

**QUEENSLAND DEPARTMENT
OF ENVIRONMENT**

SITE CONTAMINATION REPORT
LOT 11RP728865 - 2 ELVIN STREET -
PAGET INDUSTRIAL ESTATE, MACKAY

Published on DETSI Disclosure Log
RTI Act 2009

Emmonds and Bristow Pty Ltd
2 Shottery St
MYERONGA

CLIENT SHEET

Page : 1 of 16
Date : 4/02/97
Time : 7:15PM

4 - personal informa

Result Dated Inits.

BC0110134587@@BE
BC0110134587@@BE
BC0110134587@@BE

Job Number.....: 34587

Sample Numbers.....: 125284 to 125389

Client Code.....: 1858 GROUP...: S Silver Class

Name.....: Detco

Address.....: PO Box 5505

: Mackay Mail Centre

: MACKAY QLD 4700

Phone No.....: 079 522 122

Fax No.....: 079 521 314

Mobile No.....:

Mail Address.....:

Contact.....: Sch 4 - personal information

To.....:

Date Collected.....: 30/01/97

Received.....: 4/02/97 Tuesday

Rqd. X-Lab.....: 14/02/97 Friday

Required.....: 26/02/97 Wednesday

X-Lab.....: / /

Completed.....: / /

ORDER REVIEWED

Signed Sch 4 - personal information

Date.....

Test Lab.....: SL Soils Laboratory

Client Manager.....: DJG David Gleeson

Project Manager.....:

Client Reference.....:

Sample Desc.....: SAND/CLAY

Sampled By.....: S&B DJG

Work Required.....: TPH

Containers.....: 101 x JARS

Reports Required ?...: Yes

ORDER REVIEWED

Sch 4 - personal information

64 samples for H.C. Banding :-

Client to be charged for freight docket on back LH
letter to Mudgee City Council - 079 684466 phone
4/02/97

Sch 4 - personal information

Emmonds and Bristow Pty Ltd
3 Shottery St
MYERONGA

CLIENT SHEET

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Result Dated Inits.

Sample 125284 Fill Material
===== BH4 (0-400)
1 SP040. Hydrocarbon Odour

Sample 125285 Clay
===== BH4 (800-1000)
1 SP040. Hydrocarbon Odour

Sample 125286 Clay
===== BH4 (1800-2000)
1 SP040. Hydrocarbon Odour

Sample 125287 Fill Material
===== BH8 (0-400)
1 SP040. Hydrocarbon Odour

Sample 125288 Clay
===== BH8 (800-1000)
1 SP040. Hydrocarbon Odour

Sample 125289 Clay
===== BH8 (1800-2000)
1 SP040. Hydrocarbon Odour

Sample 125290 Fill Material
===== BH9 (0-400)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125291 Clay
===== BH9 (800-1000)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125292 Clay
===== BH9 (1800-2000)
1 SP040. Hydrocarbon Odour

Sample 125293 Sand
===== BH10 (0-400)
1 SP040. Hydrocarbon Odour

Monmonds and Bristow Pty Ltd
20 Shottery St
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Result Dated Inits.

Sample 125294 Clay
===== BH10 (800-1000)
1 SP040. Hydrocarbon Odour

Sample 125295 Clay
===== BH10 (1800-2000)
1 SP040. Hydrocarbon Odour

Sample 125296 Fill Material
===== BH11 (0-400)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125297 Clay
===== BH11 (800-1000)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125298 Sand
===== BH12 (0-200)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125299 Clay
===== BH12 (800-1000)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125300 Clay
===== BH13 (0-400)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125301 Clay
===== BH13 (600-800)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14

Emmonds and Bristow Pty Ltd
30 Shottery St
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Result Dated Inits.

3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125302 Fill Material
===== BH14 (0-400)
1 SP040. Hydrocarbon Odour

Sample 125303 Clay
===== BH14 (800-1000)
1 SP040. Hydrocarbon Odour

Sample 125304 Fill Material
===== BH15 (0-400)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125305 Clay
===== BH15 (800-1000)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125306 Fill Material
===== BH16 (0-400)
1 SP040. Hydrocarbon Odour

Sample 125307 Clay
===== BH16 (800-1000)
1 SP040. Hydrocarbon Odour

Sample 125308 Sand
===== BH17 (0-300)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125309 Sand
===== BH17 (300-800)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Simmonds and Bristow Pty Ltd
10 Shotttery St
YERONGA

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Dated

Inits.

Sample 125310 Clay
===== BH17 (800-1000)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125311 Clay
===== BH17 (1800-2000)
1 SP040. Hydrocarbon Odour

Sample 125312 Sand
===== BH18 (0-300)
1 SP040. Hydrocarbon Odour

Sample 125313 Clay
===== BH18 (300-450)
1 SP040. Hydrocarbon Odour

Sample 125314 Clay
===== BH18 (800-1000)
1 SP040. Hydrocarbon Odour

Sample 125315 Sand
===== BH19 (0-300)
1 SP040. Hydrocarbon Odour

Sample 125316 Clay
===== BH19 (300-600)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125317 Clay
===== BH19 (800-1000)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125318 Clay
===== BH19 (1800-2000)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Emmonds and Bristow Pty Ltd
30 Shottery St
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Result

Dated

Inits.

Sample 125319 Sand
===== BH20 (0-300)
1 SP040. Hydrocarbon Odour

Sample 125320 Clay
===== BH20 (300-400)
1 SP040. Hydrocarbon Odour

Sample 125321 Clay
===== BH20 (800-1000)
1 SP040. Hydrocarbon Odour

Sample 125322 Sand
===== BH21 (0-400)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125323 Clay
===== BH21 (400-600)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125324 Clay
===== BH21 (800-1000)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125325 Sand
===== BH22 (0-300)
1 SP040. Hydrocarbon Odour

Sample 125326 Sand
===== BH23 (0-300)
1 SP040. Hydrocarbon Odour

Sample 125327 Sand
===== BH24 (0-400)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Emmonds and Bristow Pty Ltd
50 Shottery St
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Dated

Inits.

