Compound Results

During the July 2015 monitoring event detectable levels of Phenolic compounds were measured in 4 of the 8 monitoring wells analysed – wells MW4, MW6, MW19 and MW23. The compounds detected in these wells included 2,4-Dichlorophenol (in all 4 wells) and 2-Chlorophenol (in wells MW4 and MW23 only). 2,4-Dichlorophenol was again the compound measured at the highest concentration in these wells with concentrations measured in MW4

(2,860μg/L) and MW23 (5,140 μg/L) located adjacent to the north west corner of the site and in MW6 (785 μg/L) MW19 (2,070 μg/L) located adjacent to the east boundary of the Binary Industries site.

The only compounds detected that have NEPM 2013 guideline levels established are 2,4-Dichlorophenol and 2-Chlorophenol (120μg/L and 340μg/L adopted criteria, respectively). Concentrations of 2,4-Dichlorophenol in wells MW4, MW6, MW19 and MW23 were the only detections in excess of the adopted criteria. The levels of 2-Clorophenol in wells MW4 and MW23 were both less than adopted criteria.

Phenolic compounds had been generally decreasing in all wells from concentrations in the range of 3,000 to 5,000 μg/L detected during the June 2007 and subsequent monitoring events. However, the level of Phenolic compounds measured in wells MW4 and MW19 since the November 2012 monitoring event have increased slightly and the levels measured in May 2014 were the highest levels ever measured in well MW4 and the highest level since May 2012 in well MW19. Phenolic compounds were not detectable in well MW23 in April 2008 but similar levels of 2-Clorophenol (49.6 μg/L) and 2,4-Dichlorophenol (5,680 μg/L) were measured in this monitoring event and in May 2014.

The concentration of all Phenolic analytes included in the analytical suite for Monitoring Well Nos. MW2, MW3, MW4, MW5, MW6, MW11, MW19, MW21, MW22, MW23, MW24 and Backg'nd (the EHP background well) from this and prior monitoring events are reported on Table 3, *Groundwater Analytical Results, Phenolic Compounds*.

5.0 QUALITY ASSURANCE

All groundwater samples collected during this monitoring event were collected in accordance with the Quality Assurance and Quality Control Procedures outlined in Appendix B. Groundwater field duplicate and triplicate analysis results are included in the laboratory reports in Appendix A and summarized in Table Nos. 2 and 3. Laboratory QA procedures are described in Appendix B and results reported in the ALS Quality Assurance Report included in Appendix A.

Data assessment of laboratory results and COC documentation indicates that:

- Sample integrity and container requirements were documented as acceptable;
- Holding time compliances were documented as acceptable;
- Matrix Spikes spike results were within acceptable control limits;
- Laboratory duplicate % RPD results were acceptable; and
- All laboratory QA/QC method blanks were found to be acceptable.

The Relative Percentage Differences (RPDs) for heavy metals and herbicide compounds in groundwater Sample No. DUP1/MW19 (ALS) ranged from +4.7% to -36.1% while the RPDs for heavy metals and herbicide compounds in groundwater Sample No. TRIP1/MW19 (SGS/ALS) ranged from +2.1% to -20.5%. RPDs for DUP2/MW23 (SGS/ALS) ranged from +4.9% to -73.3%. The RPDs for phenolic compounds in groundwater Sample No. DUP1/MW19 (ALS) ranged from +0.0% to -7.4% while the RPDs for Sample Nos. TRIP1/MW19 and DUP2/MW23 (both SGS/ALS) ranged from +157% to -83%.

The RPD results indicate acceptable precision within the whole process from sampling, sample preparation and laboratory analysis by both the primary laboratory ALS and the alternate laboratory SGS. However, a lower level of precision was apparent for the phenolic compounds between the two laboratories due to the high concentrations measured in the samples chosen for comparison.

The organic and inorganic data reported for this Binary Industries Groundwater Monitoring event can be considered to be of sufficient quality to enable valid assessment of site groundwater conditions and to achieve the project objectives.

Full NATA-certified laboratory reports from ALS and SGS for all parameters are included in Appendix A of this report.

6.0 CONCLUSIONS AND RECOMMENDATIONS

GeoEnvironmental Consultants conclude, on the basis of this monitoring event that groundwater conditions at the site have stabilized and are sufficient to support a qualitative and quantitative risk assessment of the site.

Elevated concentrations (compared to the concentration detected in the EHP Background well) of Cr, Cu, Pb and/or Zn were detected in up to 15 of the 18 monitoring wells surrounding the Binary Industries site included in this sampling event. Concentrations of three or more metals exceeded the **EHP** Background well concentration in wells MW4, MW7, MW22, MW23 and MW24. Previously there has not been an apparent spatial pattern to these wells. During this monitoring event 4 out of the 5 wells which contain three or more metals which exceed background concentrations are located on the west side of the Binary Industries site (wells MW4, MW22, MW23 and MW24).

The concentration of herbicides and phenolic compounds has been generally decreasing in all wells from concentrations measured the June 2007. Measured concentrations increased significantly during the May 2014 monitoring event but have generally returned to levels consistent with levels measured prior to 2014. Based on the results of this groundwater monitoring event **GeoEnvironmental Consultants** conclude that there is impact from the pesticides, herbicides and phenolic compounds present in monitoring wells located around the perimeter of the Binary Industries facility (in the area of Monitoring Well Nos. MW3, MW4, MW5, MW6, MW17, MW19 and MW23).

In our opinion it is difficult to state with any certainty whether the spatial distribution of wells with elevated concentrations of Cr and Zn are naturally occurring, are site related or are the result of impact from adjacent industries. However, the spatial distribution of wells with Cu and Pb exceedances are generally centered on the Binary Industries site (wells MW3, MW4, MW6, MW17, MW22, MW23, and MW24) and appear to relate closely with the wells where there is impact by pesticides, herbicides and phenolic compounds.

Three monitoring wells (wells MW1, MW2 and MW19) were damaged and/or destroyed by earthmoving equipment since completion of the May 2014 monitoring event when damage to well MW4 was noted. Both wells MW4 and MW19 were able to be repaired and resurveyed so that accurate static water level elevations could be determined and groundwater samples were obtained. However, wells MW1 and MW2 were destroyed.

It is our opinion that the data obtained from wells MW4 and MW19 appears consistent with historical results and results obtained from similar wells on this site. Further sampling of wells MW4 and MW19 are recommended with results closely scrutinized to evaluate the integrity of data from the wells.

GeoEnvironmental Consultants recommend that **EHP** conduct further monitoring of groundwater conditions at the site on a yearly basis until a qualitative and quantitative risk assessment of the remaining contamination is conducted. The results of this risk assessment can be used to evaluate future site risks, management and monitoring options.

The results of this and prior monitoring events continue to indicate evidence of downgradient migration of herbicide and phenolic compound impact away from MW4 in a north westerly direction toward wells MW23 and MW24. The extent of this impact has not been noted in well MW24 thus far. However, review of the results of future monitoring events may indicate the need to install additional monitoring wells further north west of well MW24 or in a north to north easterly direction away from MW4 and the Binary Dam area.

7.0 LIMITATIONS OF REPORT

GeoEnvironmental Consultants have prepared this groundwater monitoring report in accordance with generally accepted consulting practice. No warranty, expressed or implied, is made as to the results included in this report. The report has not been prepared for use by parties other than the **EHP** and their authorised Third Parties. It may not contain sufficient information for the purposes of other parties or for other uses and we accept no responsibility for other use of the data.

To the best of our knowledge, information contained in this report is accurate at the date of issue. However, subsurface conditions, including contaminant concentrations, are subject to change in a limited time. In addition, monitoring has been limited in extent and depth and there are always some variations in subsurface conditions across a site. Therefore, it is unlikely that the measurements and values obtained by sampling and analysis during this program will represent the extremes of conditions that exist within the site.

for **GeoEnvironmental Consultants Pty Ltd**

Michael Tisdall **BSc. PGDipSc.**
Environmental Scientist

DRAWING

ENVIRONMENT AND HERITAGE PROTECTION

BINARY INDUSTRIES FIRE SITE

DRAWING NO. 1

MONITORING WELL LOCATIONS AND GROUNDWATER CONTOURS

(Gauged 30th June, 1st, 4th & 5th of July 2015)

SCALE 1 : 2500
WHEN PRINTED AT A3

0 12.5 25 37.5 50 62.5 75

N

HORIZONTAL DATUM:	GDA 94
LEVEL DATUM:	AHD
GROUNDWATER CONTOUR INTERVAL:	1m

LEGEND:

SYMBOL	FEATURE
MW3 +	MONITORING WELL LOCATION & NUMBER
27.143	RL Top of Well Standpipe (m)
20.523	RL Groundwater (m)
	POND/DAM
	PROPERTY BOUNDARY
20	GROUNDWATER ELEVATION CONTOUR (mAHD)

IMPORTANT NOTES:

1. Groundwater elevation contours shown have been interpretted from widely-spaced monitoring wells. Actual groundwater conditions may vary between well locations.
2. This drawing should be read in conjunction with the report, *Groundwater Monitoring Report*, Ref: 5010/7GW, dated August 2015 prepared by GeoEnvironmental Consultants Pty Ltd.
3. The EHP Backgroud well is located along the West side of Potassium Street North of the intersection of Boundary Road (UBD Ref: Map 79, F12).

DIGITAL PHOTOGRAMMETRY BY:

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SHEET NUMBER:
075106
EDITION 12

TABLES

TABLE 1
Well Condition, Groundwater Gauging Results and Field Water Quality Parameters
EHP - Binary Industries Site, Magnesium Street, Narangba, QLD (July 2015)

Monitoring Well ID	Purge Date	Volume Purged, L	Elevation TOC, mAHD	Groundwater Depth BTOC, m	Groundwater Elevation, mAHD	TOC to Surface Level, m	Sampling Date	Electrical Conductivity, µS/cm	pH	Sample Temperature °C	Sample Comments	Well Condition
MW 1	1/07/2015		21.871	Well destroyed							No sample, well destroyed.	Well apparently damaged by construction equipment, full of soil.
MW 2	1/07/2015		18.783	Well not located, assume destroyed							No sample, well destroyed.	Well assumed destroyed by construction equipment, not located.
MW 3	30/06/2015	21L/10L	27.143	6.62	20.523	0.570	4/07/2015	503	4.13	21.6	slightly opaque, slight odour.	OK but screen becoming root clogged, standpipe, padlocked.
MW 4 *	30/06/2015	8L/5L	27.814	7.09	20.549	0.10	4/07/2015	741	4.58	20.8	slightly opaque, moderate odour.	OK, Gattic, well resurveyed on 13th June 2014 after well reinstated and flush-mounted gattic cover installed.
MW 5	1/07/2015	150L+	26.609	5.57	21.039	0.455	5/07/2015	305	4.91	21.0	clear, slight odour.	OK, standpipe, padlocked.
MW 6	30/06/2015	15L/10L	21.263	1.70	19.563	-0.06	4/07/2015	213	4.85	22.2	slightly opaque, slight odour.	OK, Gattic, gatic screws removed, well potentially sampled by others?
MW 7	30/06/2015	10L/6L	17.372	1.79	15.582	0.55	5/07/2015	338	5.38	22.6	slightly opaque, slight stale odour	OK, standpipe, NO padlock.
MW 9	30/06/2015	25L/20L	15.943	0.80	15.143	0.715	5/07/2015	287	6.11	21.7	slightly opaque, no odour.	Standpipe knocked & bent, padlocked
MW 10	1/07/2015	100L+	16.539	0.015	16.524	1.090	5/07/2015	206	6.18	21.2	clear, no odour.	OK, standpipe, NO padlock, PVC above standpipe.
MW 11	30/06/2015	25L/10L	14.839	1.76	13.079	0.800	5/07/2015	341	5.55	20.8	clear, no odour.	OK, standpipe, padlocked.
MW 12		nil	14.606	Well destroyed							No sample, well destroyed.	Well apparently destroyed by construction of fire access road
MW 13	30/06/2015	20L/15L	14.153	0.31	13.843	0.8	5/07/2015	178	5.41	21.5	clear, no odour.	OK, standpipe, NO padlock, PVC above standpipe.
MW 14		nil	14.288	dry	dry	0.59					No sample, well filled with fine silt.	OK, standpipe, padlocked.
MW 15	1/07/2015	20L/15L	12.401	0.32	12.081	1.52	4/07/2015	201	5.32	22.8	slightly opaque, no odour.	OK, standpipe, NO padlock, PVC above standpipe.
MW 16	1/07/2015	10L/6L	12.622	1.90	10.722	0.77	4/07/2015	316	5.71	22.4	slightly opaque, very slight stale odour	OK, standpipe, padlocked.
MW 17	1/07/2015	15L/10L	22.451	2.98	19.471	-0.12	4/07/2015	214	5.28	23.1	slightly opaque, very slight odour.	OK, Gattic,
MW 19 *	5/07/2015	200L+	19.803	1.534	18.269	-0.026	5/07/2015	348	5.05	21.6	clear, moderate odour.	Standpipe damaged by construction in area, PVC bent over below ground level. Cut PVC casing, installed flush-mounted gattic cover and resurveyed TOC on 1st August 2015.
MW 20	5/07/2015	200L+	16.074	2.22	13.854	0.7approx	5/07/2015	317	6.31	19.8	slightly opaque, no odour.	250mm dia, PVC Cap
MW 21	30/06/2015	30L/10L	14.823	1.82	13.003	0.85	5/07/2015	350	5.24	20.5	clear, slight stale odour	OK, standpipe, padlocked.
MW 22	30/06/2015	15L/10L	29.768	12.245	17.523	0.8	4/07/2015	229	5.07	21.7	slightly opaque, no odour.	OK, standpipe, padlocked.
MW 23	30/06/2015	10L/10L	27.466	7.41	20.056	0.82	4/07/2015	357	3.99	20.9	slightly opaque, no odour.	OK, standpipe, padlocked.
MW 24	30/06/2015	15L/10L	26.133	6.50	19.633	0.88	4/07/2015	220	4.27	21.3	slightly opaque, no odour.	OK, standpipe, padlocked.
Backg'nd	4/07/2015	300+	Unknown	4.33	Unknown	-0.09	4/07/2015	1048	3.94	20.1	clear, no odour	OK, gatic.

Notes: BTOC Below top of casing
TOC Top of casing
AHD Australian Height Datum
* Wells damaged and reinstated by cutting off PVC casing and installing a flush-mounted gattic cover. New elevation shown.
Duplicate sample (DUP 1) and Triplicate sample (TRIP1) from MW19, Duplicate sample (DUP 2) from MW23, Rinsate sample (RIN 1) from Backg'nd well.

TABLE 2
Groundwater Analytical Results
Metals, Pesticides and Herbicides
EHP - Binary Industries Site, Magnesium Street, Narangba, QLD (December 2006 to July 2015)

Monitoring Well ID/ Sample No.	Sampling Date	Arsenic	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	OC Pesticides	OP Pesticides - Chlorpyrifos	Herbicide - Metolachlor	Phenoxyacetic Acid Herbicides	
													2,4-D	MCPA
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW 1	1/07/2015	Insufficient sample for analysis - Well dry and full of sediment												
	9/05/2014	0.006	<LOR	**0.001**	**0.002**	<LOR	0.002	**0.022**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	19/05/2013	0.001	<LOR	<LOR	**0.003**	<LOR	0.002	**0.019**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	2/11/2012	0.009	<LOR	<LOR	**0.003**	<LOR	0.003	**0.078**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	21/05/2012	0.01	<LOR	<LOR	0.001	<LOR	0.002	**0.009**	<LOR	<LOR	<LOR	0.02	<LOR	<LOR
	2/07/2011	<LOR	<LOR	<LOR	**0.002**	<LOR	0.003	**0.042**	<LOR	<LOR	<LOR	0.006	<LOR	<LOR
	21/08/2008	<LOR	**0.0002**	<LOR	**0.003**	**0.004**	0.010	**0.094**	<LOR	<LOR	<LOR	0.007	<LOR	<LOR
	6/12/2007	<LOR	**0.0004**	<LOR	**0.004**	0.002	0.005	**0.071**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	13/06/2007	0.001	<LOR	**0.001**	**0.005**	0.003	**0.014**	**0.104**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	1/12/2006	<LOR	**0.0002**	<LOR	0.001	<LOR	0.010	**0.056**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
MW 2	1/07/2015	Well assumed to have been destroyed by construction equipment, could not be located.												
	9/05/2014	0.008	<LOR	**0.001**	<LOR	<LOR	0.002	**0.020**	<LOR	<LOR	<LOR	0.176	<LOR	<LOR
	19/05/2013	0.009	<LOR	<LOR	<LOR	<LOR	0.003	**0.045**	<LOR	<LOR	**0.032**	0.219	<LOR	<LOR
	2/11/2012	**0.013**	<LOR	<LOR	0.001	<LOR	0.005	**0.041**	<LOR	<LOR	<LOR	0.260	<LOR	<LOR
	21/05/2012	0.012	<LOR	<LOR	**0.002**	<LOR	0.003	0.008	<LOR	<LOR	<LOR	0.510	<LOR	<LOR
	2/07/2011	0.009	**0.0002**	<LOR	**0.002**	<LOR	0.007	**0.088**	<LOR	<LOR	<LOR	0.520	<LOR	<LOR
	21/08/2008	<LOR	<LOR	<LOR	0.001	<LOR	0.006	**0.023**	<LOR	<LOR	<LOR	**8.44**	<LOR	<LOR
	7/12/2007	<LOR	**0.0004**	<LOR	**0.002**	<LOR	0.009	**0.042**	<LOR	<LOR	**0.9**	Not analysed	<LOR	<LOR
	13/06/2007	0.002	**0.0002**	**0.002**	**0.011**	0.003	**0.019**	**0.062**	<LOR	<LOR	**1.6**	Not analysed	<LOR	<LOR
	1/12/2006	<LOR	**0.0002**	<LOR	**0.002**	<LOR	0.009	**0.053**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
MW 3	4/07/2015	<LOR	<LOR	<LOR	0.001	**0.005**	0.004	**0.109**	<LOR	<LOR	<LOR	0.034	<LOR	<LOR
	8/05/2014	<LOR	<LOR	**0.002**	**0.004**	**0.012**	0.006	**0.270**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	18/05/2013	<LOR	<LOR	**0.002**	**0.009**	**0.016**	0.006	**0.082**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	1/11/2012	<LOR	0.0001	**0.002**	**0.005**	**0.021**	0.008	**0.113**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	21/05/2012	<LOR	<LOR	**0.003**	**0.007**	**0.027**	0.006	**0.094**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	2/07/2011	<LOR	<LOR	**0.003**	**0.004**	**0.025**	0.007	**0.162**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	21/08/2008	<LOR	<LOR	<LOR	**0.002**	**0.008**	0.007	**0.036**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	6/12/2007	<LOR	0.0001	<LOR	**0.002**	0.003	**0.018**	**0.032**	<LOR	<LOR	<LOR	Not analysed	13	<LOR
	14/06/2007	<LOR	<LOR	<LOR	**0.004**	0.002	**0.017**	**0.018**	<LOR	<LOR	<LOR	Not analysed	13	<LOR
	29/11/2006	<LOR	**0.0004**	<LOR	**0.005**	**0.006**	**0.034**	**0.046**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
MW 4	4/07/2015	<LOR	<LOR	**0.002**	**0.005**	**0.010**	0.002	**0.074**	<LOR	<LOR	**0.200**	**22.5**	**1890**	26
	8/05/2014	0.005	<LOR	**0.002**	<LOR	<LOR	0.004	**0.635**	<LOR	<LOR	**0.352**	**30.7**	**4030**	40
	18/05/2013	<LOR	<LOR	<LOR	**0.002**	0.002	<LOR	**0.014**	<LOR	<LOR	**0.171**	**3.82**	**2420**	23
DUP1 (ALS)	18/05/2013	<LOR	<LOR	<LOR	0.001	0.002	<LOR	**0.012**	<LOR	<LOR	**0.198**	**4.08**	**2250**	21
	1/11/2012	<LOR	<LOR	**0.002**	**0.003**	**0.004**	0.002	**0.034**	<LOR	<LOR	**0.27**	**4.62**	<LOR	<LOR
	21/05/2012	<LOR	<LOR	**0.003**	**0.006**	**0.005**	0.003	**0.041**	<LOR	<LOR	**0.03**	**5.19**	**2060**	44
	2/07/2011	<LOR	<LOR	**0.003**	**0.008**	**0.010**	0.003	**0.070**	<LOR	<LOR	<LOR	**2.91**	**3020**	36
	21/08/2008	<LOR	**0.0002**	**0.004**	**0.008**	**0.022**	0.008	**0.112**	<LOR	<LOR	**1.6**	**38.3**	**28600**	273
	7/12/2007	0.001	**0.0002**	**0.006**	**0.021**	**0.016**	0.008	**0.137**	<LOR	<LOR	<LOR	Not analysed	**34200**	519
	14/06/2007	0.004	<LOR	**0.010**	**0.031**	**0.010**	0.009	**0.130**	<LOR	<LOR	**1.5**	Not analysed	**65300**	592
	29/11/2006	0.004	0.0001	**0.016**	**0.022**	**0.012**	0.005	**0.104**	<LOR	<LOR	**4.1**	Not analysed	**53200**	186
Level of Reporting (LOR)		0.001	0.0001	0.001	0.001	0.001	0.001	0.005	0.0001	0.5/2.0	0.02/2.0	0.01	10	10
Freshwater Guidelines		0.013	0.0002	0.001	0.0014	0.0034	0.011	0.008	0.00006	Varies	0.01	1.0	280	ID

Guidelines: NEPM (2013): Groundwater Investigation Levels (GILs) - Fresh waters. ANZECC 2000 freshwater guidelines prior to 2013.
Metolachlor value recommended by EHP for Binary Industries site.
ID - indicates insufficient data for determination of a reliable GILs Value
Exceedences: **Bolded and underlined** results exceed nominated assessment criteria

