

CLIENT DETAILS

Contact **John Fox**
Client **NAMOI COTTON CO-OPERATIVE LTD**
Address **1B KITCHENER STREET
TOOWOOMBA QLD 4350**

Telephone **0429 903 079**
Facsimile **61 7 46316184**
Email **jfox@namoicotton.com.au**

Project **TRANGIE GIN**
Order Number **(Not specified)**
Samples **1**

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**

SGS Reference **BE009576 R0**
Report Number **0000030695**
Date Reported **03 Jul 2014**
Date Received **27 Jun 2014**

COMMENTS

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

OCOP: At least 2 of the 3 surrogates passes acceptance criteria.

OCOP: The Limit of Reporting (LOR) has been raised due to interferences from the sample matrix (emulsive layer present)

SIGNATORIES



Leanne Orsmond
Inorganics Supervisor



Michael Morrison
Senior Organic Chemist

Sample Number	BE009576.001
Sample Matrix	Water
Sample Date	3/6/14 8:30
Sample Name	J-1004-276

Parameter	Units	LOR
Total and Volatile Suspended Solids (TSS / VSS) Method: AN114		
Total Suspended Solids Dried at 103-105°C	mg/L	1 70

OC Pesticides in Water Method: AN400/AN420			
Alpha BHC	µg/L	0.1	<0.8†
Hexachlorobenzene (HCB)	µg/L	0.1	<0.8†
Beta BHC	µg/L	0.1	<0.8†
Lindane (gamma BHC)	µg/L	0.1	<0.8†
Delta BHC	µg/L	0.1	<0.8†
Heptachlor	µg/L	0.1	<0.8†
Aldrin	µg/L	0.1	<0.8†
Heptachlor epoxide	µg/L	0.1	<0.8†
Isodrin	µg/L	0.1	<0.8†
Gamma Chlordane	µg/L	0.1	<0.8†
Alpha Chlordane	µg/L	0.1	<0.8†
Alpha Endosulfan	µg/L	0.1	<0.8†
p,p'-DDE	µg/L	0.1	<0.8†
Dieldrin	µg/L	0.1	<0.8†
Endrin	µg/L	0.1	<0.8†
Beta Endosulfan	µg/L	0.1	<0.8†
p,p'-DDD	µg/L	0.1	<0.8†
Endosulfan sulphate	µg/L	0.1	<0.8†
p,p'-DDT	µg/L	0.1	<0.8†
Endrin ketone	µg/L	0.1	<0.8†
Methoxychlor	µg/L	0.1	<0.8†
Mirex	µg/L	0.1	<0.8†

Surrogates			
d14-p-terphenyl (Surrogate)	%	-	114
2-fluorobiphenyl (Surrogate)	%	-	100
d5-nitrobenzene (Surrogate)	%	-	98
Dibromo-DDE (Surrogate)	%	-	-



ANALYTICAL REPORT

BE009576 R0

Sample Number BE009576.001
Sample Matrix Water
Sample Date 3/6/14 8:30
Sample Name J-1004-276

Parameter Units LOR

OP Pesticides in Water Method: AN400/AN420

Parameter	Units	LOR	Value
Dichlorvos	µg/L	1	<4 l
Dimethoate	µg/L	1	<4 l
Diazinon (Dimpylate)	µg/L	0.5	<4.0 l
Fenitrothion	µg/L	0.2	<1.6 l
Malathion	µg/L	0.2	<1.6 l
Chlorpyrifos (Chlorpyrifos Ethyl)	µg/L	0.2	<1.6 l
Parathion-ethyl (Parathion)	µg/L	0.2	<1.6 l
Bromophos Ethyl	µg/L	0.2	<1.6 l
Methidathion	µg/L	0.5	<4.0 l
Ethion	µg/L	0.2	<1.6 l
Azinphos-methyl	µg/L	0.2	<1.6 l

Surrogates

Surrogate	%	Value
d14-p-terphenyl (Surrogate)	%	98
d5-nitrobenzene (Surrogate)	%	114
2-fluorobiphenyl (Surrogate)	%	100
Dibromo-DDE (Surrogate)	%	*

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 to 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.