Sample 125328 Clay
===== BH24 (800-1000)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125329 Sand
===== BH25 (0-450)
1 SP040. Hydrocarbon Odour

Sample 125330 Clay
===== BH25 (800-1000)
1 SP040. Hydrocarbon Odour

Sample 125331 Sand
===== BH26 (0-300)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125332 Clay
===== BH26 (800-1000)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125333 Sand
===== BH27 (0-400)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125334 Clay
===== BH27 (800-1000)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125335 Sand
===== BH28 (0-400)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14

Emmonds and Bristow Pty Ltd
50 Shottery St
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Result Dated Inits.

3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125336 Clay
===== BH28 (800-1000)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125337 Sand
===== BH29 (0-450)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125338 COARSE
===== BH29 (800-1000)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125339 Sand
===== BH30 (0-400)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125340 COARSE
===== BH30 (600-1000)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125341 Fill Material
===== BH31 (0-500)
1 SP040. Hydrocarbon Odour

Sample 125342 Clay
===== BH31 (800-1000)
1 SP040. Hydrocarbon Odour

Sample 125343 Gravel
===== BH32 (0-400)

Edmonds and Bristow Pty Ltd
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1 SP040. Hydrocarbon Odour

Sample 125344 Sludge

===== BH32 (500-800)

1 SP040. Hydrocarbon Odour

Sample 125345 Fill Material

===== BH33 (0-1000)

1 OS065.01 Petroleum Hydrocarbons C6-C9 (

2 OS065.02 Petroleum Hydrocarbons C10-C14

3 OS065.03 Petroleum Hydrocarbons C15-C28

4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125346 Clay

===== BH33 (1400-2000)

1 OS065.01 Petroleum Hydrocarbons C6-C9 (

2 OS065.02 Petroleum Hydrocarbons C10-C14

3 OS065.03 Petroleum Hydrocarbons C15-C28

4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125347 Fill Material

===== BH34 (0-600)

1 OS065.01 Petroleum Hydrocarbons C6-C9 (

2 OS065.02 Petroleum Hydrocarbons C10-C14

3 OS065.03 Petroleum Hydrocarbons C15-C28

4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125348 Clay

===== BH34 (1000-1200)

1 OS065.01 Petroleum Hydrocarbons C6-C9 (

2 OS065.02 Petroleum Hydrocarbons C10-C14

3 OS065.03 Petroleum Hydrocarbons C15-C28

4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125349 Fill Material

===== BH35 (0-500)

1 OS065.01 Petroleum Hydrocarbons C6-C9 (

2 OS065.02 Petroleum Hydrocarbons C10-C14

3 OS065.03 Petroleum Hydrocarbons C15-C28

4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125350 Clay

===== BH35 (800-1000)

1 OS065.01 Petroleum Hydrocarbons C6-C9 (

2 OS065.02 Petroleum Hydrocarbons C10-C14

3 OS065.03 Petroleum Hydrocarbons C15-C28

4 OS065.04 Petroleum Hydrocarbons C29-C36

Emmonds and Bristow Pty Ltd
3. Shottery St
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Result Dated Inits.

Sample 125351 Fill Material
===== BH36 (0-400)
1 SP040. Hydrocarbon Odour

Sample 125352 Sand
===== BH36 (400-600)
1 SP040. Hydrocarbon Odour

Sample 125353 Sand
===== BH37 (0-600)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125354 Clay
===== BH37 (1500-2000)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125355 Sand
===== BH39 (0-500)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125356 Clay
===== BH39 (800-1000)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125357 Sand
===== BH40 (0-500)
1 SP040. Hydrocarbon Odour

Sample 125358 Clay
===== BH40 (800-1000)
1 SP040. Hydrocarbon Odour

Sample 125359 Sand
===== BH41 (0-400)
1 SP040. Hydrocarbon Odour

Immonds and Bristow Pty Ltd
50 Shottery St
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Sample 125360 Clay
===== BH41 (800-1000)
1 SP040. Hydrocarbon Odour

Sample 125361 Sand
===== BH42 (0-400)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125362 Clay
===== BH42 (800-1000)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125363 Clay
===== BH42 (1800-2000)
1 SP040. Hydrocarbon Odour

Sample 125364 Sand
===== BH43 (0-600)
1 SP040. Hydrocarbon Odour

Sample 125365 Clay
===== BH43 (800-1000)
1 SP040. Hydrocarbon Odour

Sample 125366 Sand
===== BH44 (0-400)
1 SP040. Hydrocarbon Odour

Sample 125367 Clay
===== BH44 (800-1000)
1 SP040. Hydrocarbon Odour

Sample 125368 Sand
===== BH45 (0-400)
1 OS065.01 Petroleum Hydrocarbons C6-C9 (
2 OS065.02 Petroleum Hydrocarbons C10-C14
3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125369 Clay
===== BH45 (800-1000)

Ammonds and Bristow Pty Ltd
55 Shottery St
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Inits.

1	OS065.01	Petroleum Hydrocarbons C6-C9 (
2	OS065.02	Petroleum Hydrocarbons C10-C14
3	OS065.03	Petroleum Hydrocarbons C15-C28
4	OS065.04	Petroleum Hydrocarbons C29-C36

Sample 125370 Sand

===== BH46 (0-400)

1	OS065.01	Petroleum Hydrocarbons C6-C9 (
2	OS065.02	Petroleum Hydrocarbons C10-C14
3	OS065.03	Petroleum Hydrocarbons C15-C28
4	OS065.04	Petroleum Hydrocarbons C29-C36

Sample 125371 Clay

===== BH46 (800-1000)

1	OS065.01	Petroleum Hydrocarbons C6-C9 (
2	OS065.02	Petroleum Hydrocarbons C10-C14
3	OS065.03	Petroleum Hydrocarbons C15-C28
4	OS065.04	Petroleum Hydrocarbons C29-C36

Sample 125372 Clay

===== BH47 (800-1000)

1	OS065.01	Petroleum Hydrocarbons C6-C9 (
2	OS065.02	Petroleum Hydrocarbons C10-C14
3	OS065.03	Petroleum Hydrocarbons C15-C28
4	OS065.04	Petroleum Hydrocarbons C29-C36

Sample 125373 Sand

===== EX1. BOTTOM OIL WATER SEP

1	OS065.01	Petroleum Hydrocarbons C6-C9 (
2	OS065.02	Petroleum Hydrocarbons C10-C14
3	OS065.03	Petroleum Hydrocarbons C15-C28
4	OS065.04	Petroleum Hydrocarbons C29-C36