TABLE 2
Groundwater Analytical Results
Metals, Pesticides and Herbicides
EHP - Binary Industries Site, Magnesium Street, Narangba, QLD (December 2006 to July 2015)

Monitoring Well ID/ Sample No.	Sampling Date	Arsenic	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	OC Pesticides	OP Pesticides - Chlorpyrifos	Herbicide - Metolachlor	Phenoxyacetic Acid Herbicides	
													2,4-D	MCPA
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L
	5/07/2015	<LOR	<LOR	<LOR	0.001	<LOR	<LOR	**0.021**	<LOR	<LOR	<LOR	0.841	<LOR	<LOR
	9/05/2014	<LOR	<LOR	<LOR	**0.002**	<LOR	<LOR	**0.047**	<LOR	<LOR	<LOR	0.148	<LOR	<LOR
	19/05/2013	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	0.005	<LOR	<LOR	<LOR	0.155	<LOR	<LOR
	2/11/2012	<LOR	<LOR	<LOR	**0.002**	<LOR	<LOR	**0.035**	<LOR	<LOR	<LOR	**1.86**	<LOR	<LOR
MW 5	22/05/2012	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	**14.40**	<LOR	<LOR
DUP2 (SGS)	22/05/2012	<LOR	0.0018	<LOR	**0.002**	<LOR	0.003	**0.012**	<LOR	<LOR	<LOR	**15.00**	<LOR	<LOR
TRIP2 (SGS)	22/05/2012	<LOR	0.0018	<LOR	**0.002**	<LOR	0.004	**0.010**	<LOR	<LOR	<LOR	**20.00**	<LOR	<LOR
	30/06/2011	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	**10.40**	<LOR	<LOR
	20/08/2008	<LOR	0.0001	<LOR	0.001	**0.057**	0.001	**0.016**	<LOR	<LOR	<LOR	**4.10**	<LOR	<LOR
	6/12/2007	<LOR	0.0001	<LOR	**0.002**	<LOR	<LOR	**0.027**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	14/06/2007	<LOR	<LOR	0.001	**0.005**	**0.008**	0.003	**0.036**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	29/11/2006	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	**0.018**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	4/07/2015	<LOR	<LOR	<LOR	**0.003**	0.002	<LOR	**0.078**	<LOR	<LOR	**0.051**	**50.6**	196	10
	8/05/2014	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	**0.038**	<LOR	<LOR	**0.057**	**22.8**	<LOR	<LOR
	18/05/2013	<LOR	<LOR	<LOR	**0.002**	<LOR	<LOR	**0.024**	<LOR	<LOR	**0.024**	**14.6**	<LOR	<LOR
	1/11/2012	<LOR	**0.0002**	<LOR	**0.002**	<LOR	0.001	**0.029**	<LOR	<LOR	<LOR	**25.7**	11	<LOR
MW 6	21/05/2012	<LOR	<LOR	<LOR	**0.002**	<LOR	<LOR	**0.018**	<LOR	<LOR	<LOR	**26.4**	<LOR	<LOR
	2/07/2011	<LOR	<LOR	<LOR	**0.003**	0.001	0.001	**0.038**	<LOR	<LOR	<LOR	**14.4**	<LOR	<LOR
	20/08/2008	<LOR	<LOR	<LOR	**0.002**	<LOR	0.002	**0.037**	<LOR	<LOR	<LOR	**5.87**	<LOR	<LOR
	6/12/2007	0.001	**0.0003**	<LOR	**0.002**	0.001	0.002	**0.050**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	13/06/2007	0.005	<LOR	0.002	**0.008**	**0.004**	0.004	**0.034**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	29/11/2006	<LOR	<LOR	<LOR	**0.005**	<LOR	0.002	**0.031**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
DUP1/MW6	29/11/2006	<LOR	<LOR	<LOR	**0.005**	<LOR	0.002	**0.030**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	5/07/2015	0.005	<LOR	**0.002**	**0.002**	<LOR	0.003	**0.127**	<LOR	<LOR	<LOR	0.008	<LOR	<LOR
	9/05/2014	<LOR	<LOR	**0.001**	**0.003**	<LOR	0.003	**0.127**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	19/05/2013	0.002	<LOR	**0.003**	<LOR	<LOR	0.002	**0.157**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	2/11/2012	0.003	<LOR	**0.002**	**0.002**	<LOR	0.001	**0.038**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
MW 7	22/05/2012	0.002	<LOR	**0.002**	**0.003**	0.001	0.003	**0.105**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	1/07/2011	0.006	<LOR	<LOR	**0.006**	0.001	0.002	**0.195**	<LOR	<LOR	<LOR	0.006	<LOR	<LOR
	22/08/2008	0.004	<LOR	0.001	**0.002**	<LOR	0.007	**0.115**	<LOR	<LOR	<LOR	0.045	<LOR	<LOR
	7/12/2007	0.011	**0.0003**	<LOR	0.001	<LOR	**0.015**	**0.040**	0.0002	<LOR	<LOR	Not analysed	<LOR	<LOR
	13/06/2007	0.012	<LOR	**0.004**	**0.005**	**0.006**	**0.021**	**0.041**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	1/12/2006	**0.014**	<LOR	**0.004**	0.001	0.002	**0.018**	**0.042**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	5/07/2015	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	**0.021**	<LOR	<LOR	<LOR	0.021	<LOR	<LOR
	9/05/2014	<LOR	<LOR	<LOR	**0.002**	<LOR	<LOR	**0.015**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	19/05/2013	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	**0.018**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	2/11/2012	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	**0.020**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
MW 9	22/05/2012	<LOR	<LOR	<LOR	0.001	<LOR	<LOR	**0.030**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	30/06/2011	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	0.018	<LOR	<LOR
	21/08/2008	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	0.118	<LOR	<LOR
	7/12/2007	<LOR	**0.0002**	<LOR	<LOR	<LOR	<LOR	**0.015**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
DUP2/MW9	7/12/2007	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	**0.010**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	13/06/2007	<LOR	**0.0002**	<LOR	0.001	0.001	<LOR	<LOR	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	1/12/2006	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	**0.017**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
Level of Reporting (LOR)		0.001	0.0001	0.001	0.001	0.001	0.001	0.005	0.0001	0.5/2.0	0.02/2.0	0.01	10	10
Freshwater Guidelines		0.013	0.0002	0.001	0.0014	0.0034	0.011	0.008	0.00006	Varies	0.01	1.0	280	ID

Guidelines: NEPM (2013): Groundwater Investigation Levels (GILs) - Fresh waters. ANZECC 2000 freshwater guidelines prior to 2013.
Metolachlor value recommended by EHP for Binary Industries site.
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Monitoring Well ID/ Sample No.	Sampling Date	Arsenic	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	OC Pesticides	OP Pesticides - Dimethoate	Herbicide - Metolachlor	Phenoxyacetic Acid Herbicides	
													2,4-D	MCPA
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L
	5/07/2015	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	9/05/2014	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	**0.008**	<LOR	<LOR	<LOR	0.012	<LOR	<LOR
	19/05/2013	<LOR	<LOR	<LOR	**0.002**	<LOR	<LOR	**0.013**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	2/11/2012	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	0.007	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
MW 10	22/05/2012	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	0.006	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	30/06/2011	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	0.033	<LOR	<LOR
DUP1/MW10	30/06/2011	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	0.006	<LOR	<LOR
	20/08/2008	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	**0.009**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
DUP2/MW10	20/08/2008	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	**0.014**	<LOR	<LOR	<LOR	0.006	<LOR	<LOR
	7/12/2007	<LOR	**0.0002**	<LOR	0.001	<LOR	<LOR	**0.019**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	13/06/2007	0.001	<LOR	<LOR	**0.002**	**0.012**	<LOR	0.005	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
DUP1/MW10	13/06/2007	<LOR	<LOR	<LOR	0.001	**0.013**	<LOR	0.007	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	1/12/2006	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	**0.026**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	5/07/2015	<LOR	<LOR	**0.002**	<LOR	<LOR	0.001	**0.039**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	9/05/2014	<LOR	<LOR	**0.004**	<LOR	<LOR	0.002	**0.040**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	19/05/2013	<LOR	<LOR	**0.005**	<LOR	<LOR	0.002	**0.032**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	2/11/2012	<LOR	<LOR	**0.005**	<LOR	<LOR	0.003	**0.023**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
MW 11	22/05/2012	<LOR	<LOR	**0.010**	**0.002**	<LOR	0.003	**0.033**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	1/07/2011	0.002	<LOR	**0.010**	0.001	<LOR	0.003	<LOR	<LOR	<L R	<LOR	0.010	<LOR	<LOR
	20/08/2008	0.012	<LOR	**0.021**	<LOR	<LOR	0.003	<LOR	<LOR	<LOR	<LOR	0.016	<LOR	<LOR
	5/12/2007	**0.015**	**0.0002**	**0.011**	<LOR	<LOR	0.007	**0.024**	<LOR	<LOR	**0.60**	Not analysed	<LOR	<LOR
	13/06/2007	0.006	<LOR	**0.020**	0.001	**0.022**	0.008	**1.54**	<LOR	<LOR	<LOR	Not analysed	18	<LOR
	1/12/2006	**0.093**	<LOR	**0.045**	<LOR	<LOR	0.008	**0.033**	<LOR	<LOR	<10	Not analysed	**68600**	195
	1/07/2015	Well appears to have been destroyed by construction of fire access road.												
	to													
	1/07/2011	Well appears to have been destroyed by construction of fire access road.												
MW 12	20/08/2008	<LOR	**0.0004**	<LOR	0.001	<LOR	<LOR	**0.011**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	5/12/2007	<LOR	<LOR	<LOR	**0.002**	<LOR	<LOR	**0.022**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	13/06/2007	<LOR	<LOR	<LOR	0.001	0.002	<LOR	0.006	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	1/12/2006	0.003	<LOR	<LOR	<LOR	<LOR	<LOR	**0.014**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	5/07/2015	<LOR	<LOR	<LOR	0.001	<LOR	<LOR	**0.021**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	9/05/2014	<LOR	<LOR	<LOR	0.001	<LOR	<LOR	**0.027**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	19/05/2013	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	**0.010**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	2/11/2012	<LOR	<LOR	<LOR	**0.006**	<LOR	<LOR	**0.032**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
MW 13	22/05/2012	<LOR	<LOR	<LOR	0.001	<LOR	<LOR	**0.018**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	1/07/2011	<LOR	<LOR	<LOR	**0.004**	<LOR	0.001	**0.034**	<LOR	<LOR	<LOR	0.008	<LOR	<LOR
	20/08/2008	0.001	<LOR	<LOR	**0.002**	<LOR	<LOR	**0.015**	<LOR	<LOR	<LOR	0.011	<LOR	<LOR
	5/12/2007	<LOR	**0.0003**	<LOR	**0.002**	<LOR	0.001	**0.061**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	13/06/2007	<LOR	<LOR	<LOR	**0.003**	**0.012**	0.004	**0.031**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	1/12/2006	0.001	<LOR	<LOR	<LOR	<LOR	<LOR	**0.022**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	1/07/2015	Insufficient sample for analysis - Well dry and full of sediment												
MW 14	to													
	13/06/2007	Insufficient sample for analysis - Well dry and full of sediment												
	1/12/2006	**0.044**	<LOR	**0.003**	<LOR	<LOR	<LOR	**0.010**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
Level of Reporting (LOR)		0.001	0.0001	0.001	0.001	0.001	0.001	0.005	0.0001	0.5/2.0	0.02/2.0	0.01	10	10
Freshwater Guidelines		0.013	0.0002	0.001	0.0014	0.0034	0.011	0.008	0.00006	Varies	0.15	1.0	280	ID

Guidelines: NEPM (2013): Groundwater Investigation Levels (GILs) - Fresh waters. ANZECC 2000 freshwater guidelines prior to 2013.
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													2,4-D	MCPA
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW 15	4/07/2015	<LOR	<LOR	<LOR	<LOR	0.001	0.002	**0.042**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	8/05/2014	<LOR	<LOR	<LOR	**0.002**	<LOR	0.002	**0.040**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	18/05/2013	<LOR	<LOR	<LOR	<LOR	<LOR	0.002	**0.025**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	1/11/2012	<LOR	<LOR	<LOR	**0.006**	<LOR	0.003	**0.059**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	21/05/2012	<LOR	**0.0003**	<LOR	**0.002**	<LOR	0.002	**0.016**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	1/07/2011	<LOR	<LOR	<LOR	0.001	<LOR	0.002	**0.039**	<LOR	<LOR	<LOR	0.006	<LOR	<LOR
	20/08/2008	<LOR	<LOR	<LOR	0.001	<LOR	0.001	**0.015**	<LOR	<LOR	<LOR	0.007	<LOR	<LOR
	5/12/2007	<LOR	**0.0002**	<LOR	**0.003**	<LOR	0.001	**0.020**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	13/06/2007	<LOR	<LOR	<LOR	**0.003**	0.003	0.002	**0.011**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	29/11/2006	<LOR	<LOR	<LOR	**0.002**	<LOR	0.003	**0.036**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
MW 16	4/07/2015	0.003	<LOR	<LOR	<LOR	<LOR	0.002	**0.090**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	8/05/2014	0.005	<LOR	**0.002**	<LOR	<LOR	0.004	**0.046**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	18/05/2013	0.003	<LOR	**0.001**	0.001	<LOR	0.005	**0.064**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	1/11/2012	0.002	<LOR	<LOR	**0.002**	<LOR	0.006	**0.226**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	21/05/2012	0.002	<LOR	**0.001**	**0.004**	<LOR	0.004	**0.115**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	1/07/2011	<LOR	0.0001	<LOR	**0.005**	0.001	0.005	**0.671**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	22/08/2008	<LOR	<LOR	<LOR	**0.002**	<LOR	0.003	**0.175**	<LOR	<LOR	<LOR	0.008	<LOR	<LOR
	7/12/2007	0.001	**0.0003**	<LOR	**0.004**	0.002	0.004	**0.218**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	14/06/2007	0.004	0.0001	**0.002**	**0.026**	**0.034**	**0.015**	**3.510**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	1/12/2006	Insufficient sample for analysis												
MW 17	4/07/2015	<LOR	<LOR	<LOR	**0.002**	<LOR	<LOR	**0.020**	<LOR	<LOR	<LOR	0.014	<LOR	<LOR
	8/05/2014	0.002	<LOR	<LOR	**0.002**	<LOR	0.002	**0.042**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	18/05/2013	<LOR	<LOR	<LOR	**0.003**	0.001	0.001	**0.020**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	1/11/2012	<LOR	<LOR	<LOR	0.001	<LOR	<LOR	**0.012**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	21/05/2012	<LOR	<LOR	<LOR	**0.004**	<LOR	<LOR	**0.020**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	2/07/2011	<LOR	<LOR	<LOR	**0.002**	<LOR	0.001	**0.022**	<LOR	<LOR	<LOR	0.007	<LOR	<LOR
	20/08/2008	<LOR	<LOR	<LOR	**0.002**	<LOR	0.002	**0.026**	<LOR	<LOR	<LOR	0.011	<LOR	<LOR
	6/12/2007	0.002	**0.0006**	<LOR	**0.011**	0.001	0.004	**0.039**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	14/06/2007	<LOR	<LOR	**0.001**	**0.009**	**0.010**	0.008	**0.013**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	29/11/2006	<LOR	0.0001	<LOR	**0.002**	0.002	0.004	**0.031**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	5/07/2015	0.001	<LOR	<LOR	<LOR	<LOR	0.001	**0.034**	<LOR	<LOR	<LOR	**11.4**	194	<LOR
RPD (DUP1/MW19)		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-36.1*	*0.0*	*0.0*	*0.0*	*-13.9*	*4.7*	*0.0*
DUP1 (ALS)	5/07/2015	0.001	<LOR	<LOR	<LOR	<LOR	0.001	**0.049**	<LOR	<LOR	<LOR	**13.1**	185	<LOR
RPD (TRIP1/MW19)		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-11.1*	*0.0*	*0.0*	*0.0*	*-20.5*	*2.1*	*0.0*
TRIP1 (SGS)	5/07/2015	0.001	<LOR	<LOR	<LOR	<LOR	0.001	**0.038**	<LOR	<LOR	<LOR	**14.0**	190	0.9
	8/05/2014	0.001	<LOR	<LOR	0.001	0.002	0.002	**0.032**	<LOR	<LOR	<LOR	**18.4**	**322**	<LOR
DUP1 (ALS)	8/05/2014	0.001	<LOR	<LOR	<LOR	0.003	0.002	**0.027**	<LOR	<LOR	<LOR	**17.0**	**326**	<LOR
TRIP1 (SGS)	8/05/2014	0.001	<LOR	<LOR	0.001	0.002	0.001	**0.027**	<LOR	<LOR	<LOR	**24**	**280**	1.9
	19/05/2013	<LOR	<LOR	<LOR	<LOR	**0.005**	0.002	**0.023**	<LOR	<LOR	<LOR	**14.5**	**302**	<LOR
MW 19	2/11/2012	<LOR	<LOR	<LOR	**0.002**	0.003	0.003	**0.037**	<LOR	<LOR	<LOR	**7.46**	172	<LOR
DUP2 (ALS)	2/11/2012	0.001	<LOR	<LOR	**0.002**	0.003	0.003	**0.036**	<LOR	<LOR	<LOR	**8.43**	174	<LOR
	22/05/2012	<LOR	<LOR	<LOR	<LOR	0.003	0.002	**0.014**	<LOR	<LOR	<LOR	**11.0**	190	<LOR
DUP1 (ALS)	22/05/2012	<LOR	<LOR	<LOR	<LOR	0.003	0.002	**0.014**	<LOR	<LOR	<LOR	**11.3**	181	<LOR
TRIP1 (SGS)	22/05/2012	<LOR	0.0018	**0.002**	0.001	0.003	0.005	**0.022**	<LOR	<LOR	<LOR	0.041	250	<LOR
	30/06/2011	0.001	<LOR	<LOR	**0.002**	<LOR	0.002	**0.026**	<LOR	<LOR	<LOR	**4.44**	73	<LOR
	22/08/2008	<LOR	<LOR	<LOR	<LOR	0.002	0.003	**0.018**	<LOR	<LOR	<LOR	0.375	<LOR	<LOR
	7/12/2007	<LOR	**0.0002**	<LOR	**0.003**	**0.010**	0.003	**0.046**	<LOR	<LOR	<LOR	Not analysed	18	<LOR
DUP1/MW19	7/12/2007	<LOR	<LOR	<LOR	**0.003**	**0.009**	0.003	**0.046**	<LOR	<LOR	<LOR	Not analysed	18	<LOR
	13/06/2007	<LOR	<LOR	<LOR	0.001	**0.009**	0.003	**0.022**	<LOR	<LOR	<LOR	Not analysed	15	<LOR
DUP2/MW19	13/06/2007	<LOR	<LOR	<LOR	0.001	**0.009**	0.003	**0.020**	<LOR	<LOR	<LOR	Not analysed	12	<LOR
	1/12/2006	<LOR	<LOR	<LOR	**0.002**	0.003	0.006	**0.047**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
DUP2/MW19	1/12/2006	<LOR	<LOR	<LOR	**0.002**	0.003	0.005	**0.055**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
Level of Reporting (LOR)		0.001	0.0001	0.001	0.001	0.001	0.001	0.005	0.0001	0.5/2.0	0.02/2.0	0.01	10	10
Freshwater Guidelines		0.013	0.0002	0.001	0.0014	0.0034	0.011	0.008	0.00006	Varies	0.01	1.0	280	ID

Guidelines: NEPM (2013): Groundwater Investigation Levels (GILs) - Fresh waters. ANZECC 2000 freshwater guidelines prior to 2013.
Metolachlor value recommended by EHP for Binary Industries site.
ID - indicates insufficient data for determination of a reliable GILs Value
Exceedences: **Bolded and underlined** results exceed nominated assessment criteria

TABLE 2
Groundwater Analytical Results
Metals, Pesticides and Herbicides
EHP - Binary Industries Site, Magnesium Street, Narangba, QLD (December 2006 to July 2015)