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

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
Alpha BHC	LB014851	µg/L	0.1	<0.1	
Hexachlorobenzene (HCB)	LB014851	µg/L	0.1	<0.1	
Beta BHC	LB014851	µg/L	0.1	<0.1	
Lindane (gamma BHC)	LB014851	µg/L	0.1	<0.1	97%
Delta BHC	LB014851	µg/L	0.1	<0.1	
Heptachlor	LB014851	µg/L	0.1	<0.1	113%
Aldrin	LB014851	µg/L	0.1	<0.1	110%
Heptachlor epoxide	LB014851	µg/L	0.1	<0.1	
Isodrin	LB014851	µg/L	0.1	<0.1	94%
Gamma Chlordane	LB014851	µg/L	0.1	<0.1	120%
Alpha Chlordane	LB014851	µg/L	0.1	<0.1	
Alpha Endosulfan	LB014851	µg/L	0.1	<0.1	
p,p'-DDE	LB014851	µg/L	0.1	<0.1	NA
Dieldrin	LB014851	µg/L	0.1	<0.1	108%
Endrin	LB014851	µg/L	0.1	<0.1	103%
Beta Endosulfan	LB014851	µg/L	0.1	<0.1	
p,p'-DDD	LB014851	µg/L	0.1	<0.1	
Endosulfan sulphate	LB014851	µg/L	0.1	<0.1	
p,p'-DDT	LB014851	µg/L	0.1	<0.1	
Endrin ketone	LB014851	µg/L	0.1	<0.1	
Methoxychlor	LB014851	µg/L	0.1	<0.1	
Mirex	LB014851	µg/L	0.1	<0.1	119%

Surrogates

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
d14-p-terphenyl (Surrogate)	LB014851	%	-	120%	18%
2-fluorobiphenyl (Surrogate)	LB014851	%	-	28%	18%
d5-nitrobenzene (Surrogate)	LB014851	%	-	160%	12%

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

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
Dichlorvos	LB014851	µg/L	1	<1	
Dimethoate	LB014851	µg/L	1	<1	
Diazinon (Dimpylate)	LB014851	µg/L	0.5	<0.5	118%
Fenitrothion	LB014851	µg/L	0.2	<0.2	
Malathion	LB014851	µg/L	0.2	<0.2	
Chlorpyrifos (Chlorpyrifos Ethyl)	LB014851	µg/L	0.2	<0.2	102%
Parathion-ethyl (Parathion)	LB014851	µg/L	0.2	<0.2	94%
Bromophos Ethyl	LB014851	µg/L	0.2	<0.2	
Methidathion	LB014851	µg/L	0.5	<0.5	79%
Ethion	LB014851	µg/L	0.2	<0.2	
Azinphos-methyl	LB014851	µg/L	0.2	<0.2	

Surrogates

Parameter	QC Reference	Units	LOR	MB	LCS %Recovery
d14-p-terphenyl (Surrogate)	LB014851	%	-	24%	18%
d5-nitrobenzene (Surrogate)	LB014851	%	-	32%	18%
2-fluorobiphenyl (Surrogate)	LB014851	%	-	28%	12%

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.

Total and Volatile Suspended Solids (TSS / VSS) Method: ME-(AU)-[ENV]AN114

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	LCS %Recovery
Total Suspended Solids Dried at 103-105°C	LB014852	mg/L	1	<1	1%	99%

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.
AN114	Total Suspended and Volatile Suspended Solids: The sample is homogenised by shaking and a known volume is filtered through a pre-weighed GF/C filter paper and washed well with deionised water. The filter paper is dried and reweighed. The TSS is the residue retained by the filter per unit volume of sample. Reference APHA 2540 D. Internal Reference AN114
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	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
*	This analysis is not covered by the scope of accreditation.	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/pv.sgs/3/~media/Local/Australia/Documents/Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf>