Sample 125374 Fill Material

===== EX3. (300) 4.5m EAST WALL

1	OS065.01	Petroleum Hydrocarbons C6-C9 (
2	OS065.02	Petroleum Hydrocarbons C10-C14
3	OS065.03	Petroleum Hydrocarbons C15-C28
4	OS065.04	Petroleum Hydrocarbons C29-C36

Sample 125375 Clay

===== EX3. (1500) 4.5m EAST WALL

1	OS065.01	Petroleum Hydrocarbons C6-C9 (
2	OS065.02	Petroleum Hydrocarbons C10-C14
3	OS065.03	Petroleum Hydrocarbons C15-C28
4	OS065.04	Petroleum Hydrocarbons C29-C36

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Sample 125376

Sand

=====

EX2. (1500) EAST WALL

Bedding Sand

1 OS065.01 Petroleum Hydrocarbons C6-C9 (

2 OS065.02 Petroleum Hydrocarbons C10-C14

3 OS065.03 Petroleum Hydrocarbons C15-C28

4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125377

Clay

=====

PIT 1. NORTH WALL (2000)

1 OS065.01 Petroleum Hydrocarbons C6-C9 (

2 OS065.02 Petroleum Hydrocarbons C10-C14

3 OS065.03 Petroleum Hydrocarbons C15-C28

4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125378

Sand

=====

PIT 1. EAST WALL (300)

1 OS065.01 Petroleum Hydrocarbons C6-C9 (

2 OS065.02 Petroleum Hydrocarbons C10-C14

3 OS065.03 Petroleum Hydrocarbons C15-C28

4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125379

Clay

=====

PIT 1. EAST WALL (2000)

1 OS065.01 Petroleum Hydrocarbons C6-C9 (

2 OS065.02 Petroleum Hydrocarbons C10-C14

3 OS065.03 Petroleum Hydrocarbons C15-C28

4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125380

Sand

=====

PIT 1. SOUTH WALL (300)

1 OS065.01 Petroleum Hydrocarbons C6-C9 (

2 OS065.02 Petroleum Hydrocarbons C10-C14

3 OS065.03 Petroleum Hydrocarbons C15-C28

4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125381

Clay

=====

PIT 1. SOUTH WALL (1500)

1 OS065.01 Petroleum Hydrocarbons C6-C9 (

2 OS065.02 Petroleum Hydrocarbons C10-C14

3 OS065.03 Petroleum Hydrocarbons C15-C28

4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125382

Sand

=====

PIT 1. WEST WALL (200)

1 OS065.01 Petroleum Hydrocarbons C6-C9 (

2 OS065.02 Petroleum Hydrocarbons C10-C14

3 OS065.03 Petroleum Hydrocarbons C15-C28

Monmonds and Bristow Pty Ltd
29 Shottery St
YERONGA

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4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125383 Clay

PIT 1. WEST WALL (2000)

1 OS065.01 Petroleum Hydrocarbons C6-C9 (

2 OS065.02 Petroleum Hydrocarbons C10-C14

3 OS065.03 Petroleum Hydrocarbons C15-C28

4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125384 Clay

PIT 1. BOTTOM (2500)

1 OS065.01 Petroleum Hydrocarbons C6-C9 (

2 OS065.02 Petroleum Hydrocarbons C10-C14

3 OS065.03 Petroleum Hydrocarbons C15-C28

4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125385 Sand

PIT 2. NORTH FACE (1000)

1 OS065.01 Petroleum Hydrocarbons C6-C9 (

2 OS065.02 Petroleum Hydrocarbons C10-C14

3 OS065.03 Petroleum Hydrocarbons C15-C28

4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125386 Sand

PIT 2. SOUTH FACE (1000)

1 OS065.01 Petroleum Hydrocarbons C6-C9 (

2 OS065.02 Petroleum Hydrocarbons C10-C14

3 OS065.03 Petroleum Hydrocarbons C15-C28

4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125387 Sand

PIT 2. EAST FACE (1000)

1 OS065.01 Petroleum Hydrocarbons C6-C9 (

2 OS065.02 Petroleum Hydrocarbons C10-C14

3 OS065.03 Petroleum Hydrocarbons C15-C28

4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125388 Sand

PIT 2. WEST FACE (1000)

1 OS065.01 Petroleum Hydrocarbons C6-C9 (

2 OS065.02 Petroleum Hydrocarbons C10-C14

3 OS065.03 Petroleum Hydrocarbons C15-C28

4 OS065.04 Petroleum Hydrocarbons C29-C36

Sample 125389 Sand

PIT 2. BOTTOM

1 OS065.01 Petroleum Hydrocarbons C6-C9 (

2 OS065.02 Petroleum Hydrocarbons C10-C14

Edmonds and Bristow Pty Ltd
10 Shottery St
YERONGA

CLIENT SHEET

Page : 15 of 15

Date : 4/02/97

Time : 7:15PM

Job : 34587

Result

Dated

Inits.