Monitoring Well ID/ Sample No.	Sampling Date	Arsenic	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	OC Pesticides	OP Pesticides - Chlorpyrifos	Herbicide - Metolachlor	Phenoxyacetic Acid Herbicides	
													2,4-D	MCPA
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW 20	5/07/2015	0.002	<LOR	<LOR	<LOR	<LOR	<LOR	**0.012**	<LOR	<LOR	<LOR	0.133	<LOR	<LOR
	9/05/2014	<LOR	<LOR	<LOR	0.001	<LOR	<LOR	**0.020**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	19/05/2013	0.008	<LOR	<LOR	**0.002**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	0.122	<LOR	<LOR
	2/11/2012	0.009	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	0.16	<LOR	<LOR
	22/05/2012	0.011	<LOR	<LOR	**0.002**	<LOR	0.001	**0.031**	<LOR	<LOR	<LOR	0.10	<LOR	<LOR
	30/06/2011	0.012	<LOR	<LOR	0.001	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	0.081	<LOR	<LOR
	21/08/2008	0.004	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	0.202	<LOR	<LOR
	7/12/2007	**0.029**	0.0001	**0.002**	<LOR	<LOR	0.002	**0.016**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	13/06/2007	**0.020**	0.0001	**0.004**	0.001	0.001	0.002	**0.010**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	29/11/2006	**0.060**	0.0001	**0.014**	<LOR	<LOR	0.003	**0.038**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
MW 21	5/07/2015	0.002	<LOR	**0.002**	<LOR	<LOR	0.005	**0.029**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	9/05/2014	0.001	<LOR	**0.002**	<LOR	<LOR	0.003	**0.029**	<LOR	<LOR	<LOR	0.015	<LOR	<LOR
	19/05/2013	<LOR	<LOR	**0.003**	<LOR	<LOR	0.003	**0.010**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	2/11/2012	<LOR	<LOR	**0.003**	<LOR	<LOR	0.003	**0.018**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	22/05/2012	0.002	<LOR	**0.004**	<LOR	<LOR	0.004	**0.039**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	1/07/2011	0.003	<LOR	**0.003**	<LOR	<LOR	0.006	**0.019**	<LOR	<LOR	<LOR	0.021	<LOR	<LOR
DUP2/MW21	1/07/2011	0.006	<LOR	**0.007**	<LOR	<LOR	**0.019**	**0.090**	<LOR	<LOR	<LOR	0.018	<LOR	<LOR
	20/08/2008	0.006	<LOR	**0.007**	<LOR	0.003	**0.019**	**0.090**	<LOR	<LOR	<LOR	0.018	<LOR	<LOR
DUP1/MW21	20/08/2008	0.007	**0.0002**	**0.007**	<LOR	0.003	**0.020**	**0.094**	<LOR	<LOR	<LOR	0.016	<LOR	<LOR
	23/04/2008	0.002	**0.0003**	**0.008**	**0.002**	**0.008**	**0.030**	**0.236**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
MW 22	4/07/2015	<LOR	<LOR	<LOR	**0.007**	**0.021**	0.002	**0.076**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	8/05/2014	<LOR	<LOR	<LOR	**0.008**	0.003	0.002	**0.060**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	18/05/2013	<LOR	<LOR	<LOR	**0.002**	<LOR	0.001	**0.035**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	1/11/2012	<LOR	<LOR	<LOR	**0.004**	**0.016**	0.002	**0.049**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	21/05/2012	<LOR	<LOR	<LOR	**0.009**	**0.024**	0.002	**0.055**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	2/07/2011	<LOR	<LOR	<LOR	0.001	**0.004**	<LOR	**0.019**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	21/08/2008	<LOR	<LOR	<LOR	0.001	**0.051**	<LOR	**0.018**	<LOR	<LOR	<LOR	0.008	<LOR	<LOR
	23/04/2008	<LOR	**0.0003**	<LOR	**0.002**	**0.044**	<LOR	**0.070**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
	4/07/2015	<LOR	<LOR	<LOR	**0.002**	**0.012**	0.003	**0.042**	<LOR	<LOR	<LOR	**6.49**	**1260**	12
RPD (DUP2/MW23)		*0.0*	*0.0*	*0.0*	*-40.0*	*-8.0*	*0.0*	*-2.4*	*0.0*	*0.0*	*0.0*	*-73.3*	*4.9*	*0.0*
DUP2 (SGS)	4/07/2015	<LOR	<LOR	<LOR	**0.003**	**0.013**	0.003	**0.043**	<LOR	<LOR	<LOR	**14.0**	**1200**	12
	8/05/2014	<LOR	<LOR	<LOR	**0.002**	**0.006**	0.002	**0.043**	<LOR	<LOR	<LOR	**8.95**	**1950**	24
DUP2 (SGS)	8/05/2014	<LOR	<LOR	<LOR	**0.002**	**0.007**	<LOR	**0.030**	<LOR	<LOR	<LOR	**18**	**1600**	18
MW 23	18/05/2013	<LOR	<LOR	<LOR	**0.004**	0.002	<LOR	**0.026**	<LOR	<LOR	<LOR	**2.18**	54	<LOR
DUP2 (ALS)	18/05/2013	<LOR	<LOR	<LOR	**0.003**	**0.007**	<LOR	**0.026**	<LOR	<LOR	<LOR	**2.43**	53	<LOR
	1/11/2012	<LOR	<LOR	<LOR	**0.006**	0.003	0.002	**0.048**	<LOR	<LOR	<LOR	**3.43**	222	<LOR
	21/05/2012	<LOR	<LOR	<LOR	**0.002**	**0.010**	<LOR	**0.016**	<LOR	<LOR	<LOR	0.01	<LOR	<LOR
	2/07/2011	<LOR	<LOR	<LOR	0.001	**0.004**	<LOR	**0.024**	<LOR	<LOR	<LOR	0.145	<LOR	<LOR
	21/08/2008	<LOR	<LOR	<LOR	**0.006**	0.019	0.003	**0.046**	<LOR	<LOR	<LOR	0.029	<LOR	<LOR
	23/04/2008	<LOR	**0.0004**	<LOR	**0.014**	**0.098**	**0.014**	**0.204**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
DUP1/MW23	23/04/2008	<LOR	**0.0003**	<LOR	**0.014**	**0.099**	**0.014**	**0.195**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
MW 24	4/07/2015	<LOR	<LOR	<LOR	**0.002**	**0.011**	0.002	**0.252**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	8/05/2014	<LOR	<LOR	<LOR	**0.005**	0.002	0.003	**0.090**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	18/05/2013	<LOR	<LOR	<LOR	**0.007**	**0.004**	0.003	**0.060**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	1/11/2012	<LOR	<LOR	<LOR	**0.006**	**0.006**	0.003	**0.071**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	21/05/2012	<LOR	<LOR	<LOR	**0.002**	**0.006**	0.002	**0.029**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	2/07/2011	<LOR	0.0001	**0.001**	**0.002**	**0.061**	0.009	**0.111**	<LOR	<LOR	<LOR	0.005	<LOR	<LOR
	21/08/2008	<LOR	0.0001	**0.001**	**0.007**	**0.020**	0.008	**0.098**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	23/04/2008	<LOR	**0.0004**	**0.002**	**0.020**	**0.044**	**0.014**	**0.171**	<LOR	<LOR	<LOR	Not analysed	<LOR	<LOR
Backg'nd	4/07/2015	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	**0.020**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	8/05/2014	0.004	0.0001	<LOR	**0.004**	**0.015**	0.006	**0.133**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	18/05/2013	0.002	<LOR	<LOR	**0.005**	**0.013**	0.004	**0.032**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	1/11/2012	<LOR	0.0001	**0.001**	**0.002**	**0.017**	0.004	**0.008**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
DUP1 (ALS)	1/11/2012	<LOR	0.0001	<LOR	**0.003**	**0.015**	0.004	**0.008**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	21/05/2012	<LOR	**0.0003**	**0.002**	**0.010**	**0.008**	0.005	**0.051**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
	1/07/2011	0.001	<LOR	<LOR	**0.002**	**0.023**	0.005	**0.008**	<LOR	<LOR	<LOR	0.009	<LOR	<LOR
RIN 1(Backg'nd)	4/07/2015	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR
Level of Reporting (LOR)		0.001	0.0001	0.001	0.001	0.001	0.001	0.005	0.0001	0.5/2.0	0.5/2.0	0.01	10	10
Freshwater Guidelines		0.013	0.0002	0.001	0.0014	0.0034	0.011	0.008	0.00006	Varies	0.01	1.0	280	ID

Guidelines: NEPM (2013): Groundwater Investigation Levels (GILs) - Fresh waters. ANZECC 2000 freshwater guidelines prior to 2013.
Metolachlor value recommended by EHP for Binary Industries site.
ID - indicates insufficient data for determination of a reliable GILs Value
Exceedences: **Bolded and underlined** results exceed nominated assessment criteria

TABLE 3
Groundwater Analytical Results
Phenolic Compounds
EHP - Binary Industries Site, Magnesium Street, Narangba, QLD (June 2007 to July 2015)

Phenolic Compound	Level of Reporting	Monitoring Well ID/ Sample No. MW 2						Monitoring Well ID/ Sample No. MW 3				Freshwater Guidelines
Sample Date		21-Aug-08	2-Jul-11	21-May-12	2-Nov-12	19-May-13	9-May-14	21-Aug-08	2-Jul-11	21-May-12	1-Nov-12	
2.4.5-Trichlorophenol	1 µg/L	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	ID
2.4.6-Trichlorophenol	1 µg/L	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	3
2.4-Dichlorophenol	1 µg/L	9.9	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	120
2.4-Dimethylphenol	1 µg/L	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	ID
2.6-Dichlorophenol	1 µg/L	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	ID
2-Chlorophenol	1 µg/L	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	340
2-Methylphenol	1 µg/L	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	NE
2-Nitrophenol	1 µg/L	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	ID
3- & 4-Methylphenol	2 µg/L	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	NE
4-Chloro-3-Methylphenol	1 µg/L	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	NE
Pentachlorophenol	2 µg/L	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	3.6
Phenol	1 µg/L	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	320

Guidelines: NEPM 2013: Groundwater Investigation Levels, Fresh Waters, slighlty to moderately disturbed systems and per ANZECC 2000 Guidelines prior to 2013.

ID - indicates insufficient data for determination of a reliable GILs value

NE - Indicates GILs value not established

Exceedences: **Bolded and underlined** results exceed nominated assessment criteria

Columns highlighted indicate results for current round of monitoring (July 2015)

TABLE 3
Groundwater Analytical Results
Phenolic Compounds
EHP - Binary Industries Site, Magnesium Street, Narangba, QLD (June 2007 to July 2015)

Phenolic Compound	Level of Reporting	Monitoring Well ID/ Sample No. MW4										Monitoring Well ID/ Sample No. MW 5				Freshwater Guidelines
Sample Date		1-Jun-07	1-Dec-07	21-Aug-08	2-Jul-11	21-May-12	1-Nov-12	DUP1 - 18-May-13(ALS)	18-May-13	9-May-14	4-Jul-15	30-Jun-11	19-May-13	9-May-14	5-Jul-15	
2.4.5-Trichlorophenol	1 µg/L	19.9	31	<1.9	<LOR	<LOR	<LOR	<LOR	<LOR	<9.5	<48.1	<LOR	<LOR	<LOR	<LOR	ID
2.4.6-Trichlorophenol	1 µg/L	**38.9**	**32.9**	**9.8**	<LOR	1.7	**5.0**	**9.9**	**9.1**	**56.5**	<48.1	<LOR	<LOR	<LOR	<LOR	3
2.4-Dichlorophenol	1 µg/L	**3080**	**653**	**230**	38	23.9	**202**	**2310**	**2300**	**17,500**	**2,860**	17.6	14.1	<LOR	<LOR	120
2.4-Dimethylphenol	1 µg/L	6.2	<4.9	<1.9	1.1	<LOR	<LOR	<LOR	<LOR	<9.5	<48.1	<LOR	<LOR	<LOR	<LOR	ID
2.6-Dichlorophenol	1 µg/L	24.9	6.9	2.1	<LOR	<LOR	3.7	8.8	7.4	41.6	<48.1	<LOR	<LOR	<LOR	<LOR	ID
2-Chlorophenol	1 µg/L	16.6	7.8	3.6	6.4	8.8	6.5	14.6	13.4	121	51.8	<LOR	<LOR	<LOR	<LOR	340
2-Methylphenol	1 µg/L	8.3	<4.9	<1.9	<LOR	<LOR	<LOR	<LOR	<LOR	<9.5	<48.1	<LOR	<LOR	<LOR	<LOR	NE
2-Nitrophenol	1 µg/L	<2.0	<4.9	<1.9	<LOR	<LOR	<LOR	<LOR	<LOR	<9.5	<48.1	<LOR	<LOR	<LOR	<LOR	ID
3- & 4-Methylphenol	2 µg/L	<3.9	<9.7	<3.9	<LOR	<LOR	<LOR	<LOR	<LOR	<19.0	<48.1	<LOR	<LOR	<LOR	<LOR	NE
4-Chloro-3-Methylphenol	1 µg/L	<2.0	<4.9	<1.9	<LOR	<LOR	<LOR	<LOR	<LOR	149	<48.1	<LOR	<LOR	<LOR	<LOR	NE
Pentachlorophenol	2 µg/L	<3.9	<9.7	<3.9	<LOR	<LOR	<LOR	<LOR	<LOR	<19.0	<96.2	<LOR	<LOR	<LOR	<LOR	3.6
Phenol	1 µg/L	4	7.5	<1.9	<LOR	<LOR	<LOR	<LOR	<LOR	<9.5	<48.1	<LOR	<LOR	<LOR	<LOR	320

Guidelines: NEPM 2013: Groundwater Investigation Levels, Fresh Waters, slighlty to moderately disturbed systems and per ANZECC 2000 Guidelines prior to 2013.

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Columns highlighted indicate results for current round of monitoring (July 2015)

TABLE 3
Groundwater Analytical Results
Phenolic Compounds
EHP - Binary Industries Site, Magnesium Street, Narangba, QLD (June 2007 to July 2015)

Phenolic Compound	Level of Reporting	Monitoring Well ID/ Sample No. MW 6			Monitoring Well ID/ Sample No. MW11								Freshwater Guidelines
Sample Date		23-Apr-13	9-May-14	4-Jul-15	1-Jun-07	1-Dec-07	20-Aug-08	1-Jul-11	22-May-12	2-Nov-12	19-May-13	9-May-14	
2.4.5-Trichlorophenol	1 µg/L	<LOR	<LOR	<47.6	3.8	6.7	<19.2	<LOR	<LOR	<LOR	<LOR	<LOR	ID
2.4.6-Trichlorophenol	1 µg/L	<LOR	1.2	<47.6	**7.6**	**8.8**	<19.2	<LOR	<LOR	<LOR	<LOR	<LOR	3
2.4-Dichlorophenol	1 µg/L	<LOR	2.1	**785**	**4310**	**6100**	**564**	1.8	<LOR	<LOR	<LOR	<LOR	120
2.4-Dimethylphenol	1 µg/L	<LOR	<LOR	<47.6	<2.0	<4.8	<19.2	<LOR	<LOR	<LOR	<LOR	<LOR	ID
2.6-Dichlorophenol	1 µg/L	<LOR	<LOR	<47.6	22.4	24.2	<19.2	<LOR	<LOR	<LOR	<LOR	<LOR	ID
2-Chlorophenol	1 µg/L	<LOR	<LOR	<47.6	29.3	177	<19.2	<LOR	<LOR	<LOR	<LOR	<LOR	340
2-Methylphenol	1 µg/L	<LOR	<LOR	<47.6	<2.0	<4.8	<19.2	<LOR	<LOR	<LOR	<LOR	<LOR	NE
2-Nitrophenol	1 µg/L	<LOR	<LOR	<47.6	<2.0	<4.8	<19.2	<LOR	<LOR	<LOR	<LOR	<LOR	ID
3- & 4-Methylphenol	2 µg/L	<LOR	<LOR	<95.2	32.1	<9.7	<38.5	<LOR	<LOR	<LOR	<LOR	<LOR	NE
4-Chloro-3-Methylphenol	1 µg/L	<LOR	<LOR	<47.6	20.2	159	<19.2	<LOR	<LOR	<LOR	<LOR	<LOR	NE
Pentachlorophenol	2 µg/L	<LOR	<LOR	<95.2	<4.0	<9.7	<38.5	<LOR	<LOR	<LOR	<LOR	<LOR	3.6
Phenol	1 µg/L	<LOR	<LOR	<47.6	9.3	77.7	<19.2	<LOR	<LOR	<LOR	<LOR	<LOR	320

Guidelines: NEPM 2013: Groundwater Investigation Levels, Fresh Waters, slighlty to moderately disturbed systems and per ANZECC 2000 Guidelines prior to 2013.

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Exceedences: Bolded and underlined results exceed nominated assessment criteria

Columns highlighted indicate results for current round of monitoring (July 2015)

TABLE 3
Groundwater Analytical Results
Phenolic Compounds
EHP - Binary Industries Site, Magnesium Street, Narangba, QLD (June 2007 to July 2015)

Phenolic Compound	Level of Reporting	Monitoring Well ID/ Sample No. MW 19																Freshwater Guidelines
Sample Date		22-Aug-08	30-Jun-11	DUP1 - 22-May-12(ALS)	TRIP1 - 22-May-12(SGS)	22-May-12	DUP2 - 2-Nov-12(ALS)	2-Nov-12	19-May-13	DUP1 - 9-May-14(ALS)	TRIP1 - 9-May-14(SGS)	9-May-14	DUP1 - 5-July-15(ALS)	*RPD (DUP1/MW19)*	TRIP1 - 5-July-15(SGS)	*RPD (TRIP1/MW19)*	5-Jul-15	
2.4.5-Trichlorophenol	1 µg/L	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<47.6	*0.0*	<5.0	*0.0*	<47.6	ID
2.4.6-Trichlorophenol	1 µg/L	<LOR	2.2	**12.0**	<LOR	**10.5**	**9.7**	**5.7**	**10**	**17.5**	**9.8**	**16.4**	<47.6	*0.0*	<5.0	*0.0*	<47.6	3
2.4-Dichlorophenol	1 µg/L	<LOR	**2240**	**3590**	<LOR	**3830**	**2420**	**1490**	**2110**	**3080**	**1000**	**3040**	**2230**	*-7.4*	<5000	*-82.9*	**2070**	120
2.4-Dimethylphenol	1 µg/L	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<47.6	*0.0*	<0.5	*0.0*	<47.6	ID
2.6-Dichlorophenol	1 µg/L	<LOR	<LOR	20.6	1.2	16.2	9.9	7.6	12.5	14.5	<LOR	12.2	<47.6	*0.0*	<5.0	*0.0*	<47.6	ID
2-Chlorophenol	1 µg/L	<LOR	13	31.8	<LOR	29	23.7	13.5	36.9	41.5	22	34	<47.6	*0.0*	14.0	*109*	<47.6	340
2-Methylphenol	1 µg/L	<LOR	<LOR	1.6	<LOR	1.4	2.6	1.3	10.4	16.8	8.4	14.7	<47.6	*0.0*	<5.0	*0.0*	<47.6	NE
2-Nitrophenol	1 µg/L	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<47.6	*0.0*	<0.5	*0.0*	<47.6	ID
3- & 4-Methylphenol	2 µg/L	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<95.2	*0.0*	<5.0	*0.0*	<95.2	NE
4-Chloro-3-Methylphenol	1 µg/L	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<47.6	*0.0*	NA	*0.0*	<47.6	NE
Pentachlorophenol	2 µg/L	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<95.2	*0.0*	<0.5	*0.0*	<95.2	3.6
Phenol	1 µg/L	<LOR	<LOR	4.4	2.2	3.9	6.3	4.1	60.6	48.1	15	45.5	<47.6	*0.0*	10	*131*	<47.6	320

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TABLE 3
Groundwater Analytical Results
Phenolic Compounds
EHP - Binary Industries Site, Magnesium Street, Narangba, QLD (June 2007 to July 2015)

Phenolic Compound	Level of Reporting	Monitoring Well ID/ Sample No. MW 21							Monitoring Well ID/ Sample No. MW 22		Freshwater Guidelines
Sample Date		23-Apr-08	DUP1 - 20/08/2008	20-Aug-08	DUP2 - 1/07/2011	1-Jul-11	22-May-12	2-Nov-12	23-Apr-08	4-Jul-15	
2.4.5-Trichlorophenol	1 µg/L	<9.6	<38.5	<38.7	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	ID
2.4.6-Trichlorophenol	1 µg/L	<9.6	<38.5	<38.7	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	3
2.4-Dichlorophenol	1 µg/L	**3520**	**4240**	**5070**	19.2	10.9	<LOR	<LOR	<LOR	<LOR	120
2.4-Dimethylphenol	1 µg/L	<9.6	<38.5	<38.7	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	ID
2.6-Dichlorophenol	1 µg/L	15.1	<38.5	<38.7	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	ID
2-Chlorophenol	1 µg/L	38.9	54.2	74.8	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	340
2-Methylphenol	1 µg/L	<9.6	<38.5	<38.7	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	NE
2-Nitrophenol	1 µg/L	<9.6	<38.5	<38.7	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	ID
3- & 4-Methylphenol	2 µg/L	<19.3	<76.9	<77.4	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	NE
4-Chloro-3-Methylphenol	1 µg/L	34.6	<38.5	<38.7	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	NE
Pentachlorophenol	2 µg/L	<19.3	<76.9	<77.4	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	3.6
Phenol	1 µg/L	<9.6	<38.5	<38.7	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	320

Guidelines: NEPM 2013: Groundwater Investigation Levels, Fresh Waters, slighlty to moderately disturbed systems and per ANZECC 2000 Guidelines prior to 2013.

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TABLE 3
Groundwater Analytical Results
Phenolic Compounds
EHP - Binary Industries Site, Magnesium Street, Narangba, QLD (June 2007 to July 2015)

Phenolic Compound	Level of Reporting	Monitoring Well ID/ Sample No. MW 23						Monitoring Well ID/ Sample No. MW 24		Monitoring Well ID/ Sample No. Backg'nd (the EHP background well)						Freshwater Guidelines
Sample Date		23-Apr-08	DUP2 (SGS) 8/05/2014	8-May-14	DUP2 (SGS) 4/07/2015	*RPD (DUP2/MW23)*	4-Jul-15	23-Apr-08	4-Jul-15	1-Jul-11	22-May-12	1-Nov-12	18-May-13	8-May-14	4-Jul-15	
2.4.5-Trichlorophenol	1 µg/L	<LOR	<LOR	<LOR	<5.0	*0.0*	<47.6	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	ID
2.4.6-Trichlorophenol	1 µg/L	<LOR	2.4	**9.1**	<5.0	*0.0*	<47.6	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	3
2.4-Dichlorophenol	1 µg/L	<LOR	**15,000**	**5140**	1,100	*135.1*	**5680**	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	120
2.4-Dimethylphenol	1 µg/L	<LOR	<LOR	<LOR	<5.0	*0.0*	<47.6	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	ID
2.6-Dichlorophenol	1 µg/L	<LOR	5.0	12.3	5.7	*157.2*	<47.6	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	ID
2-Chlorophenol	1 µg/L	<LOR	18	45.6	<50.0	*-0.8*	49.6	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	340
2-Methylphenol	1 µg/L	<LOR	<LOR	<LOR	<5.0	*0.0*	<47.6	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	NE
2-Nitrophenol	1 µg/L	<LOR	<LOR	<LOR	<5.0	*0.0*	<47.6	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	ID
3- & 4-Methylphenol	2 µg/L	<LOR	<LOR	<LOR	<5.0	*0.0*	<95.2	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	NE
4-Chloro-3-Methylphenol	1 µg/L	<LOR	<LOR	<LOR	NA	*0.0*	<47.6	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	NE
Pentachlorophenol	2 µg/L	<LOR	<LOR	<LOR	<5.0	*0.0*	<95.2	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	3.6
Phenol	1 µg/L	<LOR	<LOR	<LOR	<5.0	*0.0*	<47.6	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	<LOR	320

Guidelines: NEPM 2013: Groundwater Investigation Levels, Fresh Waters, slighlty to moderately disturbed systems and per ANZECC 2000 Guidelines prior to 2013.