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Order
Project TRANGIE GIN

Sample Name BE009576.001

Description J-1004-276

Sample Date 3/6/2014 8:30

Matrix Water

Job Number	Method Name	Analyte Name	Units	Reporting Limit	Result
BE009576	Total and Volatile Suspended Solids	Total Suspended Solids	mg/L	1	70
BE009576	OC Pesticides in Water	Alpha BHC	µg/L	0.1 <0.8	
BE009576	OC Pesticides in Water	Hexachlorobenzene	µg/L	0.1 <0.8	
BE009576	OC Pesticides in Water	Beta BHC	µg/L	0.1 <0.8	
BE009576	OC Pesticides in Water	Lindane (gamma BHC)	µg/L	0.1 <0.8	
BE009576	OC Pesticides in Water	Delta BHC	µg/L	0.1 <0.8	
BE009576	OC Pesticides in Water	Heptachlor	µg/L	0.1 <0.8	
BE009576	OC Pesticides in Water	Aldrin	µg/L	0.1 <0.8	
BE009576	OC Pesticides in Water	Heptachlor epoxide	µg/L	0.1 <0.8	
BE009576	OC Pesticides in Water	Isodrin	µg/L	0.1 <0.8	
BE009576	OC Pesticides in Water	Gamma Chlordane	µg/L	0.1 <0.8	
BE009576	OC Pesticides in Water	Alpha Chlordane	µg/L	0.1 <0.8	
BE009576	OC Pesticides in Water	Alpha Endosulfan	µg/L	0.1 <0.8	
BE009576	OC Pesticides in Water	p,p'-DDE	µg/L	0.1 <0.8	
BE009576	OC Pesticides in Water	Dieldrin	µg/L	0.1 <0.8	
BE009576	OC Pesticides in Water	Endrin	µg/L	0.1 <0.8	
BE009576	OC Pesticides in Water	Beta Endosulfan	µg/L	0.1 <0.8	
BE009576	OC Pesticides in Water	p,p'-DDD	µg/L	0.1 <0.8	
BE009576	OC Pesticides in Water	Endosulfan sulphate	µg/L	0.1 <0.8	
BE009576	OC Pesticides in Water	p,p'-DDT	µg/L	0.1 <0.8	
BE009576	OC Pesticides in Water	Endrin ketone	µg/L	0.1 <0.8	
BE009576	OC Pesticides in Water	Methoxychlor	µg/L	0.1 <0.8	
BE009576	OC Pesticides in Water	Mirex	µg/L	0.1 <0.8	
BE009576	OC Pesticides in Water	d14-p-terphenyl (Surrogate)	%	0	114
BE009576	OC Pesticides in Water	2-fluorobiphenyl (Surrogate)	%	0	100
BE009576	OC Pesticides in Water	d5-nitrobenzene (Surrogate)	%	0	98
BE009576	OC Pesticides in Water	Dibromo-DDE (Surrogate)	%	0 N.A.	
BE009576	OP Pesticides in Water	Dichlorvos	µg/L	1 <4	
BE009576	OP Pesticides in Water	Dimethoate	µg/L	1 <4	
BE009576	OP Pesticides in Water	Diazinon (Dimpylate)	µg/L	0.5 <4	
BE009576	OP Pesticides in Water	Fenitrothion	µg/L	0.2 <1.6	
BE009576	OP Pesticides in Water	Malathion	µg/L	0.2 <1.6	
BE009576	OP Pesticides in Water	Chlorpyrifos (Chlorpyrifos)	µg/L	0.2 <1.6	
BE009576	OP Pesticides in Water	Parathion-ethyl (Parathion)	µg/L	0.2 <1.6	
BE009576	OP Pesticides in Water	Bromophos Ethyl	µg/L	0.2 <1.6	
BE009576	OP Pesticides in Water	Methidathion	µg/L	0.5 <4	
BE009576	OP Pesticides in Water	Ethion	µg/L	0.2 <1.6	
BE009576	OP Pesticides in Water	Azinphos-methyl	µg/L	0.2 <1.6	
BE009576	OP Pesticides in Water	d14-p-terphenyl (Surrogate)	%	0	98
BE009576	OP Pesticides in Water	d5-nitrobenzene (Surrogate)	%	0	114
BE009576	OP Pesticides in Water	2-fluorobiphenyl (Surrogate)	%	0	100
BE009576	OP Pesticides in Water	Dibromo-DDE (Surrogate)	%	0 N.A.	