3 OS065.03 Petroleum Hydrocarbons C15-C28
4 OS065.04 Petroleum Hydrocarbons C29-C36

*** Reporting Notes ***

DETAILED INTERPRETATION REQUIRED FOR CONTAMINATED SITE.
BY DJG

End Of Report..... 106 Samples To Be Processed

Published on DETSI Disclosure Log
RTI Act 2009

FORM: SB-
0800
REV: 1
DATE:
19.03.96

SIMMONDS & BRISTOW PTY LTD CHAIN OF CUSTODY RECORD

PROJECT Contaminated Site		CLIENT Detco		PAGE 1 OF 8	
Ref No Elvin St Paget Mackay		ADDRESS P O Box 5505 Mackay Mail Exchange Mackay QLD 4700		POSTCODE 4700	
Project Leader personal info		ADDRESS FOR REPORT As Above		POSTCODE	
Client Manager		CONTACT Mr Ian Hoffman		PHONE 079 522 122	
Report Due Date 21/02/97		PHONE 079 522 122		FAX 079 521 314	
☐ Results Only (Covering Letter) ☐ Short Interpretation (One Page Only) ☐ Other ☐ Sample Bottles As Per DOE Requirements		☐ Routine Report (Monthly/Quarterly Contract) ☐ Detailed Interpretation (Hourly Charge) ☒ Yes ☐ No		SPECIAL REQUIREMENTS/NOTES	
Sampler's Name personal info		Signed: h 4 - personal informati			
SAMPLE DESCRIPTION		DATE COLLECTED		TIME TAKEN (24:00)	
BH4 0--400		30-31/1/97			
BH4 800--1000		-			
BH4 1800--2000		-			
BH8 0--400		-			
BH8 800--1000		-			
BH8 1800--2000		-			
BH9 0--400		-			
BH9 800--1000		-			
BH9 1800--2000		-			
BH10 0--400		-			
BH10 800--1000		-			
BH10 1800--2000		-			
RELINQUISHED BY DJG		DATE 03/02/97		RECEIVED BY personal inform	
		TIME 8:30		Sch 4 - personal information	
RELINQUISHED BY		DATE		RECEIVED BY	
		TIME			
RELINQUISHED BY 24-059		DATE		RECEIVED BY	
		TIME			

Published on DETSI Disclosure Log
PTI Act 2009

File C

Page 17 of 85

CLIENT Defco													PAGE <u>2</u> OF <u>8</u>	
ADDRESS P O Box 5505 Mackay Mail Exchange Mackay QLD 4700													POSTCODE 4700	
ADDRESS FOR REPORT As Above													POSTCODE	
CONTACT Mr Ian Hoffman								PHONE 079 522 122					FAX 079 521 314	
													SPECIAL REQUIREMENTS/NOTES	
													COMMENTS	

Page 18 of 85

$\frac{1}{2}$ COMMENTS[illegible]File C

CLIENT Detco												PAGE <u>4</u> OF <u>8</u>	
ADDRESS P O Box 5505 Mackay Mail Exchange Mackay QLD 4700												POSTCODE 4700	
ADDRESS FOR REPORT As Above												POSTCODE	
CONTACT Mr Ian Hoffman								PHONE 079 522 122				FAX 079 521 314	
												SPECIAL REQUIREMENTS/NOTES	
												COMMENTS	

File C

No ofCOMMENTS[illegible]File C

FORM: SB-
0800
REV: 1
DATE:
19.03.96

SIMMONDS & BRISTOW PTY LTD CHAIN OF CUSTODY RECORD

PROJECT Contaminated Site
Ref No <u>Elvin St Paget Mackay</u>
Project Leader <u>personal info</u>
Client Manager
Report Due Date 21/02/97
☐ Results Only (Covering Letter) ☐ Routine Report (Monthly/Quarterly Contract)
☐ Short Interpretation (One Page Only) ☐ Detailed Interpretation (Hourly Charge)
☐ Other
☐ Sample Bottles As Per DOE Requirements ☒ Yes ☐ No
Sampler's Name <u>personal info</u> Signed: <u>Sch 4 - personal information</u>

No

CLIENT <u>Detco</u>	PAGE <u>6</u> OF <u>8</u>
ADDRESS <u>P O Box 5505 Mackay Mail Exchange Mackay QLD 4700</u>	POSTCODE <u>4700</u>
ADDRESS FOR REPORT <u>As Above</u>	POSTCODE
CONTACT <u>Mr Ian Hoffman</u> PHONE <u>079 522 122</u>	FAX <u>079 521 314</u>
SPECIAL REQUIREMENTS/NOTES	
COMMENTS	

SAMPLE DESCRIPTION	DATE COLLECTED	TIME TAKEN (24:00)
BH32 0--400	<u>30-31/1/97</u>	
BH32 500--800	<u>"</u>	
BH33 0--1000	<u>"</u>	
BH33 1400--2000	<u>"</u>	
BH34 0--600	<u>"</u>	
BH34 1000--1200	<u>"</u>	
BH35 0--500	<u>"</u>	
BH35 800--1000	<u>"</u>	
BH36 0--400	<u>"</u>	
BH36 400--600	<u>"</u>	
BH36 600--800	<u>"</u>	
BH36 800--1000	<u>"</u>	

RELINQUISHED BY <u>DJG</u>	DATE <u>03/02/97</u>	RECEIVED BY <u>personal info</u>	RELINQUISHED BY <u>Sch 4 - personal information</u>	DATE <u>4/2/97</u>	RECEIVED BY
	TIME <u>8:30</u>			TIME <u>7:15</u>	
RELINQUISHED BY	DATE	RECEIVED BY	RELINQUISHED BY	DATE	RECEIVED BY
	TIME			TIME	
RELINQUISHED BY	DATE	RECEIVED BY	RELINQUISHED BY	DATE	RECEIVED BY
	TIME			TIME	

FORM: SE-
0800
REV: 1
DATE:
19.03.96

SIMMONDS & BRISTOW PTY LTD CHAIN OF CUSTODY RECORD

PROJECT	Contaminated Site
Ref No	Elvin St Payet Mackay
Project Leader	personal info
Client Manager	
Report Due Date	21/02/97
☐ Results Only (Covering Letter)	☐ Routine Report (Monthly/Quarterly Contract)
☐ Short Interpretation (One Page Only)	☐ Detailed Interpretation (Hourly Charge)
☐ Other	
☐ Sample Bottles As Per DOE Requirements	☒ Yes ☐ No
Sampler's Name	personal info
Signed:	Sch 4 - personal information

CLIENT	Detco	PAGE	7	OF	8
ADDRESS	P O Box 5505 Mackay Mail Exchange Mackay QLD 4700	POSTCODE	4700		
ADDRESS FOR REPORT	As Above	POSTCODE			
CONTACT	Mr Ian Hoffman	PHONE	079 522 122	FAX	079 521 314
SPECIAL REQUIREMENTS/NOTES					
COMMENTS					

SAMPLE DESCRIPTION	DATE COLLECTED	TIME TAKEN (24:00)
BH37 0--600	30-31/1/97	
BH37 1500--2000	"	
BH38 0--0	"	
BH39 0--500	"	
BH39 800--1000	"	
BH40 0--0	"	
BH40 0--0	"	
BH41 0--400	"	
BH41 800--1000	"	
BH42 0--400	"	
BH42 800--1000	"	
BH42 1800--2000	"	