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APPENDICIES

APPENDIX A

LABORATORY REPORTS
AND
CHAIN OF CUSTODY DOCUMENTATION

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EB1522435**	Page	: 1 of 22
Client	: **GEO ENVIRONMENTAL CONSULTANTS**	Laboratory	: Environmental Division Brisbane
Contact	: MR MIKE TISDALL	Contact	: Customer Services EB
Address	: 129 OUTLOOK CRESCENT BARDON QLD, AUSTRALIA 4065	Address	: 2 Byth Street Stafford QLD Australia 4053
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Telephone	: +61 33672266	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 33672377	Facsimile	: +61-7-3243 7218
Project	: EHP Binary Site	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 5010/7.GW	Date Samples Received	: 07-Jul-2015 12:25
C-O-C number	: COC5010/7.GW	Date Analysis Commenced	: 08-Jul-2015
Sampler	: ----	Issue Date	: 17-Jul-2015 16:32
Site	: Narangba, Qld		
		No. of samples received	: 21
Quote number	: ----	No. of samples analysed	: 21

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics
Lana Nguyen	Senior LCMS Chemist	Sydney Organics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.

- EP068: The LOR values for delta-BHC, Dimethoate and Malathion for particular samples have been raised due to matrix interferences.
- EP068: Sample shows poor matrix spike recoveries due to matrix interferences.
- EP075(SIM): Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly and surrogate recoveries not determined.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW3	MW4	MW5	MW6	MW7
				Client sampling date / time	[04-Jul-2015]	[04-Jul-2015]	[05-Jul-2015]	[04-Jul-2015]	[05-Jul-2015]
Compound	CAS Number	LOR	Unit		EB1522435-001	EB1522435-002	EB1522435-003	EB1522435-004	EB1522435-005
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	**0.005**
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		<0.001	**0.002**	<0.001	<0.001	**0.002**
Copper	7440-50-8	0.001	mg/L		**0.001**	**0.005**	**0.001**	**0.003**	**0.002**
Nickel	7440-02-0	0.001	mg/L		**0.004**	**0.002**	<0.001	<0.001	**0.003**
Lead	7439-92-1	0.001	mg/L		**0.005**	**0.010**	<0.001	**0.002**	<0.001
Zinc	7440-66-6	0.005	mg/L		**0.109**	**0.074**	**0.021**	**0.078**	**0.127**
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
beta-BHC	319-85-7	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
gamma-BHC	58-89-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
delta-BHC	319-86-8	0.5	µg/L		<0.5	<0.5	<0.5	<1.0	<0.5
Heptachlor	76-44-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Aldrin	309-00-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Dieldrin	60-57-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Endrin	72-20-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDT	50-29-3	2	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Methoxychlor	72-43-5	2	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
^ Total Chlordane (sum)	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of DDD + DDE + DDT	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW3	MW4	MW5	MW6	MW7
				Client sampling date / time	[04-Jul-2015]	[04-Jul-2015]	[05-Jul-2015]	[04-Jul-2015]	[05-Jul-2015]
Compound	CAS Number	LOR	Unit		EB1522435-001	EB1522435-002	EB1522435-003	EB1522435-004	EB1522435-005
					Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Monocrotophos	6923-22-4	2	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
Dimethoate	60-51-5	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon	333-41-5	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Parathion-methyl	298-00-0	2	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
Malathion	121-75-5	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Fenthion	55-38-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos	2921-88-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Parathion	56-38-2	2	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
Pirimphos-ethyl	23505-41-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorfenvinphos	470-90-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Bromophos-ethyl	4824-78-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Fenamiphos	22224-92-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Prothiofos	34643-46-4	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	563-12-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Carbophenothion	786-19-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Azinphos Methyl	86-50-0	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1	µg/L		----	<48.1	<1.0	<47.6	----
2-Chlorophenol	95-57-8	1	µg/L		----	**51.8**	<1.0	<47.6	----
2-Methylphenol	95-48-7	1	µg/L		----	<48.1	<1.0	<47.6	----
3- & 4-Methylphenol	1319-77-3	2	µg/L		----	<96.2	<2.0	<95.2	----
2-Nitrophenol	88-75-5	1	µg/L		----	<48.1	<1.0	<47.6	----
2.4-Dimethylphenol	105-67-9	1	µg/L		----	<48.1	<1.0	<47.6	----
2.4-Dichlorophenol	120-83-2	1	µg/L		----	**2860**	<1.0	**785**	----
2.6-Dichlorophenol	87-65-0	1	µg/L		----	<48.1	<1.0	<47.6	----
4-Chloro-3-methylphenol	59-50-7	1	µg/L		----	<48.1	<1.0	<47.6	----
2.4.6-Trichlorophenol	88-06-2	1	µg/L		----	<48.1	<1.0	<47.6	----
2.4.5-Trichlorophenol	95-95-4	1	µg/L		----	<48.1	<1.0	<47.6	----
Pentachlorophenol	87-86-5	2	µg/L		----	<96.2	<2.0	<95.2	----
EP202A: Phenoxyacetic Acid Herbicides by LCMS									
4-Chlorophenoxy acetic acid	122-88-3	10	µg/L		<10	<10	<10	<10	<10

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW3	MW4	MW5	MW6	MW7
				Client sampling date / time	[04-Jul-2015]	[04-Jul-2015]	[05-Jul-2015]	[04-Jul-2015]	[05-Jul-2015]
Compound	CAS Number	LOR	Unit		EB1522435-001	EB1522435-002	EB1522435-003	EB1522435-004	EB1522435-005
					Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued									
2.4-DB	94-82-6	10	µg/L		<10	<10	<10	<10	<10
Dicamba	1918-00-9	10	µg/L		<10	<10	<10	<10	<10
Mecoprop	93-65-2	10	µg/L		<10	<10	<10	<10	<10
MCPA	94-74-6	10	µg/L		<10	**26**	<10	**10**	<10
2.4-DP	120-36-5	10	µg/L		<10	<10	<10	<10	<10
2.4-D	94-75-7	10	µg/L		<10	**1890**	<10	**196**	<10
Triclopyr	55335-06-3	10	µg/L		<10	**30**	<10	<10	<10
2.4.5-TP (Silvex)	93-72-1	10	µg/L		<10	<10	<10	<10	<10
2.4.5-T	93-76-5	10	µg/L		<10	<10	<10	<10	<10
MCPB	94-81-5	10	µg/L		<10	<10	<10	<10	<10
Picloram	1918-02-1	10	µg/L		<10	**41**	<10	<10	<10
Clopyralid	1702-17-6	10	µg/L		<10	**21**	<10	**16**	<10
Fluroxypyr	69377-81-7	10	µg/L		<10	<10	<10	<10	<10
2.6-D	575-90-6	10	µg/L		<10	**10**	<10	<10	<10
2.4.6-T	575-89-3	10	µg/L		<10	**18**	<10	<10	<10
EP215: Multiresidue Pesticide Residue Screen (Suite 2)									
Simazine	122-34-9	0.005	µg/L		<0.005	**0.086**	<0.005	<0.005	<0.005
Diuron	330-54-1	0.005	µg/L		<0.005	**4.22**	**0.091**	**3.41**	<0.005
Atrazine	1912-24-9	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Molinate	2212-67-1	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Metolachlor	51218-45-2	0.005	µg/L		**0.034**	**22.5**	**0.841**	**50.6**	**0.008**
Malathion	121-75-5	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Diazinon	333-41-5	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Thiobencarb	28249-77-6	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Chlorpyrifos	2921-88-2	0.005	µg/L		<0.005	**0.200**	<0.005	**0.051**	<0.005
Trifluralin	1582-09-8	0.005	µg/L		<0.010	**2.24**	<0.010	<0.010	<0.010
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%		**50.6**	**64.6**	**60.0**	**69.2**	**52.1**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%		**46.5**	**103**	**83.7**	**98.4**	**70.8**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1	%		----	**Not Determined**	**24.9**	**Not Determined**	----
2-Chlorophenol-D4	93951-73-6	1	%		----	**Not Determined**	**62.2**	**Not Determined**	----
2.4.6-Tribromophenol	118-79-6	1	%		----	**Not Determined**	**63.4**	**Not Determined**	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW3	MW4	MW5	MW6	MW7
				Client sampling date / time	[04-Jul-2015]	[04-Jul-2015]	[05-Jul-2015]	[04-Jul-2015]	[05-Jul-2015]
Compound	CAS Number	LOR	Unit		EB1522435-001	EB1522435-002	EB1522435-003	EB1522435-004	EB1522435-005
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1	%		----	Not Determined	44.3	Not Determined	----
Anthracene-d10	1719-06-8	1	%		----	Not Determined	73.1	Not Determined	----
4-Terphenyl-d14	1718-51-0	1	%		----	Not Determined	82.7	Not Determined	----
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2.4-Dichlorophenyl Acetic Acid	19719-28-9	10	%		116	107	128	114	113

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW9	MW10	MW11	MW13	MW15
				Client sampling date / time	[05-Jul-2015]	[05-Jul-2015]	[05-Jul-2015]	[05-Jul-2015]	[04-Jul-2015]
Compound	CAS Number	LOR	Unit		EB1522435-006	EB1522435-007	EB1522435-008	EB1522435-009	EB1522435-010
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	**0.002**	<0.001	<0.001
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Nickel	7440-02-0	0.001	mg/L		<0.001	<0.001	**0.001**	<0.001	**0.002**
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	**0.001**
Zinc	7440-66-6	0.005	mg/L		**0.021**	<0.005	**0.039**	**0.021**	**0.042**
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
beta-BHC	319-85-7	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
gamma-BHC	58-89-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
delta-BHC	319-86-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor	76-44-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Aldrin	309-00-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Dieldrin	60-57-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Endrin	72-20-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDT	50-29-3	2	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Methoxychlor	72-43-5	2	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
^ Total Chlordane (sum)	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of DDD + DDE + DDT	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW9	MW10	MW11	MW13	MW15
				Client sampling date / time	[05-Jul-2015]	[05-Jul-2015]	[05-Jul-2015]	[05-Jul-2015]	[04-Jul-2015]
Compound	CAS Number	LOR	Unit		EB1522435-006	EB1522435-007	EB1522435-008	EB1522435-009	EB1522435-010
					Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Monocrotophos	6923-22-4	2	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
Dimethoate	60-51-5	0.5	µg/L		<3.0	<0.5	<0.5	<0.5	<0.5
Diazinon	333-41-5	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Parathion-methyl	298-00-0	2	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
Malathion	121-75-5	0.5	µg/L		<1.0	<0.5	<0.5	<0.5	<0.5
Fenthion	55-38-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos	2921-88-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Parathion	56-38-2	2	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
Pirimphos-ethyl	23505-41-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorfenvinphos	470-90-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Bromophos-ethyl	4824-78-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Fenamiphos	22224-92-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Prothiofos	34643-46-4	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	563-12-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Carbophenothion	786-19-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Azinphos Methyl	86-50-0	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1	µg/L		----	----	----	----	----
2-Chlorophenol	95-57-8	1	µg/L		----	----	----	----	----
2-Methylphenol	95-48-7	1	µg/L		----	----	----	----	----
3- & 4-Methylphenol	1319-77-3	2	µg/L		----	----	----	----	----
2-Nitrophenol	88-75-5	1	µg/L		----	----	----	----	----
2.4-Dimethylphenol	105-67-9	1	µg/L		----	----	----	----	----
2.4-Dichlorophenol	120-83-2	1	µg/L		----	----	----	----	----
2.6-Dichlorophenol	87-65-0	1	µg/L		----	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	1	µg/L		----	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	1	µg/L		----	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	1	µg/L		----	----	----	----	----
Pentachlorophenol	87-86-5	2	µg/L		----	----	----	----	----
EP202A: Phenoxyacetic Acid Herbicides by LCMS									
4-Chlorophenoxy acetic acid	122-88-3	10	µg/L		<10	<10	<10	<10	<10

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW9	MW10	MW11	MW13	MW15
				Client sampling date / time	[05-Jul-2015]	[05-Jul-2015]	[05-Jul-2015]	[05-Jul-2015]	[04-Jul-2015]
Compound	CAS Number	LOR	Unit		EB1522435-006	EB1522435-007	EB1522435-008	EB1522435-009	EB1522435-010
					Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued									
2.4-DB	94-82-6	10	µg/L		<10	<10	<10	<10	<10
Dicamba	1918-00-9	10	µg/L		<10	<10	<10	<10	<10
Mecoprop	93-65-2	10	µg/L		<10	<10	<10	<10	<10
MCPA	94-74-6	10	µg/L		<10	<10	<10	<10	<10
2.4-DP	120-36-5	10	µg/L		<10	<10	<10	<10	<10
2.4-D	94-75-7	10	µg/L		<10	<10	<10	<10	<10
Triclopyr	55335-06-3	10	µg/L		<10	<10	<10	<10	<10
2.4.5-TP (Silvex)	93-72-1	10	µg/L		<10	<10	<10	<10	<10
2.4.5-T	93-76-5	10	µg/L		<10	<10	<10	<10	<10
MCPB	94-81-5	10	µg/L		<10	<10	<10	<10	<10
Picloram	1918-02-1	10	µg/L		<10	<10	<10	<10	<10
Clopyralid	1702-17-6	10	µg/L		<10	<10	<10	<10	<10
Fluroxypyr	69377-81-7	10	µg/L		<10	<10	<10	<10	<10
2.6-D	575-90-6	10	µg/L		<10	<10	<10	<10	<10
2.4.6-T	575-89-3	10	µg/L		<10	<10	<10	<10	<10
EP215: Multiresidue Pesticide Residue Screen (Suite 2)									
Simazine	122-34-9	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Diuron	330-54-1	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Atrazine	1912-24-9	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Molinate	2212-67-1	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Metolachlor	51218-45-2	0.005	µg/L		**0.021**	<0.005	<0.005	<0.005	<0.005
Malathion	121-75-5	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Diazinon	333-41-5	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Thiobencarb	28249-77-6	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Chlorpyrifos	2921-88-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Trifluralin	1582-09-8	0.005	µg/L		<0.010	<0.005	<0.010	<0.010	<0.010
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%		**53.9**	**48.8**	**55.7**	**59.9**	**57.3**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%		**69.6**	**68.2**	**77.6**	**77.4**	**74.6**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1	%		----	----	----	----	----
2-Chlorophenol-D4	93951-73-6	1	%		----	----	----	----	----
2.4.6-Tribromophenol	118-79-6	1	%		----	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW9	MW10	MW11	MW13	MW15
				Client sampling date / time	[05-Jul-2015]	[05-Jul-2015]	[05-Jul-2015]	[05-Jul-2015]	[04-Jul-2015]
Compound	CAS Number	LOR	Unit		EB1522435-006	EB1522435-007	EB1522435-008	EB1522435-009	EB1522435-010
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1	%		----	----	----	----	----
Anthracene-d10	1719-06-8	1	%		----	----	----	----	----
4-Terphenyl-d14	1718-51-0	1	%		----	----	----	----	----
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2.4-Dichlorophenyl Acetic Acid	19719-28-9	10	%		**115**	**106**	**118**	**119**	**121**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Client sample ID	MW16	MW17	MW19	MW20	MW21
				Client sampling date / time	[04-Jul-2015]	[04-Jul-2015]	[05-Jul-2015]	[05-Jul-2015]	[05-Jul-2015]
					EB1522435-011	EB1522435-012	EB1522435-013	EB1522435-014	EB1522435-015
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		**0.003**	<0.001	**0.001**	**0.002**	**0.002**
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	**0.002**
Copper	7440-50-8	0.001	mg/L		<0.001	**0.002**	<0.001	<0.001	<0.001
Nickel	7440-02-0	0.001	mg/L		**0.002**	<0.001	**0.001**	<0.001	**0.005**
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		**0.090**	**0.020**	**0.034**	**0.012**	**0.029**
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
beta-BHC	319-85-7	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
gamma-BHC	58-89-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
delta-BHC	319-86-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor	76-44-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Aldrin	309-00-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Dieldrin	60-57-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Endrin	72-20-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDT	50-29-3	2	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Methoxychlor	72-43-5	2	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
^ **Total Chlordane (sum)**	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Sum of DDD + DDE + DDT**	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW16	MW17	MW19	MW20	MW21
				Client sampling date / time	[04-Jul-2015]	[04-Jul-2015]	[05-Jul-2015]	[05-Jul-2015]	[05-Jul-2015]
Compound	CAS Number	LOR	Unit		EB1522435-011	EB1522435-012	EB1522435-013	EB1522435-014	EB1522435-015
					Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Monocrotophos	6923-22-4	2	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
Dimethoate	60-51-5	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon	333-41-5	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Parathion-methyl	298-00-0	2	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
Malathion	121-75-5	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Fenthion	55-38-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos	2921-88-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Parathion	56-38-2	2	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
Pirimphos-ethyl	23505-41-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorfenvinphos	470-90-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Bromophos-ethyl	4824-78-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Fenamiphos	22224-92-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Prothiofos	34643-46-4	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	563-12-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Carbophenothion	786-19-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Azinphos Methyl	86-50-0	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1	µg/L		----	----	<47.6	----	----
2-Chlorophenol	95-57-8	1	µg/L		----	----	<47.6	----	----
2-Methylphenol	95-48-7	1	µg/L		----	----	<47.6	----	----
3- & 4-Methylphenol	1319-77-3	2	µg/L		----	----	<95.2	----	----
2-Nitrophenol	88-75-5	1	µg/L		----	----	<47.6	----	----
2.4-Dimethylphenol	105-67-9	1	µg/L		----	----	<47.6	----	----
2.4-Dichlorophenol	120-83-2	1	µg/L		----	----	**2070**	----	----
2.6-Dichlorophenol	87-65-0	1	µg/L		----	----	<47.6	----	----
4-Chloro-3-methylphenol	59-50-7	1	µg/L		----	----	<47.6	----	----
2.4.6-Trichlorophenol	88-06-2	1	µg/L		----	----	<47.6	----	----
2.4.5-Trichlorophenol	95-95-4	1	µg/L		----	----	<47.6	----	----
Pentachlorophenol	87-86-5	2	µg/L		----	----	<95.2	----	----
EP202A: Phenoxyacetic Acid Herbicides by LCMS									
4-Chlorophenoxy acetic acid	122-88-3	10	µg/L		<10	<10	<10	<10	<10