RELINQUISHED BY	DJG	DATE	03/02/97	RECEIVED BY	personal inform	RELINQUISHED BY	Sch 4 - personal information	DATE	4/2/97	RECEIVED BY	
		TIME	8:30					TIME	7:15		
RELINQUISHED BY		DATE		RECEIVED BY		RELINQUISHED BY		DATE		RECEIVED BY	
		TIME						TIME			
RELINQUISHED BY	24-059	DATE		RECEIVED BY		RELINQUISHED BY		DATE		RECEIVED BY	
		TIME						TIME			

SIMMONDS & BRISTOW PTY LTD CHAIN OF CUSTODY RECORD

PROJECT Contaminated Site	
Ref No	Elvin St Paget Mackay
Project Leader	personal info
Client Manager	
Report Due Date	21/02/97
☐ Results Only (Covering Letter)	☐ Routine Report (Monthly/Quarterly Contract)
☐ Short Interpretation (One Page Only)	☐ Detailed Interpretation (Hourly Charge)
☐ Other	
☐ Sample Bottles As Per DOE Requirements	☒ Yes ☐ No
Sampler's Name	Signed: Sch 4 - personal information

CLIENT Detco		PAGE 8 OF 8
ADDRESS P O Box 5505 Mackay Mail Exchange Mackay QLD 4700		POSTCODE 4700
ADDRESS FOR REPORT As Above		POSTCODE
CONTACT Mr Ian Hoffman	PHONE 079 522 122	FAX 079 521 314
		SPECIAL REQUIREMENTS/NOTES

SAMPLE DESCRIPTION	DATE COLLECTED	TIME TAKEN (24:00)	COMMENTS
BH43 0--600	Ex1. Bottom	oil water Sep	
BH43 800--1000	Ex2 900	4.5m	
BH44 0--400	Ex2 1500	4.5m	
BH44 800--1000	Ex3 Boulding Creek Pile		
BH45 0--400			
BH45 800--1000	All Pit 1. Samples		
BH46 0--400			
BH46 800--1000	All Pit 2. Samples		
BH47 0--550			
BH47 800--1000			

RELINQUISHED BY DJG	DATE 03/02/97	RECEIVED BY personal info	RELINQUISHED BY	DATE 4/2/97	RECEIVED BY
	TIME 8:30		Sch 4 - personal information	TIME 7:15	
RELINQUISHED BY	DATE	RECEIVED BY	RELINQUISHED BY	DATE	RECEIVED BY
	TIME			TIME	
RELINQUISHED BY	DATE	RECEIVED BY	RELINQUISHED BY	DATE	RECEIVED BY
24-059	TIME		File C	TIME	

SRAEB07847



ENVIRONMENTAL GUARANTEED TESTING

SAMPLE RECEIPT ADVICE

COMPANY: SIMMONDS & BRISTOW PTY LTD
ATTENTION: Sch 4 - personal information
DATE: Feb. 07, 1997
FROM: Sharon DAVIDSON, ENV BRISBANE

ALS has received samples pertaining to your reference: 34587

For future reference the batch number on this order is: EB07847

All samples and paper work were received in good order.
Samples at ambient temperature when received.
Please direct any turnaround/technical queries to Sch 4 - personal information
Any queries relating to sample condition/numbering/breakages should
be directed to Sch 4 - personal information

You can expect results to be reported as detailed below:

All Environmental Results

Feb. 17, 1997

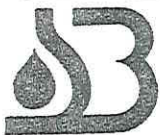
A L S - SERVICING YOUR NEEDS BETTER

AUSTRALIAN LABORATORY SERVICES P/L
A.C.N. 009 936 029

Brisbane
Phone (07) 3243 7222
Fax (07) 3243 7218

Sydney
Phone (02) 9841 9500
Fax (02) 9841 9530

Melbourne
Phone (03) 9853 5299
Fax (03) 9853 0730



Water &
Environmental
Analysts &
Consultants

30 Shottery Street,
Yeronga, Queensland,
Australia, 4104.
Telephone: (07) 3848 7699
Fax No.: (07) 3892 3345

Detco

Ref. No: 34587
Page No: 1 of 11

SOIL ANALYSIS

Sampled By: S&B

Regd No		Sample Description			Collected	Received	Tested			
125290	BH9	(0-400)			30/01/97	4/02/97	4/02-21/02			
125291	BH9	(800-1000)			30/01/97	4/02/97	4/02-21/02			
125296	BH11	(0-400)			30/01/97	4/02/97	4/02-21/02			
125297	BH11	(800-1000)			30/01/97	4/02/97	4/02-21/02			
125298	BH12	(0-200)			30/01/97	4/02/97	4/02-21/02			
125299	BH12	(800-1000)			30/01/97	4/02/97	4/02-21/02			
S&B Method	External Laboratories				125290	125291	125296	125297	125298	125299
*OS065.01	Petroleum Hydrocarbons	C6-C9	mg/kg	<2.	<2.	<2.	<2.	<2.	<2.	<2.
*OS065.02	Petroleum Hydrocarbons	C10-C14	mg/kg	<50.	<50.	<50.	<50.	<50.	<50.	<50.
*OS065.03	Petroleum Hydrocarbons	C15-C28	mg/kg	188.	<100.	345.	<100.	<100.	<100.	<100.
*OS065.04	Petroleum Hydrocarbons	C29-C36	mg/kg	200.	<100.	273.	<100.	<100.	<100.	<100.

* NATA Registration does not cover the performance of this service.