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW16	MW17	MW19	MW20	MW21
				Client sampling date / time	[04-Jul-2015]	[04-Jul-2015]	[05-Jul-2015]	[05-Jul-2015]	[05-Jul-2015]
Compound	CAS Number	LOR	Unit		EB1522435-011	EB1522435-012	EB1522435-013	EB1522435-014	EB1522435-015
					Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued									
2.4-DB	94-82-6	10	µg/L		<10	<10	<10	<10	<10
Dicamba	1918-00-9	10	µg/L		<10	<10	<10	<10	<10
Mecoprop	93-65-2	10	µg/L		<10	<10	<10	<10	<10
MCPA	94-74-6	10	µg/L		<10	<10	<10	<10	<10
2.4-DP	120-36-5	10	µg/L		<10	<10	<10	<10	<10
2.4-D	94-75-7	10	µg/L		<10	<10	**194**	<10	<10
Triclopyr	55335-06-3	10	µg/L		<10	<10	<10	<10	<10
2.4.5-TP (Silvex)	93-72-1	10	µg/L		<10	<10	<10	<10	<10
2.4.5-T	93-76-5	10	µg/L		<10	<10	<10	<10	<10
MCPB	94-81-5	10	µg/L		<10	<10	<10	<10	<10
Picloram	1918-02-1	10	µg/L		<10	<10	**22**	<10	<10
Clopyralid	1702-17-6	10	µg/L		<10	<10	<10	<10	<10
Fluroxypyr	69377-81-7	10	µg/L		<10	<10	<10	<10	<10
2.6-D	575-90-6	10	µg/L		<10	<10	<10	<10	<10
2.4.6-T	575-89-3	10	µg/L		<10	<10	<10	<10	<10
EP215: Multiresidue Pesticide Residue Screen (Suite 2)									
Simazine	122-34-9	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Diuron	330-54-1	0.005	µg/L		<0.005	<0.005	**7.38**	<0.005	<0.005
Atrazine	1912-24-9	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Molinate	2212-67-1	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Metolachlor	51218-45-2	0.005	µg/L		<0.005	**0.014**	**11.4**	**0.133**	<0.005
Malathion	121-75-5	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Diazinon	333-41-5	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Thiobencarb	28249-77-6	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Chlorpyrifos	2921-88-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Trifluralin	1582-09-8	0.005	µg/L		<0.010	<0.010	<0.010	<0.010	<0.010
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%		**56.0**	**47.0**	**54.8**	**48.6**	**56.0**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%		**74.3**	**65.8**	**80.7**	**68.0**	**71.4**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1	%		----	----	**Not Determined**	----	----
2-Chlorophenol-D4	93951-73-6	1	%		----	----	**Not Determined**	----	----
2.4.6-Tribromophenol	118-79-6	1	%		----	----	**Not Determined**	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW16	MW17	MW19	MW20	MW21
				Client sampling date / time	[04-Jul-2015]	[04-Jul-2015]	[05-Jul-2015]	[05-Jul-2015]	[05-Jul-2015]
Compound	CAS Number	LOR	Unit		EB1522435-011	EB1522435-012	EB1522435-013	EB1522435-014	EB1522435-015
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1	%		----	----	**Not Determined**	----	----
Anthracene-d10	1719-06-8	1	%		----	----	**Not Determined**	----	----
4-Terphenyl-d14	1718-51-0	1	%		----	----	**Not Determined**	----	----
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2.4-Dichlorophenyl Acetic Acid	19719-28-9	10	%		**128**	**118**	**126**	**124**	**96.4**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW22	MW23	MW24	BACK'ND	DUP 1
				Client sampling date / time	[04-Jul-2015]	[04-Jul-2015]	[04-Jul-2015]	[04-Jul-2015]	[05-Jul-2015]
Compound	CAS Number	LOR	Unit		EB1522435-016	EB1522435-017	EB1522435-018	EB1522435-019	EB1522435-020
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	**0.001**
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Copper	7440-50-8	0.001	mg/L		**0.007**	**0.002**	**0.002**	<0.001	<0.001
Nickel	7440-02-0	0.001	mg/L		**0.002**	**0.003**	**0.002**	<0.001	**0.001**
Lead	7439-92-1	0.001	mg/L		**0.021**	**0.012**	**0.011**	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		**0.076**	**0.042**	**0.252**	**0.020**	**0.049**
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
beta-BHC	319-85-7	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
gamma-BHC	58-89-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
delta-BHC	319-86-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor	76-44-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Aldrin	309-00-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Dieldrin	60-57-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Endrin	72-20-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDT	50-29-3	2	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Methoxychlor	72-43-5	2	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
^ **Total Chlordane (sum)**	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Sum of DDD + DDE + DDT**	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW22	MW23	MW24	BACK'ND	DUP 1
				Client sampling date / time	[04-Jul-2015]	[04-Jul-2015]	[04-Jul-2015]	[04-Jul-2015]	[05-Jul-2015]
Compound	CAS Number	LOR	Unit		EB1522435-016	EB1522435-017	EB1522435-018	EB1522435-019	EB1522435-020
					Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Monocrotophos	6923-22-4	2	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
Dimethoate	60-51-5	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon	333-41-5	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Parathion-methyl	298-00-0	2	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
Malathion	121-75-5	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Fenthion	55-38-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos	2921-88-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Parathion	56-38-2	2	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
Pirimphos-ethyl	23505-41-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorfenvinphos	470-90-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Bromophos-ethyl	4824-78-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Fenamiphos	22224-92-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Prothiofos	34643-46-4	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	563-12-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Carbophenothion	786-19-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Azinphos Methyl	86-50-0	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1	µg/L		<1.0	<47.6	<1.0	<1.0	<47.6
2-Chlorophenol	95-57-8	1	µg/L		<1.0	**49.6**	<1.0	<1.0	<47.6
2-Methylphenol	95-48-7	1	µg/L		<1.0	<47.6	<1.0	<1.0	<47.6
3- & 4-Methylphenol	1319-77-3	2	µg/L		<2.0	<95.2	<2.0	<2.0	<95.2
2-Nitrophenol	88-75-5	1	µg/L		<1.0	<47.6	<1.0	<1.0	<47.6
2.4-Dimethylphenol	105-67-9	1	µg/L		<1.0	<47.6	<1.0	<1.0	<47.6
2.4-Dichlorophenol	120-83-2	1	µg/L		<1.0	**5680**	<1.0	<1.0	**2230**
2.6-Dichlorophenol	87-65-0	1	µg/L		<1.0	<47.6	<1.0	<1.0	<47.6
4-Chloro-3-methylphenol	59-50-7	1	µg/L		<1.0	<47.6	<1.0	<1.0	<47.6
2.4.6-Trichlorophenol	88-06-2	1	µg/L		<1.0	<47.6	<1.0	<1.0	<47.6
2.4.5-Trichlorophenol	95-95-4	1	µg/L		<1.0	<47.6	<1.0	<1.0	<47.6
Pentachlorophenol	87-86-5	2	µg/L		<2.0	<95.2	<2.0	<2.0	<95.2
EP202A: Phenoxyacetic Acid Herbicides by LCMS									
4-Chlorophenoxy acetic acid	122-88-3	10	µg/L		<10	<10	<10	<10	<10

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW22	MW23	MW24	BACK'ND	DUP 1
				Client sampling date / time	[04-Jul-2015]	[04-Jul-2015]	[04-Jul-2015]	[04-Jul-2015]	[05-Jul-2015]
Compound	CAS Number	LOR	Unit		EB1522435-016	EB1522435-017	EB1522435-018	EB1522435-019	EB1522435-020
					Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued									
2.4-DB	94-82-6	10	µg/L		<10	<10	<10	<10	<10
Dicamba	1918-00-9	10	µg/L		<10	<10	<10	<10	<10
Mecoprop	93-65-2	10	µg/L		<10	<10	<10	<10	<10
MCPA	94-74-6	10	µg/L		<10	**12**	<10	<10	<10
2.4-DP	120-36-5	10	µg/L		<10	<10	<10	<10	<10
2.4-D	94-75-7	10	µg/L		<10	**1260**	<10	<10	**185**
Triclopyr	55335-06-3	10	µg/L		<10	<10	<10	<10	<10
2.4.5-TP (Silvex)	93-72-1	10	µg/L		<10	<10	<10	<10	<10
2.4.5-T	93-76-5	10	µg/L		<10	<10	<10	<10	<10
MCPB	94-81-5	10	µg/L		<10	<10	<10	<10	<10
Picloram	1918-02-1	10	µg/L		<10	**18**	<10	<10	**22**
Clopyralid	1702-17-6	10	µg/L		<10	**18**	<10	<10	<10
Fluroxypyr	69377-81-7	10	µg/L		<10	<10	<10	<10	<10
2.6-D	575-90-6	10	µg/L		<10	<10	<10	<10	<10
2.4.6-T	575-89-3	10	µg/L		<10	<10	<10	<10	<10
EP215: Multiresidue Pesticide Residue Screen (Suite 2)									
Simazine	122-34-9	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Diuron	330-54-1	0.005	µg/L		<0.005	**3.86**	<0.005	<0.005	**7.50**
Atrazine	1912-24-9	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Molinate	2212-67-1	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Metolachlor	51218-45-2	0.005	µg/L		<0.005	**6.49**	<0.005	<0.005	**13.1**
Malathion	121-75-5	0.002	µg/L		<0.002	<0.002	<0.002	<0.002	<0.002
Diazinon	333-41-5	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Thiobencarb	28249-77-6	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Chlorpyrifos	2921-88-2	0.005	µg/L		<0.005	<0.005	<0.005	<0.005	<0.005
Trifluralin	1582-09-8	0.005	µg/L		<0.010	<0.010	<0.010	<0.010	<0.010
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%		**69.1**	**55.9**	**71.9**	**81.1**	**62.0**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%		**104**	**80.9**	**105**	**119**	**86.4**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1	%		**28.5**	**Not Determined**	**26.3**	**30.1**	**Not Determined**
2-Chlorophenol-D4	93951-73-6	1	%		**69.7**	**Not Determined**	**68.6**	**76.2**	**Not Determined**
2.4.6-Tribromophenol	118-79-6	1	%		**67.8**	**Not Determined**	**50.6**	**77.2**	**Not Determined**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	MW22	MW23	MW24	BACK'ND	DUP 1
				Client sampling date / time	[04-Jul-2015]	[04-Jul-2015]	[04-Jul-2015]	[04-Jul-2015]	[05-Jul-2015]
Compound	CAS Number	LOR	Unit		EB1522435-016	EB1522435-017	EB1522435-018	EB1522435-019	EB1522435-020
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1	%		56.6	Not Determined	70.6	59.1	Not Determined
Anthracene-d10	1719-06-8	1	%		84.4	Not Determined	87.3	92.8	Not Determined
4-Terphenyl-d14	1718-51-0	1	%		97.3	Not Determined	99.2	107	Not Determined
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2.4-Dichlorophenyl Acetic Acid	19719-28-9	10	%		87.2	118	83.5	120	123

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	RIN 1	----	----	----	----
			Client sampling date / time	[04-Jul-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit	EB1522435-021	--------	--------	--------	--------
				Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L	<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L	<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L	<0.005	----	----	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	----	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.5	µg/L	<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L	<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L	<0.5	----	----	----	----
delta-BHC	319-86-8	0.5	µg/L	<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L	<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L	<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L	<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L	<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L	<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L	<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	----	----	----	----
4.4`-DDT	50-29-3	2	µg/L	<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L	<0.5	----	----	----	----
Methoxychlor	72-43-5	2	µg/L	<2.0	----	----	----	----
^ **Total Chlordane (sum)**	----	0.5	µg/L	<0.5	----	----	----	----
^ **Sum of DDD + DDE + DDT**	----	0.5	µg/L	<0.5	----	----	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.5	µg/L	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RIN 1	----	----	----	----
				Client sampling date / time	[04-Jul-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit		EB1522435-021	--------	--------	--------	--------
					Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	----	----	----	----
Monocrotophos	6923-22-4	2	µg/L		<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L		<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L		<0.5	----	----	----	----
Parathion-methyl	298-00-0	2	µg/L		<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L		<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L		<0.5	----	----	----	----
Parathion	56-38-2	2	µg/L		<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L		<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L		<0.5	----	----	----	----
Bromophos-ethyl	4824-78-6	0.5	µg/L		<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L		<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L		<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L		<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L		<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L		<0.5	----	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1	µg/L		----	----	----	----	----
2-Chlorophenol	95-57-8	1	µg/L		----	----	----	----	----
2-Methylphenol	95-48-7	1	µg/L		----	----	----	----	----
3- & 4-Methylphenol	1319-77-3	2	µg/L		----	----	----	----	----
2-Nitrophenol	88-75-5	1	µg/L		----	----	----	----	----
2.4-Dimethylphenol	105-67-9	1	µg/L		----	----	----	----	----
2.4-Dichlorophenol	120-83-2	1	µg/L		----	----	----	----	----
2.6-Dichlorophenol	87-65-0	1	µg/L		----	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	1	µg/L		----	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	1	µg/L		----	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	1	µg/L		----	----	----	----	----
Pentachlorophenol	87-86-5	2	µg/L		----	----	----	----	----
EP202A: Phenoxyacetic Acid Herbicides by LCMS									
4-Chlorophenoxy acetic acid	122-88-3	10	µg/L		<10	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RIN 1	----	----	----	----
				Client sampling date / time	[04-Jul-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit		EB1522435-021	--------	--------	--------	--------
					Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued									
2.4-DB	94-82-6	10	µg/L		<10	----	----	----	----
Dicamba	1918-00-9	10	µg/L		<10	----	----	----	----
Mecoprop	93-65-2	10	µg/L		<10	----	----	----	----
MCPA	94-74-6	10	µg/L		<10	----	----	----	----
2.4-DP	120-36-5	10	µg/L		<10	----	----	----	----
2.4-D	94-75-7	10	µg/L		<10	----	----	----	----
Triclopyr	55335-06-3	10	µg/L		<10	----	----	----	----
2.4.5-TP (Silvex)	93-72-1	10	µg/L		<10	----	----	----	----
2.4.5-T	93-76-5	10	µg/L		<10	----	----	----	----
MCPB	94-81-5	10	µg/L		<10	----	----	----	----
Picloram	1918-02-1	10	µg/L		<10	----	----	----	----
Clopyralid	1702-17-6	10	µg/L		<10	----	----	----	----
Fluroxypyr	69377-81-7	10	µg/L		<10	----	----	----	----
2.6-D	575-90-6	10	µg/L		<10	----	----	----	----
2.4.6-T	575-89-3	10	µg/L		<10	----	----	----	----
EP215: Multiresidue Pesticide Residue Screen (Suite 2)									
Simazine	122-34-9	0.005	µg/L		<0.005	----	----	----	----
Diuron	330-54-1	0.005	µg/L		<0.005	----	----	----	----
Atrazine	1912-24-9	0.005	µg/L		<0.005	----	----	----	----
Molinate	2212-67-1	0.005	µg/L		<0.005	----	----	----	----
Metolachlor	51218-45-2	0.005	µg/L		<0.005	----	----	----	----
Malathion	121-75-5	0.002	µg/L		<0.002	----	----	----	----
Diazinon	333-41-5	0.005	µg/L		<0.005	----	----	----	----
Thiobencarb	28249-77-6	0.005	µg/L		<0.005	----	----	----	----
Chlorpyrifos	2921-88-2	0.005	µg/L		<0.005	----	----	----	----
Trifluralin	1582-09-8	0.005	µg/L		<0.010	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%		**52.4**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%		**65.6**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1	%		----	----	----	----	----
2-Chlorophenol-D4	93951-73-6	1	%		----	----	----	----	----
2.4.6-Tribromophenol	118-79-6	1	%		----	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RIN 1	----	----	----	----
				Client sampling date / time	[04-Jul-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit		EB1522435-021	--------	--------	--------	--------
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1	%		----	----	----	----	----
Anthracene-d10	1719-06-8	1	%		----	----	----	----	----
4-Terphenyl-d14	1718-51-0	1	%		----	----	----	----	----
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2.4-Dichlorophenyl Acetic Acid	19719-28-9	10	%		**96.8**	----	----	----	----

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EB1522435**	Page	: 1 of 15
Client	: **GEO ENVIRONMENTAL CONSULTANTS**	Laboratory	: Environmental Division Brisbane
Contact	: MR MIKE TISDALL	Contact	: Customer Services EB
Address	: 129 OUTLOOK CRESCENT BARDON QLD, AUSTRALIA 4065	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: mtisdall@bigpond.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 33672266	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 33672377	Facsimile	: +61-7-3243 7218
Project	: EHP Binary Site	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 5010/7.GW	Date Samples Received	: 07-Jul-2015
C-O-C number	: COC5010/7.GW	Date Analysis Commenced	: 08-Jul-2015
Sampler	: ----	Issue Date	: 17-Jul-2015
Site	: Narangba, Qld	No. of samples received	: 21
Quote number	: ----	No. of samples analysed	: 21

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA WORLD RECOGNISED ACCREDITATION

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics
Lana Nguyen	Senior LCMS Chemist	Sydney Organics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020F: Dissolved Metals by ICP-MS (QC Lot: 148526)									
EB1522435-004	MW6	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.003	0.003	0.00	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	0.002	0.002	0.00	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.078	0.078	0.00	0% - 50%
EB1522385-001	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.00	No Limit
EG020F: Dissolved Metals by ICP-MS (QC Lot: 148528)									
EB1522435-015	MW21	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.002	0.002	0.00	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	0.002	0.002	0.00	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.005	0.005	0.00	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.029	0.028	0.00	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 148527)									
EB1522435-006	MW9	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
EB1522385-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 148529)									
EB1522435-016	MW22	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 148581)									
EB1522435-002	MW4	EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 148581) - continued									
EB1522435-002	MW4	EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Endrin	72-20-8	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	2	µg/L	<2.0	<2.0	0.00	No Limit
		EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	<2.0	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 149263)									
EB1522435-001	MW3	EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Endrin	72-20-8	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	2	µg/L	<2.0	<2.0	0.00	No Limit
		EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	<2.0	0.00	No Limit
EB1522435-015	MW21	EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 149263) - continued									
EB1522435-015	MW21	EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Endrin	72-20-8	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	2	µg/L	<2.0	<2.0	0.00	No Limit
		EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	<2.0	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 148581)									
EB1522435-002	MW4	EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Ethion	563-12-2	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Malathion	121-75-5	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	2	µg/L	<2.0	<2.0	0.00	No Limit
		EP068: Parathion	56-38-2	2	µg/L	<2.0	<2.0	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 149263)									
EB1522435-001	MW3	EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 149263) - continued									
EB1522435-001	MW3	EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Ethion	563-12-2	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Malathion	121-75-5	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	2	µg/L	<2.0	<2.0	0.00	No Limit
		EP068: Parathion	56-38-2	2	µg/L	<2.0	<2.0	0.00	No Limit
EB1522435-015	MW21	EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Ethion	563-12-2	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Malathion	121-75-5	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	<0.5	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	2	µg/L	<2.0	<2.0	0.00	No Limit
		EP068: Parathion	56-38-2	2	µg/L	<2.0	<2.0	0.00	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 148579)									
EB1522435-002	MW4	EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<48.1	<48.1	0.00	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<48.1	<48.1	0.00	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	2860	2620	8.77	0% - 20%
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<48.1	<48.1	0.00	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<48.1	<48.1	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	51.8	48.1	7.39	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075(SIM)A: Phenolic Compounds (QC Lot: 148579) - continued									
EB1522435-002	MW4	EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<48.1	<48.1	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<48.1	<48.1	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<48.1	<48.1	0.00	No Limit
		EP075(SIM): Phenol	108-95-2	1	µg/L	<48.1	<48.1	0.00	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<96.2	<96.2	0.00	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<96.2	<96.2	0.00	No Limit
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 150619)									
EB1522435-001	MW3	EP202-SL: 2.4.5-T	93-76-5	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: 2.4.5-TP (Silvex)	93-72-1	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: 2.4-D	94-75-7	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: 2.4-DB	94-82-6	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: 2.4-DP	120-36-5	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: 4-Chlorophenoxy acetic acid	122-88-3	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: Clopyralid	1702-17-6	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: Dicamba	1918-00-9	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: Fluroxypyr	69377-81-7	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: MCPA	94-74-6	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: MCPB	94-81-5	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: Mecoprop	93-65-2	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: Picloram	1918-02-1	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: Triclopyr	55335-06-3	10	µg/L	<10	<10	0.00	No Limit
EB1522435-011	MW16	EP202-SL: 2.4.5-T	93-76-5	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: 2.4.5-TP (Silvex)	93-72-1	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: 2.4-D	94-75-7	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: 2.4-DB	94-82-6	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: 2.4-DP	120-36-5	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: 4-Chlorophenoxy acetic acid	122-88-3	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: Clopyralid	1702-17-6	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: Dicamba	1918-00-9	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: Fluroxypyr	69377-81-7	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: MCPA	94-74-6	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: MCPB	94-81-5	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: Mecoprop	93-65-2	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: Picloram	1918-02-1	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: Triclopyr	55335-06-3	10	µg/L	<10	<10	0.00	No Limit
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 150621)									
EB1522435-021	RIN 1	EP202-SL: 2.4.5-T	93-76-5	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: 2.4.5-TP (Silvex)	93-72-1	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: 2.4-D	94-75-7	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: 2.4-DB	94-82-6	10	µg/L	<10	<10	0.00	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 150621) - continued									
EB1522435-021	RIN 1	EP202-SL: 2.4-DP	120-36-5	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: 4-Chlorophenoxy acetic acid	122-88-3	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: Clopyralid	1702-17-6	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: Dicamba	1918-00-9	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: Fluroxypyr	69377-81-7	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: MCPA	94-74-6	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: MCPB	94-81-5	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: Mecoprop	93-65-2	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: Picloram	1918-02-1	10	µg/L	<10	<10	0.00	No Limit
		EP202-SL: Triclopyr	55335-06-3	10	µg/L	<10	<10	0.00	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 148526)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	92.3	88	116
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	90.5	88	108
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	92.4	87	113
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.2 mg/L	92.6	88	114
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	93.6	89	110
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	92.6	89	113
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.2 mg/L	91.3	87	113
EG020F: Dissolved Metals by ICP-MS (QCLot: 148528)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	92.8	88	116
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	91.0	88	108
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	91.8	87	113
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.2 mg/L	92.8	88	114
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	94.9	89	110
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	93.2	89	113
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.2 mg/L	91.9	87	113
EG035F: Dissolved Mercury by FIMS (QCLot: 148527)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	103	84	118
EG035F: Dissolved Mercury by FIMS (QCLot: 148529)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	103	84	118
EP068A: Organochlorine Pesticides (OC) (QCLot: 148581)								
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	97.0	52	124
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	96.7	56	122
EP068: 4.4`-DDT	50-29-3	2	µg/L	<2.0	5 µg/L	101	35	131
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	76.1	52	123
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	84.2	45	125
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	87.4	54	128
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	100	39	122
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	93.3	50	126
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	95.7	51	125
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	82.9	53	112
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	86.7	50	124
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	98.4	37	124
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	85.1	47	129
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	101	49	131

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 148581) - continued								
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	120	45	129
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	95.9	42	119
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	81.2	45	118
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	104	52	124
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	74.3	41	121
EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	5 µg/L	67.2	32	135
EP068: Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L	<0.5	----	----	----	----
EP068: Sum of DDD + DDE + DDT	----	0.5	µg/L	<0.5	----	----	----	----
EP068: Total Chlordane (sum)	----	0.5	µg/L	<0.5	----	----	----	----
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	97.0	48	125
EP068A: Organochlorine Pesticides (OC) (QCLot: 149263)								
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	97.5	52	124
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	92.6	56	122
EP068: 4.4`-DDT	50-29-3	2	µg/L	<2.0	5 µg/L	102	35	131
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	86.4	52	123
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	91.2	45	125
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	91.7	54	128
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	77.8	39	122
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	100	50	126
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	91.4	51	125
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	87.9	53	112
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	92.4	50	124
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	102	37	124
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	80.4	47	129
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	92.3	49	131
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	108	45	129
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	79.3	42	119
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	79.6	45	118
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	88.0	52	124
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	82.8	41	121
EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	5 µg/L	87.4	32	135
EP068: Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L	<0.5	----	----	----	----
EP068: Sum of DDD + DDE + DDT	----	0.5	µg/L	<0.5	----	----	----	----
EP068: Total Chlordane (sum)	----	0.5	µg/L	<0.5	----	----	----	----
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	90.3	48	125
EP068B: Organophosphorus Pesticides (OP) (QCLot: 148581)								
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	# 28.0	44	130

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 148581) - continued								
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	94.9	52	124
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	107	48	128
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	102	50	127
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	92.8	54	119
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	83.6	50	118
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	92.3	44	118
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	108	44	129
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	90.2	49	115
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	105	41	111
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	111	50	127
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	105	43	121
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	96.0	49	121
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	108	51	122
EP068: Monocrotophos	6923-22-4	2	µg/L	<2.0	5 µg/L	# 15.2	16	49
EP068: Parathion	56-38-2	2	µg/L	<2.0	5 µg/L	105	43	123
EP068: Parathion-methyl	298-00-0	----	µg/L	----	5 µg/L	101	50	118
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	89.4	52	126
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	107	53	126
EP068B: Organophosphorus Pesticides (OP) (QCLot: 149263)								
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	62.0	44	130
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	92.7	52	124
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	93.3	48	128
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	98.0	50	127
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	88.5	54	119
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	84.1	50	118
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	74.2	44	118
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	80.6	44	129
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	90.4	49	115
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	69.2	41	111
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	94.4	50	127
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	93.8	43	121
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	92.2	49	121
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	97.7	51	122
EP068: Monocrotophos	6923-22-4	2	µg/L	<2.0	5 µg/L	# 3.95	16	49
EP068: Parathion	56-38-2	2	µg/L	<2.0	5 µg/L	93.5	43	123
EP068: Parathion-methyl	298-00-0	----	µg/L	----	5 µg/L	89.8	50	118
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	95.2	52	126
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	92.7	53	126
EP075(SIM)A: Phenolic Compounds (QCLot: 148579)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 148579) - continued								
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	10 µg/L	74.3	54	108
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	10 µg/L	57.7	54	106
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	10 µg/L	61.7	55	115
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	10 µg/L	56.5	39	109
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	10 µg/L	59.6	53	106
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	10 µg/L	67.9	52	102
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	10 µg/L	54.1	46	102
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	10 µg/L	66.2	43	119
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	20 µg/L	40.6	40	101
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	10 µg/L	59.8	40	102
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	20 µg/L	77.8	21	135
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	10 µg/L	30.3	19	54
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 150619)								
EP202-SL: 2.4.5-T	93-76-5	10	µg/L	<10	100 µg/L	84.0	78	140
EP202-SL: 2.4.5-TP (Silvex)	93-72-1	10	µg/L	<10	100 µg/L	83.1	75	143
EP202-SL: 2.4-D	94-75-7	10	µg/L	<10	100 µg/L	85.2	77	139
EP202-SL: 2.4-DB	94-82-6	10	µg/L	<10	100 µg/L	88.1	65	147
EP202-SL: 2.4-DP	120-36-5	10	µg/L	<10	100 µg/L	87.6	76	144
EP202-SL: 4-Chlorophenoxy acetic acid	122-88-3	10	µg/L	<10	100 µg/L	88.5	82	136
EP202-SL: Clopyralid	1702-17-6	10	µg/L	<10	100 µg/L	104	70	145
EP202-SL: Dicamba	1918-00-9	10	µg/L	<10	100 µg/L	93.2	83	137
EP202-SL: Fluroxypyr	69377-81-7	10	µg/L	<10	100 µg/L	87.0	77	145
EP202-SL: MCPA	94-74-6	10	µg/L	<10	100 µg/L	99.5	76	140
EP202-SL: MCPB	94-81-5	10	µg/L	<10	100 µg/L	83.6	69	139
EP202-SL: Mecoprop	93-65-2	10	µg/L	<10	100 µg/L	87.4	75	143
EP202-SL: Picloram	1918-02-1	10	µg/L	<10	100 µg/L	93.8	70	144
EP202-SL: Triclopyr	55335-06-3	10	µg/L	<10	100 µg/L	85.9	77	141
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 150621)								
EP202-SL: 2.4.5-T	93-76-5	10	µg/L	<10	100 µg/L	108	78	140
EP202-SL: 2.4.5-TP (Silvex)	93-72-1	10	µg/L	<10	100 µg/L	108	75	143
EP202-SL: 2.4-D	94-75-7	10	µg/L	<10	100 µg/L	98.0	77	139
EP202-SL: 2.4-DB	94-82-6	10	µg/L	<10	100 µg/L	100	65	147
EP202-SL: 2.4-DP	120-36-5	10	µg/L	<10	100 µg/L	109	76	144
EP202-SL: 4-Chlorophenoxy acetic acid	122-88-3	10	µg/L	<10	100 µg/L	101	82	136
EP202-SL: Clopyralid	1702-17-6	10	µg/L	<10	100 µg/L	96.1	70	145
EP202-SL: Dicamba	1918-00-9	10	µg/L	<10	100 µg/L	107	83	137
EP202-SL: Fluroxypyr	69377-81-7	10	µg/L	<10	100 µg/L	104	77	145
EP202-SL: MCPA	94-74-6	10	µg/L	<10	100 µg/L	104	76	140
EP202-SL: MCPB	94-81-5	10	µg/L	<10	100 µg/L	91.2	69	139

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 150621) - continued								
EP202-SL: Mecoprop	93-65-2	10	µg/L	<10	100 µg/L	110	75	143
EP202-SL: Picloram	1918-02-1	10	µg/L	<10	100 µg/L	113	70	144
EP202-SL: Triclopyr	55335-06-3	10	µg/L	<10	100 µg/L	110	77	141
EP215: Multiresidue Pesticide Residue Screen (Suite 2) (QCLot: 150610)								
EP215-LL: Atrazine	1912-24-9	0.005	µg/L	<0.005	0.0125 µg/L	101	65	130
EP215-LL: Chlorpyrifos	2921-88-2	0.005	µg/L	<0.005	0.0125 µg/L	90.3	65	130
EP215-LL: Diazinon	333-41-5	0.005	µg/L	<0.005	0.0125 µg/L	98.4	65	130
EP215-LL: Diuron	330-54-1	0.005	µg/L	<0.005	0.0125 µg/L	102	65	130
EP215-LL: Malathion	121-75-5	0.002	µg/L	<0.002	0.0125 µg/L	110	65	130
EP215-LL: Metolachlor	51218-45-2	0.005	µg/L	<0.005	0.0125 µg/L	97.7	65	130
EP215-LL: Molinate	2212-67-1	0.005	µg/L	<0.005	0.0125 µg/L	106	65	130
EP215-LL: Simazine	122-34-9	0.005	µg/L	<0.005	0.0125 µg/L	103	65	130
EP215-LL: Thiobencarb	28249-77-6	0.005	µg/L	<0.005	0.0125 µg/L	102	65	130
EP215-LL: Trifluralin	1582-09-8	0.005	µg/L	<0.010	0.0125 µg/L	100	65	130
EP215: Multiresidue Pesticide Residue Screen (Suite 2) (QCLot: 150611)								
EP215-LL: Atrazine	1912-24-9	0.005	µg/L	<0.005	0.0125 µg/L	108	65	130
EP215-LL: Chlorpyrifos	2921-88-2	0.005	µg/L	<0.005	0.0125 µg/L	91.3	65	130
EP215-LL: Diazinon	333-41-5	0.005	µg/L	<0.005	0.0125 µg/L	103	65	130
EP215-LL: Diuron	330-54-1	0.005	µg/L	<0.005	0.0125 µg/L	99.0	65	130
EP215-LL: Malathion	121-75-5	0.002	µg/L	<0.002	0.0125 µg/L	109	65	130
EP215-LL: Metolachlor	51218-45-2	0.005	µg/L	<0.005	0.0125 µg/L	109	65	130
EP215-LL: Molinate	2212-67-1	0.005	µg/L	<0.005	0.0125 µg/L	105	65	130
EP215-LL: Simazine	122-34-9	0.005	µg/L	<0.005	0.0125 µg/L	101	65	130
EP215-LL: Thiobencarb	28249-77-6	0.005	µg/L	<0.005	0.0125 µg/L	105	65	130
EP215-LL: Trifluralin	1582-09-8	0.005	µg/L	<0.010	0.0125 µg/L	77.4	65	130

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020F: Dissolved Metals by ICP-MS (QCLot: 148526)							
EB1522387-001	Anonymous	EG020A-F: Arsenic	7440-38-2	0.1 mg/L	90.0	70	130
		EG020A-F: Cadmium	7440-43-9	0.1 mg/L	90.2	70	130
		EG020A-F: Chromium	7440-47-3	0.1 mg/L	87.0	70	130
		EG020A-F: Copper	7440-50-8	0.2 mg/L	91.2	70	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 148526) - continued							
EB1522387-001	Anonymous	EG020A-F: Lead	7439-92-1	0.1 mg/L	90.4	70	130
		EG020A-F: Nickel	7440-02-0	0.1 mg/L	89.1	70	130
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	93.1	70	130
EG020F: Dissolved Metals by ICP-MS (QCLot: 148528)							
EB1522435-016	MW22	EG020A-F: Arsenic	7440-38-2	0.1 mg/L	92.0	70	130
		EG020A-F: Cadmium	7440-43-9	0.1 mg/L	90.8	70	130
		EG020A-F: Chromium	7440-47-3	0.1 mg/L	89.0	70	130
		EG020A-F: Copper	7440-50-8	0.2 mg/L	89.8	70	130
		EG020A-F: Lead	7439-92-1	0.1 mg/L	93.3	70	130
		EG020A-F: Nickel	7440-02-0	0.1 mg/L	88.1	70	130
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	90.6	70	130
EG035F: Dissolved Mercury by FIMS (QCLot: 148527)							
EB1522387-001	Anonymous	EG035F: Mercury	7439-97-6	0.01 mg/L	89.2	70	130
EG035F: Dissolved Mercury by FIMS (QCLot: 148529)							
EB1522435-017	MW23	EG035F: Mercury	7439-97-6	0.01 mg/L	87.9	70	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 148581)							
EB1522435-003	MW5	EP068: 4.4`-DDT	50-29-3	4 µg/L	110	70	130
		EP068: Aldrin	309-00-2	1 µg/L	77.7	70	130
		EP068: Dieldrin	60-57-1	1 µg/L	79.2	70	130
		EP068: Endrin	72-20-8	4 µg/L	85.0	70	130
		EP068: gamma-BHC	58-89-9	1 µg/L	110	70	130
		EP068: Heptachlor	76-44-8	1 µg/L	96.5	70	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 149263)							
EB1522435-005	MW7	EP068: 4.4`-DDT	50-29-3	4 µg/L	# 56.2	70	130
		EP068: Aldrin	309-00-2	1 µg/L	95.3	70	130
		EP068: Dieldrin	60-57-1	1 µg/L	94.2	70	130
		EP068: Endrin	72-20-8	4 µg/L	85.1	70	130
		EP068: gamma-BHC	58-89-9	1 µg/L	104	70	130
		EP068: Heptachlor	76-44-8	1 µg/L	96.1	70	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 148581)							
EB1522435-003	MW5	EP068: Bromophos-ethyl	4824-78-6	1 µg/L	85.5	70	130
		EP068: Chlorpyrifos-methyl	5598-13-0	1 µg/L	87.4	70	130
		EP068: Diazinon	333-41-5	1 µg/L	# 132	70	130
		EP068: Pirimphos-ethyl	23505-41-1	1 µg/L	99.0	70	130
		EP068: Prothiofos	34643-46-4	1 µg/L	119	70	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 149263)							
EB1522435-005	MW7	EP068: Bromophos-ethyl	4824-78-6	1 µg/L	91.4	70	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 149263) - continued							
EB1522435-005	MW7	EP068: Chlorpyrifos-methyl	5598-13-0	1 µg/L	94.1	70	130
		EP068: Diazinon	333-41-5	1 µg/L	104	70	130
		EP068: Pirimphos-ethyl	23505-41-1	1 µg/L	101	70	130
		EP068: Prothiofos	34643-46-4	1 µg/L	87.2	70	130
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 150619)							
EB1522435-001	MW3	EP202-SL: 2.4.5-T	93-76-5	100 µg/L	120	78	140
		EP202-SL: 2.4-D	94-75-7	100 µg/L	122	77	139
		EP202-SL: Clopyralid	1702-17-6	100 µg/L	# 59.0	70	145
		EP202-SL: MCPA	94-74-6	100 µg/L	131	76	140
		EP202-SL: Mecoprop	93-65-2	100 µg/L	119	75	143
		EP202-SL: Picloram	1918-02-1	100 µg/L	89.8	70	144
		EP202-SL: Triclopyr	55335-06-3	100 µg/L	127	77	141
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 150621)							
EB1522435-021	RIN 1	EP202-SL: 2.4.5-T	93-76-5	100 µg/L	85.1	78	140
		EP202-SL: 2.4-D	94-75-7	100 µg/L	83.5	77	139
		EP202-SL: Clopyralid	1702-17-6	100 µg/L	106	70	145
		EP202-SL: MCPA	94-74-6	100 µg/L	92.4	76	140
		EP202-SL: Mecoprop	93-65-2	100 µg/L	89.8	75	143
		EP202-SL: Picloram	1918-02-1	100 µg/L	108	70	144
		EP202-SL: Triclopyr	55335-06-3	100 µg/L	83.9	77	141

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EB1522435**		
Client	: **GEO ENVIRONMENTAL CONSULTANTS**	Laboratory	: Environmental Division Brisbane
Contact	: MR MIKE TISDALL	Contact	: Customer Services EB
Address	: 129 OUTLOOK CRESCENT BARDON QLD, AUSTRALIA 4065	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: mtisdall@bigpond.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 33672266	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 33672377	Facsimile	: +61-7-3243 7218
Project	: EHP Binary Site	Page	: 1 of 3
Order number	: 5010/7.GW	Quote number	: EB2013GEOENV0277 (BN/374/13)
C-O-C number	: COC5010/7.GW	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: Narangba, Qld		
Sampler	:		

Dates

Date Samples Received	: 07-Jul-2015 12:25 PM	Issue Date	: 08-Jul-2015
Client Requested Due Date	: 14-Jul-2015	Scheduled Reporting Date	: **14-Jul-2015**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Intact.
No. of coolers/boxes	: 5	Temperature	: 10.2°C, 11.6°C, 10.3°C, 9.8°C, 11.3°C - Ice Bricks present
Receipt Detail	: MEDIUM ESKIES	No. of samples received / analysed	: 21 / 21

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please be advised that a Preliminary Report will be submitted and the Low Level Multiresidue and Herbicides is expected by 17/7/15. Please contact ALS Brisbane Client Services Department to add a directive for these samples at ALSEnviro.Brisbane@alsglobal.com**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- **Speciality organics analysis will be conducted by ALS Environmental, Sydney, NATA accreditation no. 825, Site No. 10911 (Micro site no. 14913).**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (14 days), Solid (60 days) from date of completion of work order.
- Please direct any queries related to sample condition / numbering / breakages to John Pickering (John.Pickering@alsglobal.com).
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

Matrix: **WATER**

Laboratory sample ID	Client sampling date / time	Client sample ID	WATER - EP075 SIM Phenols only SIM - Phenols only	WATER - EP202SL Phenoxyacetic Acid	WATER - EP215LL Multiresidue Pesticide Screen (Suite 2) - Low	WATER - W-02 8 Metals	WATER - W-12 OC/OP Pesticides
EB1522435-001	[04-Jul-2015]	MW3		✓	✓	✓	✓
EB1522435-002	[04-Jul-2015]	MW4	✓	✓	✓	✓	✓
EB1522435-003	[05-Jul-2015]	MW5	✓	✓	✓	✓	✓
EB1522435-004	[04-Jul-2015]	MW6	✓	✓	✓	✓	✓
EB1522435-005	[05-Jul-2015]	MW7		✓	✓	✓	✓
EB1522435-006	[05-Jul-2015]	MW9		✓	✓	✓	✓
EB1522435-007	[05-Jul-2015]	MW10		✓	✓	✓	✓
EB1522435-008	[05-Jul-2015]	MW11		✓	✓	✓	✓
EB1522435-009	[05-Jul-2015]	MW13		✓	✓	✓	✓
EB1522435-010	[04-Jul-2015]	MW15		✓	✓	✓	✓
EB1522435-011	[04-Jul-2015]	MW16		✓	✓	✓	✓
EB1522435-012	[04-Jul-2015]	MW17		✓	✓	✓	✓
EB1522435-013	[05-Jul-2015]	MW19	✓	✓	✓	✓	✓
EB1522435-014	[05-Jul-2015]	MW20		✓	✓	✓	✓
EB1522435-015	[05-Jul-2015]	MW21		✓	✓	✓	✓
EB1522435-016	[04-Jul-2015]	MW22	✓	✓	✓	✓	✓
EB1522435-017	[04-Jul-2015]	MW23	✓	✓	✓	✓	✓
EB1522435-018	[04-Jul-2015]	MW24	✓	✓	✓	✓	✓
EB1522435-019	[04-Jul-2015]	BACK'ND	✓	✓	✓	✓	✓
EB1522435-020	[05-Jul-2015]	DUP 1	✓	✓	✓	✓	✓
EB1522435-021	[04-Jul-2015]	RIN 1		✓	✓	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

MIKE TISDALL

- *AU Certificate of Analysis - NATA (COA)	Email	mtisdall@bigpond.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	mtisdall@bigpond.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	mtisdall@bigpond.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	mtisdall@bigpond.com
- A4 - AU Tax Invoice (INV)	Email	mtisdall@bigpond.com
- Chain of Custody (CoC) (COC)	Email	mtisdall@bigpond.com
- EDI Format - ENMRG (ENMRG)	Email	mtisdall@bigpond.com
- EDI Format - XTab (XTAB)	Email	mtisdall@bigpond.com

RESULTS ADDRESS

- *AU Certificate of Analysis - NATA (COA)	Email	tsdownunda@gmail.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	tsdownunda@gmail.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	tsdownunda@gmail.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	tsdownunda@gmail.com
- A4 - AU Tax Invoice (INV)	Email	tsdownunda@gmail.com
- Chain of Custody (CoC) (COC)	Email	tsdownunda@gmail.com
- EDI Format - ENMRG (ENMRG)	Email	tsdownunda@gmail.com
- EDI Format - XTab (XTAB)	Email	tsdownunda@gmail.com

Chain of Custody Form

No.: COC5010/7.GW

From: – GeoEnvironmental Consultants P/L
Contact: 129 Outlook Crescent,
S. Termont-Schenk BARDON, QLD 4065
Ph: 0418-883 152 E: mtisdall@bigpond.com
tsdownunda@gmail.com

Ph: 07 3367 2266 M - 0407 178 802

Project Manager. Mike Tisdall / S. Termont-Schenk

GeoEnvironmental Consultants
Specialising in the Earth and what's built on it

Site Name:	EHP Binary Site
Location Code:	Narangba, Qld
Order No.:	5010/7.GW

To: AustralianLaboratory Services
32 Shand Street
STAFFORD, QLD 4053

ALS Quotation: BN/288/15

Contact: Mr M. Heery
Ph: (07)32437222 Fa
Turnaround Time.: 48hr 3d

Environmental Division
Brisbane
Work Order Reference
EB1522435

Telephone : +61-7-3243 7222

Lab No.	Sample No.	Date Collected	Sample Type		Preservation Method			No. of Containers		Analyses Requested				
			Soil	Water	Ice	Acid	None	Glass	Plastic	Phenols		DisMetals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)	PhenoxyAcid Herbicides & LLmulti-residue pest screen	OC/OP Pesticides
~~MW1~~	~~5/07/2015~~	PMG	X	X	X			4	1			X	X	X
~~MW2~~	~~5/07/2015~~	PMG	X	X	X			4	1			X	X	X
1	MW 3	4/07/2015		X	X	X		4	1			X	X	X
2	MW 4	4/07/2015		X	X	X		4	1	X		X	X	X
3	MW 5	5/07/2015		X	X	X		4	1	X		X	X	X
4	MW 6	4/07/2015		X	X	X		4	1	X		X	X	X
5	MW 7	5/07/2015		X	X	X		4	1			X	X	X
6	MW 9	5/07/2015		X	X	X		4	1			X	X	X
7	MW 10	5/07/2015		X	X	X		4	1			X	X	X
8	MW 11	5/07/2015		X	X	X		4	1			X	X	X
9	MW 13	5/07/2015		X	X	X		4	1			X	X	X
10	MW 15	4/07/2015		X	X	X		4	1			X	X	X
11	MW 16	4/07/2015		X	X	X		4	1			X	X	X
12	MW 17	4/07/2015		X	X	X		4	1			X	X	X

Method Codes
Phenols;
EP075A(sim)
Metals;
W-02/USEPA 6020
Phenoxy Acid Herbicides;
EP202SL
Multiresidue Pesticide screen – Low level
EP215LL
OC/OP;
W-12/USEPA 3510/8270

Relinquished by:	P. McGurgan 0413 258 403	Date: 7-7-15 Time: 12:15	Couriered by:	Dropped Off P McGurgan	Date: 7-7-15 Time: 12:15	Received by: CARES	Date: 7/7/15 Time: 12.25

Note: 1.