SIMMONDS & BRISTOW PTY LTD

PER [Redacted] sch 4 - personal information

March 4, 1997



Detco

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Environmental
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Consultants

30 Shottery Street,
Yeronga, Queensland,
Australia, 4104.
Telephone: (07) 3848 7699
Fax No.: (07) 3892 3345

Ref. No: 34587
Page No: 2 of 11

SOIL ANALYSIS

Sampled By: S&B

Regd No		Sample Description			Collected	Received	Tested			
125300	BH13	(0-400)			30/01/97	4/02/97	4/02-21/02			
125301	BH13	(600-800)			30/01/97	4/02/97	4/02-21/02			
125304	BH15	(0-400)			30/01/97	4/02/97	4/02-21/02			
125305	BH15	(800-1000)			30/01/97	4/02/97	4/02-21/02			
125308	BH17	(0-300)			30/01/97	4/02/97	4/02-21/02			
125309	BH17	(300-800)			30/01/97	4/02/97	4/02-21/02			
S&B Method	External Laboratories				125300	125301	125304	125305	125308	125309
*OS065.01	Petroleum Hydrocarbons	C6-C9	mg/kg	<2.	<2.	<2.	<2.	<2.	19.	19.
*OS065.02	Petroleum Hydrocarbons	C10-C14	mg/kg	<50.	<50.	<50.	<50.	<50.	877.	174.
*OS065.03	Petroleum Hydrocarbons	C15-C28	mg/kg	<100.	<100.	<100.	<100.	<100.	4010.	634.
*OS065.04	Petroleum Hydrocarbons	C29-C36	mg/kg	<100.	<100.	<100.	<100.	<100.	2360.	446.

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SIMMONDS & BRISTOW PTY LTD

PER ch 4 - personal information

March 4, 1997



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Ref. No: 34587
Page No: 3 of 11

SOIL ANALYSIS

Sampled By: S&B

Regd No		Sample Description			Collected	Received	Tested			
125310	BH17	(800-1000)			30/01/97	4/02/97	4/02-21/02			
125316	BH19	(300-600)			30/01/97	4/02/97	4/02-21/02			
125317	BH19	(800-1000)			30/01/97	4/02/97	4/02-21/02			
125318	BH19	(1800-2000)			30/01/97	4/02/97	4/02-21/02			
125322	BH21	(0-400)			30/01/97	4/02/97	4/02-21/02			
125323	BH21	(400-600)			30/01/97	4/02/97	4/02-21/02			
S&B Method		External Laboratories			125310	125316	125317	125318	125322	125323
*OS065.01	Petroleum Hydrocarbons C6-C9	mg/kg	4.	7.	3.	<2.	3.	<2.		
*OS065.02	Petroleum Hydrocarbons C10-C14	mg/kg	50.	205.	<50.	<50.	81.	<50.		
*OS065.03	Petroleum Hydrocarbons C15-C28	mg/kg	223.	2430.	147.	148.	976.	215.		
*OS065.04	Petroleum Hydrocarbons C29-C36	mg/kg	196.	1490.	150.	101.	545.	147.		

* NATA Registration does not cover the performance of this service.

SIMMONDS & BRISTOW PTY LTD

PER Sch 4 - personal information

March 4, 1997



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Environmental
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Consultants30 Shottery Street,
Yeronga, Queensland,
Australia, 4104.
Telephone: (07) 3848 7699
Fax No.: (07) 3892 3345Ref. No: 34587
Page No: 4 of 11

SOIL ANALYSIS

Sampled By: S&B

Regd No		Sample Description			Collected	Received	Tested			
125324	BH21	(800-1000)			30/01/97	4/02/97	4/02-21/02			
125327	BH24	(0-400)			30/01/97	4/02/97	4/02-21/02			
125328	BH24	(800-1000)			30/01/97	4/02/97	4/02-21/02			
125331	BH26	(0-300)			30/01/97	4/02/97	4/02-21/02			
125332	BH26	(800-1000)			30/01/97	4/02/97	4/02-21/02			
125333	BH27	(0-400)			30/01/97	4/02/97	4/02-21/02			
S&B Method		External Laboratories			125324	125327	125328	125331	125332	125333
*OS065.01	Petroleum Hydrocarbons	C6-C9	mg/kg	<2.	10.	<2.	<2.	<2.	<2.	<2.
*OS065.02	Petroleum Hydrocarbons	C10-C14	mg/kg	<50.	246.	<50.	<50.	<50.	<50.	<50.
*OS065.03	Petroleum Hydrocarbons	C15-C28	mg/kg	<100.	1600.	165.	<100.	<100.	<100.	<100.
*OS065.04	Petroleum Hydrocarbons	C29-C36	mg/kg	<100.	1430.	159.	<100.	<100.	<100.	<100.

* NATA Registration does not cover the performance of this service.

SIMMONDS & BRISTOW PTY LTD

PER [redacted] Sch 4 - personal information

March 4, 1997



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A.C.N 010 252 418
Water &
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Yeronga, Queensland,
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Telephone: (07) 3848 7699
Fax No.: (07) 3892 3345Ref. No: 34587
Page No: 5 of 11

SOIL ANALYSIS

Sampled By: S&B

Regd No		Sample Description			Collected	Received	Tested			
125334	BH27	(800-1000)			30/01/97	4/02/97	4/02-21/02			
125335	BH28	(0-400)			30/01/97	4/02/97	4/02-21/02			
125336	BH28	(800-1000)			30/01/97	4/02/97	4/02-21/02			
125337	BH29	(0-450)			30/01/97	4/02/97	4/02-21/02			
125338	BH29	(800-1000)			30/01/97	4/02/97	4/02-21/02			
125339	BH30	(0-400)			30/01/97	4/02/97	4/02-21/02			
S&B Method		External Laboratories			125334	125335	125336	125337	125338	125339
*OS065.01	Petroleum Hydrocarbons	C6-C9	mg/kg	<2.	<2.	<2.	<2.	<2.	<2.	<2.
*OS065.02	Petroleum Hydrocarbons	C10-C14	mg/kg	<50.	<50.	<50.	<50.	<50.	<50.	<50.
*OS065.03	Petroleum Hydrocarbons	C15-C28	mg/kg	<100.	213.	<100.	159.	<100.	<100.	<100.
*OS065.04	Petroleum Hydrocarbons	C29-C36	mg/kg	<100.	210.	<100.	162.	<100.	<100.	<100.

* NATA Registration does not cover the performance of this service.