Chain of Custody Form

No.: COC5010/7.GW

From: –	GeoEnvironmental Consultants P/L	**GeoEnvironmental Consultants** Specialising in the Earth and what's built on it	**To:** Australian Laboratory Services
Contact:	129 Outlook Crescent,		32 Shand Street
S. Termont-Schenk	BARDON, QLD 4065		STAFFORD, QLD 4053
Ph: 0418-883 152	E: mtisdall@bigpond.com		
	tsdownunda@gmail.com		**ALS Quotation: BN/288/15**
		Site Name: EHP Binary Site	**Contact:** Mr M. Heery
Ph: 07 3367 2266	M - 0407 178 802	**Location Code:** Narangba, Qld	**Ph:** (07)32437222 **Fax:** 07-32437218
Project Manager.	Mike Tisdall / S. Termont-Schenk	**Order No.:** 5010/7.GW	**Turnaround Time.:** 48hr 3day **5day** 7day+

Lab No.	Sample No.	Date Collected	Sample Type		Preservation Method			No. of Containers		Analyses Requested					Comments
			Soil	Water	Ice	Acid	None	Glass	Plastic	Phenols		DisMetals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)	PhenoxyAcid Herbicides & LLmulti-residue pest screen	OC/OP Pesticides	Other tests (specifiy) or notes
13	MW 19	5/07/2015		X	X	X		4	1	X		X	X	X	
14	MW 20	5/07/2015		X	X	X		4	1			X	X	X	Method Codes
15	MW 21	5/07/2015		X	X	X		4	1			X	X	X	Phenols;
16	MW 22	4/07/2015		X	X	X		4	1	X		X	X	X	EP075A(sim)
17	MW 23	4/07/2015		X	X	X		4	1	X		X	X	X	Metals;
18	MW 24	4/07/2015		X	X	X		4	1	X		X	X	X	W-02/USEPA 6020
19	BACKG'ND	4/07/2015		X	X	X		4	1	X		X	X	X	Phenoxy Acid Herbicides;
20	DUP 1	5/07/2015		X	X	X		4	1	X		X	X	X	EP202SL
21	RIN 1	4/07/2015		X	X	X		4	1			X	X	X	Multiresidue Pesticide screen – Low level
															EP215LL
															OC/OP;
															W-12/USEPA 3510/8270

Relinquished by:	P. McGurgan 0413 258 403	**Date:** 7-7-15 **Time:** 12:15	**Couriered by:**	Dropped Off P McGurgan	**Date:** 7-7-15 **Time:** 12:15	**Received by:** CHRIS	**Date:** 7/7/15 **Time:** 12-25

Note: 1.

ANALYTICAL REPORT

WORLD RECOGNISED ACCREDITATION

CLIENT DETAILS		LABORATORY DETAILS	
Contact	MICHAEL TISDALL & Steven Termont-Schenck	Manager	Andrew Tomlins
Client	Geoenvironmental Consultants	Laboratory	SGS Brisbane Environmental
Address	129 Outlook Crescent BARDON QLD 4065	Address	59 Bancroft Road PINKENBA QLD 4008
Telephone	07 3367 2266	Telephone	+61 7 3622 4700
Facsimile	61 07 33672377	Facsimile	+61 7 3622 4799
Email	mtisdall@bigpond.com	Email	au.environmental.brisbane@sgs.com
Project	**Narangba Q Event 11 EHP Binary Site**	SGS Reference	**BE013599 R1**
Order Number	**5010/7_GW**	Report Number	0000042056
Samples	2	Date Reported	31 Jul 2015
Date Started	14 Jul 2015	Date Received	07 Jul 2015

COMMENTS

Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 2562(20707/1706).

This report cancels and supersedes the report No.BE013599 R0 dated 5th July 2015 issued by SGS Environmental Services due to quantifying phenols result.

Metals and Herbicides analyses subcontracted to SGS Perth Environmental, 28 Reid Rd Perth Airport WA, NATA Accreditation Number 2562, Site Number 898, PE100217 R0.
Multiresidue Pest Screen subcontracted to SGS Leeder Consulting, 4-5/18 Redland Drive, Mitcham VIC, NATA Accreditation Number 2562, Site number 14420, M151551.
OCOP:The Limit of Reporting (LOR) has been raised due to interferences from the sample matrix.
Phenols:The Limit of Reporting (LOR) was raised due to dilution of significantly high concentration of analyte in sample.

SIGNATORIES

Michael Morrison
Organics Supervisor

Parameter	Units	LOR	Sample Number: BE013599.001 Sample Matrix: Water Sample Date: 05 Jul 2015 Sample Name: TRIP 1	Sample Number: BE013599.002 Sample Matrix: Water Sample Date: 04 Jul 2015 Sample Name: DUP 2
Trace Metals (Dissolved) in Water by ICPMS Method: AN318 Tested: -				
Arsenic, As	µg/L	1	**1**	<1
Cadmium, Cd	µg/L	0.1	<0.1	<0.1
Chromium, Cr	µg/L	1	<1	<1
Copper, Cu	µg/L	1	<1	**3**
Lead, Pb	µg/L	1	<1	**13**
Nickel, Ni	µg/L	1	**1**	**3**
Zinc, Zn	µg/L	5	**38**	**43**
Mercury (dissolved) in Water Method: AN311/AN312 Tested: 14/7/2015				
Mercury	mg/L	0.0001	<0.0001	<0.0001
OC Pesticides in Water Method: AN400/AN420 Tested: 9/7/2015				
Alpha BHC	µg/L	0.1	<1.0↑	<1.0↑
Hexachlorobenzene (HCB)	µg/L	0.1	<1.0↑	<1.0↑
Beta BHC	µg/L	0.1	<1.0↑	<1.0↑
Lindane (gamma BHC)	µg/L	0.1	<1.0↑	<1.0↑
Delta BHC	µg/L	0.1	<1.0↑	<1.0↑
Heptachlor	µg/L	0.1	<1.0↑	<1.0↑
Aldrin	µg/L	0.1	<1.0↑	<1.0↑
Heptachlor epoxide	µg/L	0.1	<1.0↑	<1.0↑
Isodrin	µg/L	0.1	<1.0↑	<1.0↑
Gamma Chlordane	µg/L	0.1	<1.0↑	<1.0↑
Alpha Chlordane	µg/L	0.1	<1.0↑	<1.0↑
Alpha Endosulfan	µg/L	0.1	<1.0↑	<1.0↑
p,p'-DDE	µg/L	0.1	<1.0↑	<1.0↑
Dieldrin	µg/L	0.1	<1.0↑	<1.0↑
Endrin	µg/L	0.1	<1.0↑	<1.0↑
Beta Endosulfan	µg/L	0.1	<1.0↑	<1.0↑
p,p'-DDD	µg/L	0.1	<1.0↑	<1.0↑
Endosulfan sulphate	µg/L	0.1	<1.0↑	<1.0↑
p,p'-DDT	µg/L	0.1	<1.0↑	<1.0↑
Endrin ketone	µg/L	0.1	<1.0↑	<1.0↑
Methoxychlor	µg/L	0.1	<1.0↑	<1.0↑
Mirex	µg/L	0.1	<1.0↑	<1.0↑
Surrogates				
d14-p-terphenyl (Surrogate)	%	-	**100**	**60**
d5-nitrobenzene (Surrogate)	%	-	**100**	**80**
2-fluorobiphenyl (Surrogate)	%	-	**60**	**40**
Dibromo-DDE (Surrogate)	%	-	-	-
OP Pesticides in Water Method: AN400/AN420 Tested: 9/7/2015				
Dichlorvos	µg/L	1	<5↑	<5↑
Dimethoate	µg/L	1	<5↑	<5↑
Diazinon (Dimpylate)	µg/L	0.5	<5.0↑	<5.0↑
Fenitrothion	µg/L	0.2	<2.0↑	<2.0↑
Malathion	µg/L	0.2	<2.0↑	<2.0↑
Chlorpyrifos (Chlorpyrifos Ethyl)	µg/L	0.2	<2.0↑	<2.0↑
Parathion-ethyl (Parathion)	µg/L	0.2	<2.0↑	<2.0↑
Bromophos Ethyl	µg/L	0.2	<2.0↑	<2.0↑
Methidathion	µg/L	0.5	<5.0↑	<5.0↑
Ethion	µg/L	0.2	<2.0↑	<2.0↑
Azinphos-methyl	µg/L	0.2	<2.0↑	<2.0↑

Parameter	Units	LOR	Sample Number: BE013599.001 Sample Matrix: Water Sample Date: 05 Jul 2015 Sample Name: TRIP 1	Sample Number: BE013599.002 Sample Matrix: Water Sample Date: 04 Jul 2015 Sample Name: DUP 2
OP Pesticides in Water Method: AN400/AN420 Tested: 9/7/2015 (continued)				
Surrogates				
d5-nitrobenzene (Surrogate)	%	-	**100**	**60**
2-fluorobiphenyl (Surrogate)	%	-	**60**	**40**
d14-p-terphenyl (Surrogate)	%	-	**100**	**80**
Dibromo-DDE (Surrogate)	%	-	-	-
Speciated Phenols in Water Method: AN420 Tested: 9/7/2015				
Phenol	µg/L	0.5	**10**	<0.5
2-methyl phenol (o-cresol)	µg/L	0.5	<5.0↑	<0.5
3/4-methyl phenol (m/p-cresol)	µg/L	1	<1	<1
2-chlorophenol	µg/L	0.5	**14**	<50↑
2,4-dimethylphenol	µg/L	0.5	<0.5	<0.5
2,6-dichlorophenol	µg/L	0.5	<5.0↑	**5.7**
2,4-dichlorophenol	µg/L	0.5	<5000↑	**1100**
2,4,6-trichlorophenol	µg/L	0.5	<5.0↑	<5.0↑
2-nitrophenol	µg/L	0.5	<0.5	<0.5
4-nitrophenol	µg/L	1	<1	<1
2,4,5-trichlorophenol	µg/L	0.5	<5.0↑	<0.5
2,3,4,6-tetrachlorophenol	µg/L	0.5	<0.5	<0.5
Pentachlorophenol	µg/L	0.5	<0.5	<0.5
2,4-dinitrophenol	µg/L	2	<2	<2
Surrogates				
2,4,6-Tribromophenol (Surrogate)	%	-	**102**	**78**
Acid Herbicides in Water Method: AN420 Tested: -				
Clopyralid	µg/L	0.5	<0.5	<0.5
4-chlorophenoxy acetic acid (4-CPA)	µg/L	1	**1**	**1**
Dicamba	µg/L	0.5	**1.1**	**7.3**
MCPP (Mecoprop)	µg/L	0.5	<0.5	<0.5
MCPA	µg/L	0.5	**0.9**	**12**
2,6-D	µg/L	0.5	**0.6**	**5.3**
Dichlorprop (2,4-DP)	µg/L	0.5	<0.5	<0.5
2,4-D	µg/L	0.5	**190**	**1200**
Bromoxynil	µg/L	0.5	<0.5	<0.5
Triclopyr	µg/L	0.5	**1.1**	**3.4**
2,4,6-trichlorophenoxyacetic acid	µg/L	0.5	**0.7**	**3.0**
2,4,5-TP (Silvex, Fenopop)	µg/L	0.5	<0.5	<0.5
2,4,5-T	µg/L	0.5	<0.5	<0.5
MCPB	µg/L	1	<1	<1
Dinoseb (Dinitrobutylphenol)	µg/L	0.5	<0.5	<0.5
Fluroxypyr	µg/L	0.5	<0.5	<0.5
2,4-DB	µg/L	0.5	<0.5	<0.5
Ioxynil	µg/L	1	<1	<1
Picloram	µg/L	1	**75**	**91**
Surrogates				
2,4-DCPAA (Surrogate)	%	-	**44**	**61**

Parameter	Units	LOR	Sample Number Sample Matrix Sample Date Sample Name BE013599.001 Water 05 Jul 2015 TRIP 1	 BE013599.002 Water 04 Jul 2015 DUP 2
Sample Subcontracted Method: Tested: -				
Sample Subcontracted*	No unit	-	Report Attached	Report Attached

QC SUMMARY

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

Mercury (dissolved) in Water **Method: ME-(AU)-[ENV]AN311/AN312**

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery	MS %Recovery
Mercury	LB020409	mg/L	0.0001	0.0000	40%	85%	87%

OC Pesticides in Water **Method: ME-(AU)-[ENV]AN400/AN420**

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
Alpha BHC	LB020347	µg/L	0.1	<0.1	
Hexachlorobenzene (HCB)	LB020347	µg/L	0.1	<0.1	
Beta BHC	LB020347	µg/L	0.1	<0.1	
Lindane (gamma BHC)	LB020347	µg/L	0.1	<0.1	82%
Delta BHC	LB020347	µg/L	0.1	<0.1	
Heptachlor	LB020347	µg/L	0.1	<0.1	60%
Aldrin	LB020347	µg/L	0.1	<0.1	65%
Heptachlor epoxide	LB020347	µg/L	0.1	<0.1	
Isodrin	LB020347	µg/L	0.1	<0.1	73%
Gamma Chlordane	LB020347	µg/L	0.1	<0.1	68%
Alpha Chlordane	LB020347	µg/L	0.1	<0.1	
Alpha Endosulfan	LB020347	µg/L	0.1	<0.1	
p,p'-DDE	LB020347	µg/L	0.1	<0.1	70%
Dieldrin	LB020347	µg/L	0.1	<0.1	68%
Endrin	LB020347	µg/L	0.1	<0.1	70%
Beta Endosulfan	LB020347	µg/L	0.1	<0.1	
p,p'-DDD	LB020347	µg/L	0.1	<0.1	
Endosulfan sulphate	LB020347	µg/L	0.1	<0.1	
p,p'-DDT	LB020347	µg/L	0.1	<0.1	
Endrin ketone	LB020347	µg/L	0.1	<0.1	
Methoxychlor	LB020347	µg/L	0.1	<0.1	
Mirex	LB020347	µg/L	0.1	<0.1	62%

Surrogates

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
d14-p-terphenyl (Surrogate)	LB020347	%	-	68%	66%
d5-nitrobenzene (Surrogate)	LB020347	%	-	74%	64%
2-fluorobiphenyl (Surrogate)	LB020347	%	-	76%	60%

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

OP Pesticides in Water **Method: ME-(AU)-[ENV]AN400/AN420**

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
Dichlorvos	LB020347	µg/L	1	<1	NA
Dimethoate	LB020347	µg/L	1	<1	NA
Diazinon (Dimpylate)	LB020347	µg/L	0.5	<0.5	76%
Fenitrothion	LB020347	µg/L	0.2	<0.2	
Malathion	LB020347	µg/L	0.2	<0.2	
Chlorpyrifos (Chlorpyrifos Ethyl)	LB020347	µg/L	0.2	<0.2	60%
Parathion-ethyl (Parathion)	LB020347	µg/L	0.2	<0.2	54%
Bromophos Ethyl	LB020347	µg/L	0.2	<0.2	
Methidathion	LB020347	µg/L	0.5	<0.5	66%
Ethion	LB020347	µg/L	0.2	<0.2	
Azinphos-methyl	LB020347	µg/L	0.2	<0.2	

Surrogates

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
d5-nitrobenzene (Surrogate)	LB020347	%	-	68%	66%
2-fluorobiphenyl (Surrogate)	LB020347	%	-	76%	60%
d14-p-terphenyl (Surrogate)	LB020347	%	-	74%	64%

Speciated Phenols in Water **Method: ME-(AU)-[ENV]AN420**

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
Phenol	LB020347	µg/L	0.5	<0.5	90%
2-methyl phenol (o-cresol)	LB020347	µg/L	0.5	<0.5	75%
3/4-methyl phenol (m/p-cresol)	LB020347	µg/L	1	<1	
2-chlorophenol	LB020347	µg/L	0.5	<0.5	
2,4-dimethylphenol	LB020347	µg/L	0.5	<0.5	
2,6-dichlorophenol	LB020347	µg/L	0.5	<0.5	
2,4-dichlorophenol	LB020347	µg/L	0.5	<0.5	102%
2,4,6-trichlorophenol	LB020347	µg/L	0.5	<0.5	117%
2-nitrophenol	LB020347	µg/L	0.5	<0.5	
4-nitrophenol	LB020347	µg/L	1	<1	
2,4,5-trichlorophenol	LB020347	µg/L	0.5	<0.5	
2,3,4,6-tetrachlorophenol	LB020347	µg/L	0.5	<0.5	
Pentachlorophenol	LB020347	µg/L	0.5	<0.5	125%
2,4-dinitrophenol	LB020347	µg/L	2	<2	

Surrogates

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
2,4,6-Tribromophenol (Surrogate)	LB020347	%	-	81%	110%

METHOD SUMMARY

METHOD	METHODOLOGY SUMMARY
AN083	Separatory funnels are used for aqueous samples and extracted by transferring an appropriate volume (mass) of liquid into a separatory funnel and adding 3 serial aliquots of dichloromethane. Samples receive a single extraction at pH 7 to recover base / neutral analytes and two extractions at pH < 2 to recover acidic analytes. QC samples are prepared by spiking organic free water with target analytes and extracting as per samples.
AN311/AN312	Mercury by Cold Vapour AAS in Waters: Mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500.
AN318	Determination of elements at trace level in waters by ICP-MS technique, in accordance with USEPA 6020A.
AN400	OC and OP Pesticides by GC-ECD: The determination of organochlorine (OC) and organophosphorus (OP) pesticides and polychlorinated biphenyls (PCBs) in soils, sludges and groundwater. (Based on USEPA methods 3510, 3550, 8140 and 8080.)
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D). SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).

FOOTNOTES

IS	Insufficient sample for analysis.	LOR	Limit of Reporting
LNR	Sample listed, but not received.	↑↓	Raised or Lowered Limit of Reporting
*	NATA accreditation does not cover the performance of this service.	QFH	QC result is above the upper tolerance
**	Indicative data, theoretical holding time exceeded.	QFL	QC result is below the lower tolerance
^	Performed by outside laboratory.	-	The sample was not analysed for this analyte
		NVL	Not Validated

Samples analysed as received.
Solid samples expressed on a dry weight basis.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: http://www.sgs.com.au/~/media/Local/Australia/Documents/ Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf

SGS LEEDER CONSULTING

A.B.N. 44 000 964 278
3 - 5, 18 Redland Drive
Mitcham, Vic, 3132
Telephone: (03) 9874 1988
Fax: (03) 9874 1933

Chartered Chemists

21-Jul-2015

REPORT NUMBER: M151551

Site/Client Ref: BE013599

SGS Environmental

59 Bancroft Road
Pinkenba
QLD 4008
Attention: SRA_REPORTS_BRISBANE

CERTIFICATE OF ANALYSIS

SAMPLES:	Two samples were received for analysis
DATE RECEIVED:	**9-Jul-2015**
DATE COMMENCED:	**9-Jul-2015**
METHODS:	See Attached Results
RESULTS:	Please refer to attached pages for results.

Note: Results are based on samples as received at SGS Leeder Consulting's laboratories

REPORTED BY:

Michael Jeddou
Senior Chemist

NATA
WORLD RECOGNISED ACCREDITATION

NATA Accredited Laboratory Number: 14429

Accredited for compliance with ISO/IEC 17025.

NATA accreditation does not cover the performance of Method(s) - MA-1452; USEPA 8270 Additionals

ANALYTICAL RESULTS

Matrix: Water
Method: MA-1452 Phenyl Urea Herbicides
Sample units are expressed in mg/L

Test Started: 13/07/2015

Analyte Name	Leeder ID / Client ID / Sampled Date / PQL	2015016898 BE013599.001 TRIP 1 5/07/2015	2015016899 BE013599.002 DUP 2 4/07/2015	2015016900 Method Blank
Diuron	0.001	0.010	0.009	nd

Matrix: Water
Method: MA-83.WW.01 Nitrogen/Phosphorus Pesticides
Sample units are expressed in mg/L

Test Started: 13/07/2015

Analyte Name	Leeder ID / Client ID / Sampled Date / PQL	2015016898 BE013599.001 TRIP 1 5/07/2015	2015016899 BE013599.002 DUP 2 4/07/2015	2015016900 Method Blank
Atrazine	0.001	nd	nd	nd
Metolachlor	0.001	0.014	0.014	nd
Molinate	0.001	nd	nd	nd
Trifluralin	0.001	nd	nd	nd
Simazine	0.001	nd	nd	nd

Matrix: Water
Method: MA-78.WW.03 Organophosphate Pesticides
Sample units are expressed in mg/L

Test Started: 13/07/2015

Analyte Name	Leeder ID / Client ID / Sampled Date / PQL	2015016898 BE013599.001 TRIP 1 5/07/2015	2015016899 BE013599.002 DUP 2 4/07/2015	2015016900 Method Blank
Chlorpyrifos	0.001	nd	nd	nd
Malathion	0.001	nd	nd	nd

Matrix: Water
Method: USEPA 8270C.WW.ADD.00 Additional SVOCs in water
Sample units are expressed in mg/L

Test Started: 13/07/2015

Analyte Name	Leeder ID / Client ID / Sampled Date / PQL	2015016898 BE013599.001 TRIP 1 5/07/2015	2015016899 BE013599.002 DUP 2 4/07/2015	2015016900 Method Blank
Diazinon	0.001	nd	nd	nd
Thiobencarb	0.001	nd	nd	nd

ANALYTICAL RESULTS

Matrix: Water
Method: Surrogate Recovery
Sample units are expressed in %

Test Started: 13/07/2015

Analyte Name	Sampled Date / PQL	Leeder ID: 2015016898 Client ID: BE013599.001 TRIP 1 Sampled Date: 5/07/2015	Leeder ID: 2015016899 Client ID: BE013599.002 DUP 2 Sampled Date: 4/07/2015	Leeder ID: 2015016900 Client ID: Method PQL: Blank
Fluorobiphenyl		85	102	108
Fluorophenol		85	95	92
Nitrobenzene-d5		76	89	113
Phenol-d6		85	118	73
p-Terphenyl-d14		83	86	99
2,4,6-Tribromophenol		70	95	89

Matrix: Water
Method: MA-1452 Phenyl Urea Herbicides
Quality Control Results are expressed in Percent Recovery of expected result

Test Started: 13/07/2015

Analyte Name	Sampled Date / PQL	Leeder ID: 2015016901 / Client ID: Method / Spike	Leeder ID: 2015016902 / Client ID: Method / Spike Dup
Diuron		97	97

Matrix: Water
Method: MA-83.WW.01 Nitrogen/Phosphorus Pesticides
Quality Control Results are expressed in Percent Recovery of expected result

Test Started: 13/07/2015

Analyte Name	Sampled Date / PQL	Leeder ID: 2015016901 / Client ID: Method / Spike	Leeder ID: 2015016902 / Client ID: Method / Spike Dup
Metolachlor		109	115

Matrix: Water
Method: MA-78.WW.03 Organophosphate Pesticides
Quality Control Results are expressed in Percent Recovery of expected result

Test Started: 13/07/2015

Analyte Name	Sampled Date / PQL	Leeder ID: 2015016901 / Client ID: Method / Spike	Leeder ID: 2015016902 / Client ID: Method / Spike Dup
Chlorpyrifos		113	108

Matrix: Water
Method: USEPA 8270C.WW.ADD.00 Additional SVOCs in water
Quality Control Results are expressed in Percent Recovery of expected result

Test Started: 13/07/2015

Analyte Name	Sampled Date / PQL	Leeder ID: 2015016901 / Client ID: Method / Spike	Leeder ID: 2015016902 / Client ID: Method / Spike Dup
Diazinon		68	76

Matrix: Water
Method: Surrogate Recovery
Quality Control Results are expressed in Percent Recovery of expected result

Test Started: 13/07/2015

Analyte Name	Sampled Date / PQL	Leeder ID: 2015016901 Client ID: Method Spike	Leeder ID: 2015016902 Client ID: Method Spike Dup
Fluorobiphenyl		101	117
Fluorophenol		92	80
Nitrobenzene-d5		99	103
Phenol-d6		87	72
p-Terphenyl-d14		91	95
2,4,6-Tribromophenol		84	91

QUALIFIERS / NOTES FOR REPORTED RESULTS

PQL	Practical Quantitation Limit
nd	Not Detected – The analyte was not detected above the reported PQL.
is	Insufficient Sample to perform this analysis.
T	Tentative identification based on computer library search of mass spectra.
NC	Not calculated and/or Results below PQL
NV	No Vacuum, Canister received above standard atmospheric pressure
nr	Not Requested for analysis.
R	Rejected Result – results for this analysis failed QC checks.
SQ	Semi-Quantitative result – quantitation based on a generic response factor for this class of analyte.
IM	Inappropriate method of analysis for this compound
U	Unable to provide Quality Control data – high levels of compounds in sample interfered with analysis of QC results.
UF	Unable to provide Quality Control data- Surrogates failed QC checks due to sample matrix effects
L	Analyte detected at a level above the linear response of calibration curve.
E	Estimated result. NATA accreditation does not cover estimated results.
C1	These compounds co-elute.
--	Parameter Not Determined
CT	Elevated concentration. Results reported from carbon tube analysis
**	Sample shows non-petroleum hydrocarbon profile

SGS LEEDER CONSULTING

APPENDIX ONE.

CHAIN OF CUSTODY DOCUMENT

CHAIN OF CUSTODY & ANALYSIS REQUEST

Lab ID Number: _____ *(please quote on all correspondence)*

SGS Environmental Services
59 Bancroft Rd
PINKENBA QLD 4008

Company Name:	SGS Environmental Services	Project Name/No:	BE013599	
Address:	59 Bancroft Rd	Purchase Order No:	TBA	
	Pinkenba QLD 4008	Results Required Date:	16/7/15	
		Telephone:	(07)3622 4700	Fax:
Contact Name:	David Brennan	Email Results to:	Jennifer.wain@sgs.com, Sandhya.prasad@sgs.com au.environmental.brisbane@sgs.com	
Laboratory Quotation No:				

SGS ID	Client Sample ID	Sampling Date/Time	Tick as Appropriate: Solid Sample	Liquid Sample	Gas/Air Sample	PRESERVATIVE	NO. OF ITEMS	ANALYSIS REQUESTED. SPECIFY & TICK AS APPROPRIATE: Multiresidue Pesticide Screen*	Notes/Guidelines/LOR/ Special instructions
BE013599.001	TRIP 1	**5/7/15**		X			2	X	*simazine, diuron, atrazine,
BE013599.002	DUP 2	**4/7/15**		X			2	X	Molinate, metolachlor,
									Malathion, diazinon, Thiobencarb, chloropyrifos, trifluralin
									Same as BE009134

Relinquished By: DB	Date/Time:8/7/15	Received By: Benedict Robinson	Date/Time: 9/7/15 10:00am
Relinquished By:	Date/Time:	Received By:	Date/Time:
Samples Intact: ~~Yes~~ / No	Temperature: ~~Ambient~~ / Chilled / NA	Sample Security Sealed: ~~Yes~~ / No	
Comments / Subcontracting details: *i.e. samples subcontracted to SGS Sydney due to TAT requested*			Quarantine: Yes / ~~No~~
			Hazards: *e.g. may contain Asbestos*

From: Brennan, David (Brisbane)
Sent: Thursday, 9 July 2015 11:09 AM
To: AU.SampleReceipt.Mitcham (Melbourne)
Subject: RE: BE013599 (M151551)

Hi Benedict

Yes please

Thanks

David Brennan
Environmental Services
Sample Receipt Supervisor

Phone: +61 (0)7 3622 4750

To provide your valuable feedback & help us to improve, please click the image below (Survey open from start July to the end of September 2015).

From: AU.SampleReceipt.Mitcham (Melbourne)
Sent: Thursday, 9 July 2015 11:08 AM
To: Brennan, David (Brisbane)
Subject: BE013599 (M151551)

Hi David,

We have received your samples.

On the COC (see attached) you have written chloropyririfos.

Did you mean chloropyrifos?

Thanks,

Benedict Robinson
Environmental Services
Sample Reception

SGS LEEDER CONSULTING
Melbourne Office
Unit 5 /18 Redland Drive
Mitcham VIC 3132,
Australia

Phone +61 (0)3 9874 1988
Fax: +61 (0)3 9874 1933
Email: benedict.robinson@sgs.com
Web: www.au.sgs.com

SAMPLE RECEIPT ADVICE

BE013599

CLIENT DETAILS

Contact	MICHAEL TISDALL & Steven Termont-Schenck
Client	Geoenvironmental Consultants
Address	81 Bishop Road BEACHMERE QLD 4510
Telephone	07 3367 2266
Facsimile	61 07 33672377
Email	mtisdall@bigpond.com
Project	**Narangba Q Event 11 EHP Binary Site**
Order Number	**5010/7_GW**
Samples	2

LABORATORY DETAILS

Manager	Andrew Tomlins
Laboratory	SGS Brisbane Environmental
Address	59 Bancroft Road PINKENBA QLD 4008
Telephone	+61 7 3622 4700
Facsimile	+61 7 3622 4799
Email	au.environmental.brisbane@sgs.com
Samples Received	Tue 7/7/2015
Report Due	Thu 16/7/2015
SGS Reference	**BE013599**

SUBMISSION DETAILS

This is to confirm that 2 samples were received on Tuesday 7/7/2015. Results are expected to be ready by Thursday 16/7/2015. Please quote SGS reference BE013599 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	2 Water	Type of documentation received	COC
Date documentation received	8/7/2015	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	17°C
Sample container provider	ALS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Icebricks	Samples clearly labelled	Yes
Complete documentation received	Yes	Number of eskies/boxes received	1

Samples will be held for one month for water samples and two months for soil samples from date of report, unless otherwise instructed.

COMMENTS

SAMPLE RECEIPT ADVICE

BE013599

CLIENT DETAILS

Client Geoenvironmental Consultants

Project Narangba Q Event 11 EHP Binary Site

SUMMARY OF ANALYSIS

No.	Sample ID	Acid Herbicides in Water	Mercury (dissolved) in Water	OC Pesticides in Water	OP Pesticides in Water	Sample Subcontracted	Speciated Phenols in Water	Trace Metals (Dissolved) in Water by ICPMS
001	TRIP 1	20	1	26	15	1	15	7
002	DUP 2	20	1	26	15	1	15	7

The above table represents SGS Environmental Services' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

Chain of Custody Form

No.: COC5010/7.GW
BE013599

From:	GeoEnvironmental Consultants P/L 129 Outlook Cres BARDON, QLD 4065 Ph-3367 2266	**GeoEnvironmental Consultants** ACN 078 883 640 Pty Ltd *Specialising in the Earth and what's built on it*	**To:** S G S Environmental Services 59 Bancroft Road PINKENBA, QLD 4008 **Quotation**: 3TS5A4
Contact:	Steve Termont-Schenk / Michael Tisdall	**Site Name:** EHP Binary Site	**Contact:** AU.Environmental.Brisbane@sgs.com
Ph: 0418 883 152 0407 178 802	**E:** tsdownunda@ gmail.com mtisdall@bigpond.com	**Location Code:** Narangba, Q Event: 11	**Ph:** (07)3622 4700 **Fax:**
Project Manager.	Steve Termont-Schenk	**Order No.:** 5010/7_GW	**Turnaround Time.:** 48hr 3day **5day** 7day+

Lab No.	Sample No.	Date Collected	Sample Type		Preservation Method			No. of Containers		Analyses Requested					Comments
			Soil	Water	Ice	Acid	None	Glass	Plastic	Phenols		DisMetals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)	PhenoxyAcid Herbicides & LLmulti-residue pest screen	OC/OP Pesticides	Other tests (specifiy) or notes
1	TRIP 1	5/07/2015		X	X	X		4	1	X		X	X	X	
2	DUP 2	4/07/2015		X	X	X		4	1	X		X	X	X	

SGS Brisbane Environmental
BE013599 COC
Received: 07 – Jul – 2015

Relinquished by:	Peter McGurgan 0413 258 403	**Date:** 7-7-15 **Time:** 12:50	**Couriered by:** Dropped Off P McGurgan	**Date:** 7-7-15 **Time:** 12:50	**Received by:**	**Date:** **Time:**	7/7/15 1315

*** Note**: **Detection Limits** –.

SGS Environmental Brisbane Bottle Map

Job No. _____ Eskies/Parcels: 1 Ice / Ice bricks Temp: 17 Head Space: Y / N

SGS

Sample No.	P 125mL UP (nutrients)	P 250 mL UP (Gen Chem)	P 500 mL UP (Gen Chem)	P 1L UP (Gen Chem)	P 125 mL Acid Washed (metals)	P ~~125~~ 70 mL Acid Washed (FIELD FILTERED)	P 500 mL Zn(CH3COO)2 + NaOH (sulphide)	P 250 mL H2 SO4 (phenols / COD)	P 250 mL WHITE NaOH (cyanide)	P 250 mL WHITE UP (Algae)	G 2.5 L CuSO4 (Dust)	G 1L H2SO4 (TOG)	G 500 mL UP (Organics)	G200 mL UP (Organics)	G100 mL UP (TOC/Organics)	P 500 mL Sterile Na2S2O3 (bacto)	P 200 mL Sterile Na2S2O3 (bacto)	G 200 mL C6H8O6 (THM)	G 40 mL Na2S2O3 (TRH/BTEX)	G 125 / 250 mL Jar UP (soil)	Sample Matrix	Lab Bottles Supplied	
1,2						1							2		2						S	Y	

Comments:

SGS

1 PRICING

Water							
Suite Code	ANALYSIS	METHOD	Units	CONTAINERS PER SAMPLE	UNIT COST	QTY	TOTAL (AUD)
Test Suites							
CL02	8 Metals As, Cd, Cr, Cu, Ni, Pb, Zn, Hg	NEPM 1999/2011 / ANZECC 2000	various	125ml Acid Washed Plastic	30.00	27	810.00
SV03	OC/OP Pesticides	NEPM 1999 / ANZECC 2000	various	200ml Amber Glass	72.00	27	1,944.00
Individual Analysis							
	Phenols - speciated	USEPA 8270	0.5-2.0 ug/L	Included	72.00	27	1,944.00
*sub	Phenoxy Acid Herbicides	USEPA 8151	0.5-1.0 ug/L	200ml Amber Glass	72.00	27	1,944.00
**sub	Multiresidue Pesticide Screen - Simazine, Diuron, Atrazine, Molinate, Metolachlor, Malathion, Diazinon, Thiobencarb, Chloropyririfos, Trifluralin)	NEPM 1999 / ANZECC 2000	0.01 ug/L	1L Amber Glass	403.00	27	10,881.00
Sub-Total							17,523.00
Other Charges							
Administration Fee (per job)					30	1	30.00
Disposal Fee					1	27	27.00
SUB TOTAL							17,580.00
Goods and Service Tax						10%	1,758.00
TOTAL PRICE							19,338.00

*Sub – Analysis will be subcontracted to SGS-Environmental in Perth

**Sub – Analysis will be subcontracted to SGS-Leeder.

APPENDIX B
QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES

APPENDIX B

Q1 QUALITY ASSURANCE

The following procedures were utilized to ensure the integrity of the data collected during the assessment.

Q1.1 Sample Collection and Containers

All samples were collected by a **GeoEnvironmental Consultants** engineer or scientist specifically trained in hazardous waste field investigation techniques and health and safety procedures.

Soil sample collection (if applicable) included:

- Sample collection equipment is inspected by the **GeoEnvironmental Consultants** engineer / scientist prior to commencement of fieldwork to ensure equipment cleanliness and adequacy. Equipment is inspected for oil leaks or other potential sources of cross contamination;
- Soil samples are collected directly from the auger or ground;
- Selection by the engineer/scientist of depth(s) to be sampled;
- Sample handling is conducted in a work area that is wiped clean for each sampling event and kept clear of mess and potential cross contamination sources;
- The engineer/scientist wears a new pair of disposable nitrile gloves for each sample collection event; and
- Immediate transfer of soil by gloved hand and/or decontaminated sampling equipment to pre-labelled, 250 ml laboratory supplied glass jars with Teflon lid inserts. Jars are filled to ensure sufficient sample is provided for laboratory purposes. The container lip is cleaned if necessary before firmly screwing on the container lid. A clean lip is required to ensure that the Teflon lid insert is not damaged and that volatile and semi-volatile compounds do not escape from the container prior to analysis.

Groundwater sample collection included:

- Gauging depth to water (DTW) in each monitoring well prior to development, if developed, using a Depth to Water Gauge with ± 3mm accuracy. The probe and tape was decontaminated between gauging events;
- Utilization of one-use, disposable bailers for each individual monitoring well. New bailer cord is used for each well. The disposable bailers were also used for well purging along with a pump on selected wells;
- Sample collection equipment is inspected by the **GeoEnvironmental Consultants** engineer / scientist prior to commencement of fieldwork to ensure equipment cleanliness and adequacy;
- The engineer/scientist wears a new pair of disposable nitrile gloves for each sample collection event;
- Utilization of the same disposable bailer to collect samples for field testing and laboratory analysis; and
- Immediate transfer of water from the bailer to pre-labeled, laboratory supplied glass bottles and vials and plastic bottles, as required for the particular analysis. The containers for laboratory analysis are filled to form a meniscus with no headspace prior to firmly sealing with lids with Teflon inserts.

Q1.2 Decontamination

Soil Sampling.

All field sampling equipment was decontaminated prior to use and between samples to prevent cross contamination. Equipment included the “split spoon” samplers from the drill rig and trowels, bowls, knives etc used by the engineer/scientist to transfer the sample to containers. Decontamination of equipment involved the following processes:

- Scrub in clean potable water to remove gross contamination;
- Scrub in a solution of Extran MA03, (phosphate free alkaline cleaner) in clean potable and/or deionised water;
- Rinse in clean potable and/or deionised water; and
- Air dry.

Between boreholes the hollow stem augers are removed to a designated cleaning area and all attached soil is removed using a high pressure water spray.

Groundwater Sampling.

The dedicated disposable bailer in each well was rinsed with demineralized water prior to sampling. For this monitoring event there was no requirement to further decontaminate bailer sampling equipment as the dedicated bailers were used to transfer samples directly into laboratory prepared containers. The pump when used for purging was subject to decontamination procedures.

Q1.3 Field Records and Sample Identification

Good, accurate documentation and record keeping at the time of fieldwork performance is considered critical for project success. Detailed field notes are recorded both on drill log sheets and field note books. Records include but are not limited to:

- Name and address of site;
- Identification of field personnel
- Identification of sampling locations
- Date of sample collection
- Method of sample collection
- Field measurements made e.g. conductivity, pH
- Depth of first groundwater occurrence
- Depth of static groundwater elevation
- Depth to bottom of borehole, screen/casing
- Number and volume of samples collected
- Survey data as applicable

All samples are identified with a unique sample number, the project number and date of collection. Sample identification details are also recorded on the drill log sheets and Chain of Custody documents. Sample containers are placed into zip lock plastic bags or wrapped in plastic to protect the sample label from damage.

Q1.4 Sample Transport

All samples to be transported to the laboratory were packed securely in an Esky containing ice. Samples were transported under Chain of Custody procedures from the site to the laboratory.

Sample receipt advice from the laboratory indicated whether all sample containers arrived intact. The laboratory also advises if there are any irregularities between sample containers / numbers supplied and Chain of Custody requests.

Q1.5 Instrument Calibration

Instruments used to conduct the field investigations and measurements were all calibrated in accordance with the manufacturers recommended procedures.

Q2 QUALITY CONTROL

In order to assess the accuracy and precision of the analytical data obtained, the following quality control samples are collected:

Q2.1 Field Duplicates and Triplicates

Field duplicates are a second sample taken from the same position as the first (or a split sample). One field duplicate is typically collected for each 10 (or fewer) samples. A lesser duplicate to field sample ratio may be acceptable under certain site conditions such as consistent lack of contamination and consistent ground conditions.

The field duplicate is analysed to check for consistency of laboratory performance and the variability of the contaminants in the sample. Field triplicate samples, when collected, are analysed by an alternate laboratory to assess the accuracy and consistency of the primary laboratory. Field duplicate and triplicate results are used to assess the precision of the whole process including sampling, sample preservation and analysis. Two field duplicates were gathered during this monitoring event. DUP1 from well MW19 was analysed by the primary laboratory, ALS and DUP2 from well MW23 was analysed by the alternate laboratory, SGS. A single field triplicate sample, TRIP1 from well MW19 was analysed by the alternate laboratory, SGS.

Q2.2 Equipment (Rinsate) Blanks

Equipment blanks are deionised water solutions that are transported to the site, opened in the field, and poured over or through the sample collection device, collected in a sample container, and returned to the laboratory. Equipment blanks are used to check the cleanliness of the sampling device and to confirm the quality of field decontamination procedures.

One equipment blank is typically collected per sampling day or event. One equipment blank was collected for this monitoring event, Sample No. RIN1 was collected prior to gathering the sample from well Backg'nd and was analysed by the primary laboratory, ALS. All analytical results were less than reportable by the laboratory in Sample No. RIN1 except for copper which was measured at a concentration of 0.006mg/L which exceeds the adopted guideline for copper. The laboratory was requested to check this analysis and they confirmed the result by reanalysis of the sample. This detection indicates that a level of copper contamination may have been present on the dedicated bailer used in well Backg'nd. Review of the copper results from this monitoring event indicate a copper

concentration which was lower than measured in May 2013 and less than the maximum level recorded in the well in May 2012, 0.010mg/L. On the basis of this review we concluded this detection of copper did not have a meaningful impact on the quality of the data received.

Q2.3 Field Blanks

Field blanks are deionised water that is taken to the sampling site and poured into the sample container prior to sample collection. The sample container remains open throughout the collection of samples and is then sealed and returned to the laboratory with the other samples.

Field blanks are typically collected when requested by the client or when warranted by specific site conditions and/or contaminants of concern. Field blanks perform a similar function to ***Trip Blanks***, which are pre-prepared samples used to measure the incidental or accidental contamination of samples by volatile organic compounds (VOCs) during transport, field work and storage. Trip blanks are usually prepared by the laboratory using containers which are filled with VOC free water. These pre-prepared samples are then handled in the same manner as regular VOC sample collection containers.

Q2.4 Matrix Spike Samples

Matrix spikes are samples prepared in the laboratory by spiking an aliquot of a field sample with known concentrations of specific analytes. The matrix spike is then analysed and the results are used to assess the effects of the sample matrix on the accuracy of the analyses.

Accuracy is assessed by calculation of *percent recovery*, where:

Percent recovery (PR) = X/T x 100%

Where X = the observed value of measurement
T = “true” value

ALS specifies acceptable spike recoveries as follows:

- 86 – 127 % for metals.
- 16 – 138 % for OC/OP pesticides.
- 24 – 132 % for phenolics.
- 65 – 147 % for Phenoxyacetic Acid Herbicides.
- 65 – 130 % for Metolachlor and other multi-residue pesticides.

Q2.5 Laboratory Control samples

Laboratory Control Samples (or Quality Control Check Samples) are samples prepared within the laboratory by spiking an aliquot of an appropriate clean matrix reagent with known concentrations of specific analytes. The check sample is then analysed and the results are used to assess the laboratory performance on sample preservation and analysis procedure.

Accuracy is assessed by calculation of *percent recovery*, where:

Percent recovery (PR) = X/T x 100%

Where X = the observed value of measurement
T = "true" value

ALS routinely report these results in the project specific Quality Control Report.

Q2.6 Relative Percentage Difference (RPD)

The relative percentage difference or RPD of each set of duplicate and triplicate samples is calculated and presented on Table Nos. 2 and 3 to assess overall precision, where:

$$RPD = \frac{(D1 - D2)}{(D1 + D2)/2} \times 100\%$$

where D1 = Sample concentration
D2 = Duplicate (or triplicate) sample concentration