SIMMONDS & BRISTOW PTY LTD

PER Sch 4 - personal informatio

March 4, 1997



Detco

A.C.N. 010 252 418
Water &
Environmental
Analysts &
Consultants30 Shottery Street,
Yeronga, Queensland,
Australia, 4104.
Telephone: (07) 3848 7699
Fax No.: (07) 3892 3345Ref. No: 34587
Page No: 6 of 11

SOIL ANALYSIS

Sampled By: S&B

Regd No		Sample Description				Collected	Received	Tested
125340	BH30	(600-1000)				30/01/97	4/02/97	4/02-21/02
125345	BH33	(0-1000)				30/01/97	4/02/97	4/02-21/02
125346	BH33	(1400-2000)				30/01/97	4/02/97	4/02-21/02
125347	BH34	(0-600)				30/01/97	4/02/97	4/02-21/02
125348	BH34	(1000-1200)				30/01/97	4/02/97	4/02-21/02
125349	BH35	(0-500)				30/01/97	4/02/97	4/02-21/02
S&B Method	External Laboratories		125340	125345	125346	125347	125348	125349
*OS065.01	Petroleum Hydrocarbons	C6-C9 mg/kg	<2.	<2.	<2.	<2.	<2.	<2.
*OS065.02	Petroleum Hydrocarbons	C10-C14mg/kg	<50.	<50.	<50.	<50.	<50.	<50.
*OS065.03	Petroleum Hydrocarbons	C15-C28mg/kg	<100.	168.	<100.	376.	<100.	<100.
*OS065.04	Petroleum Hydrocarbons	C29-C36mg/kg	<100.	179.	<100.	439.	<100.	<100.

* NATA Registration does not cover the performance of this service.

SIMMONDS & BRISTOW PTY LTD

PER [redacted] Sch 4 - personal information

March 4, 1997



Detco

A.C.N 010 252 418
Water &
Environmental
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Consultants30 Shottery Street,
Yeronga, Queensland,
Australia, 4104.
Telephone: (07) 3848 7699
Fax No.: (07) 3892 3345Ref. No: 34587
Page No: 7 of 11

SOIL ANALYSIS

Sampled By: S&B

Regd No		Sample Description			Collected	Received	Tested			
125350	BH35	(800-1000)			30/01/97	4/02/97	4/02-21/02			
125353	BH37	(0-600)			30/01/97	4/02/97	4/02-21/02			
125354	BH37	(1500-2000)			30/01/97	4/02/97	4/02-21/02			
125355	BH39	(0-500)			30/01/97	4/02/97	4/02-21/02			
125356	BH39	(800-1000)			30/01/97	4/02/97	4/02-21/02			
125361	BH42	(0-400)			30/01/97	4/02/97	4/02-21/02			
S&B Method		External Laboratories			125350	125353	125354	125355	125356	125361
*OS065.01	Petroleum Hydrocarbons	C6-C9	mg/kg	<2.	<2.	<2.	<2.	<2.	<2.	<2.
*OS065.02	Petroleum Hydrocarbons	C10-C14	mg/kg	<50.	<50.	<50.	<50.	<50.	<50.	<50.
*OS065.03	Petroleum Hydrocarbons	C15-C28	mg/kg	<100.	<100.	<100.	<100.	<100.	<100.	106.
*OS065.04	Petroleum Hydrocarbons	C29-C36	mg/kg	<100.	<100.	<100.	<100.	<100.	<100.	<100.

* NATA Registration does not cover the performance of this service.

SIMMONDS & BRISTOW PTY LTD

PER [redacted] ch 4 - personal information

March 4, 1997



Detco

A.C.N. 010 252 410
Water &
Environmental
Analysts &
Consultants30 Shottery Street,
Yeronga, Queensland,
Australia, 4104.
Telephone: (07) 3848 7699
Fax No.: (07) 3892 3345Ref. No: 34587
Page No: 8 of 11

SOIL ANALYSIS

Sampled By: S&B

Regd No		Sample Description				Collected	Received	Tested	
125362	BH42	(800-1000)				30/01/97	4/02/97	4/02-21/02	
125368	BH45	(0-400)				30/01/97	4/02/97	4/02-21/02	
125369	BH45	(800-1000)				30/01/97	4/02/97	4/02-21/02	
125370	BH46	(0-400)				30/01/97	4/02/97	4/02-21/02	
125371	BH46	(800-1000)				30/01/97	4/02/97	4/02-21/02	
125372	BH47	(800-1000)				30/01/97	4/02/97	4/02-21/02	
S&B Method		External Laboratories		125362	125368	125369	125370	125371	125372
*OS065.01	Petroleum Hydrocarbons	C6-C9	mg/kg	<2.	<2.	<2.	<2.	<2.	<2.
*OS065.02	Petroleum Hydrocarbons	C10-C14	mg/kg	99.	<50.	<50.	<50.	<50.	<50.
*OS065.03	Petroleum Hydrocarbons	C15-C28	mg/kg	479.	<100.	<100.	<100.	<100.	<100.
*OS065.04	Petroleum Hydrocarbons	C29-C36	mg/kg	214.	<100.	<100.	<100.	<100.	<100.

* NATA Registration does not cover the performance of this service.

SIMMONDS & BRISTOW PTY LTD

PER [redacted] ch 4 - personal information

March 4, 1997



Detco

A.C.N 010 252 418
Water &
Environmental
Analysts &
Consultants30 Shottery Street,
Yeronga, Queensland,
Australia, 4104.
Telephone: (07) 3848 7699
Fax No.: (07) 3892 3345Ref. No: 34587
Page No: 9 of 11

SOIL ANALYSIS

Sampled By: S&B

Regd No		Sample Description			Collected	Received	Tested			
125373	EX1. (800)BEDDING SAND				30/01/97	4/02/97	4/02-21/02			
125374	EX3. (300) 4.5m EAST WALL				30/01/97	4/02/97	4/02-21/02			
125375	EX3. (1500)4.5m EAST WALL				30/01/97	4/02/97	4/02-21/02			
125376	EX2. (1500) BEDDING SAND				30/01/97	4/02/97	4/02-21/02			
125377	PIT 1. NORTH WALL (2000)				30/01/97	4/02/97	4/02-21/02			
125378	PIT 1. EAST WALL (300)				30/01/97	4/02/97	4/02-21/02			
S&B Method		External Laboratories			125373	125374	125375	125376	125377	125378
*OS065.01	Petroleum Hydrocarbons C6-C9 mg/kg	156.	<2.	<2.	<2.	14.	145.			
*OS065.02	Petroleum Hydrocarbons C10-C14mg/kg	5490.	<50.	<50.	240.	458.	2880.			
*OS065.03	Petroleum Hydrocarbons C15-C28mg/kg	4300.	389.	<100.	1180.	1980.	8290.			
*OS065.04	Petroleum Hydrocarbons C29-C36mg/kg	4030.	251.	<100.	<100.	1270.	5470.			

* NATA Registration does not cover the performance of this service.

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March 4, 1997



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A.C.N. 010 252 410

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Australia, 4104.
Telephone: (07) 3848 7699
Fax No.: (07) 3892 3345Ref. No: 34587
Page No: 10 of 11

SOIL ANALYSIS

Sampled By: S&B

Regd No		Sample Description			Collected		Received		Tested	
125379	PIT 1. EAST WALL (2000)				30/01/97		4/02/97		4/02-21/02	
125380	PIT 1. SOUTH WALL (300)				30/01/97		4/02/97		4/02-21/02	
125381	PIT 1. SOUTH WALL (1500)				30/01/97		4/02/97		4/02-21/02	
125382	PIT 1. WEST WALL (200)				30/01/97		4/02/97		4/02-21/02	
125383	PIT 1. WEST WALL (2000)				30/01/97		4/02/97		4/02-21/02	
125384	PIT 1. BOTTOM (2500)				30/01/97		4/02/97		4/02-21/02	
S&B Method		External Laboratories			125379	125380	125381	125382	125383	125384
*OS065.01	Petroleum Hydrocarbons C6-C9 mg/kg	9.	110.	14.	105.	6.	8.			
*OS065.02	Petroleum Hydrocarbons C10-C14mg/kg	178.	3420.	240.	2490.	117.	177.			
*OS065.03	Petroleum Hydrocarbons C15-C28mg/kg	936.	7230.	643.	6000.	1060.	744.			
*OS065.04	Petroleum Hydrocarbons C29-C36mg/kg	545.	4970.	555.	4750.	574.	480.			

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Page No: 11 of 11

SOIL ANALYSIS

Sampled By: S&B

Regd No		Sample Description				Collected	Received	Tested			
125385	PIT 2. NORTH FACE (1000)					30/01/97	4/02/97	4/02-21/02			
125386	PIT 2. SOUTH FACE (1000)					30/01/97	4/02/97	4/02-21/02			
125387	PIT 2. EAST FACE (1000)					30/01/97	4/02/97	4/02-21/02			
125388	PIT 2. WEST FACE (1000)					30/01/97	4/02/97	4/02-21/02			
125389	PIT 2. BOTTOM					30/01/97	4/02/97	4/02-21/02			
125390	BH47 (0-550)					30/01/97	4/02/97	4/02-21/02			
S&B Method	External Laboratories					125385	125386	125387	125388	125389	125390
*OS065.01	Petroleum Hydrocarbons C6-C9	mg/kg	<2.	<2.	<2.	<2.	<2.	<2.	<2.	<2.	<2.
*OS065.02	Petroleum Hydrocarbons C10-C14	mg/kg	<50.	<50.	<50.	<50.	<50.	<50.	<50.	<50.	<50.
*OS065.03	Petroleum Hydrocarbons C15-C28	mg/kg	<100.	<100.	<100.	<100.	<100.	<100.	<100.	<100.	<100.
*OS065.04	Petroleum Hydrocarbons C29-C36	mg/kg	<100.	<100.	<100.	<100.	<100.	<100.	<100.	<100.	<100.

* NATA Registration does not cover the performance of this service.

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March 4, 1997

ANALYTICAL REPORT

PAGE 1 of 17

CONTACT: Sch 4 - personal information

CLIENT: SIMMONDS & BRISTOW PTY LTD

ADDRESS:

30 SHOTTERY STREET
YERONGA QLD 4104

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB7847
SUB BATCH: 0
No. OF SAMPLES: 66
DATE RECEIVED: 07/02/97
DATE COMPLETED: 20/02/97

ORDER No.: 34587

SAMPLE TYPE: SOIL

PROJECT:

Analysis description	Units	LOR	125290	125291	125296	125297
Moisture Content (dried @ 103°C)	%	0.1	4.4	18.9	8.9	21.5
TOTAL PETROLEUM HYDROCARBONS						
C6 - C9 Fraction	ng/kg	2	<2	<2	<2	<2
C10 - C14 Fraction	ng/kg	50	<50	<50	<50	<50
C15 - C28 Fraction	ng/kg	100	108	<100	345	<100
C29 - C38 Fraction	ng/kg	100	260	<100	273	<100
BTEX						
Benzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Toluene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
meta- & para-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
ortho-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2

COMMENTS:

Sch 4 - personal information

Samples analysed on an as received basis. Results reported on a dry weight basis.

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CONTACT: Sch 4 - personal information

CLIENT: SIMMONDS & BRISTOW PTY LTD

ADDRESS:

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LABORATORY: ENV BRISBANE

BATCH NUMBER: EB7847

SUB BATCH: 0

No. OF SAMPLES: 66

DATE RECEIVED: 07/02/97

DATE COMPLETED: 20/02/97

C DER No.: 34587

SAMPLE TYPE: SOIL

PROJECT:

Analysis description	Units	LDR	125288	125299	125300	125301
Moisture Content (dried @ 103°C)	%	0.1	5.5	14.9	8.1	20.7
TOTAL PETROLEUM HYDROCARBONS						
C6 - C9 Fraction	ng/kg	2	<2	<2	<2	<2
C10 - C14 Fraction	ng/kg	50	<50	<50	<50	<50
C15 - C28 Fraction	ng/kg	100	<100	<100	<100	<100
C29 - C36 Fraction	ng/kg	100	<100	<100	<100	<100
BTEX						
Benzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Toluene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
meta- & para-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
ortho-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2

COMMENTS:

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CONTACT: Sch 4 - personal information
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LABORATORY: ENV BRISBANE
BATCH NUMBER: EB7847
SUB BATCH: 0
No. OF SAMPLES: 66
DATE RECEIVED: 07/02/97
DATE COMPLETED: 20/02/97

ORDER No.: 34587

SAMPLE TYPE: SOIL

PROJECT:

Analysis description	Units	LOR	125304	125305	125308	125309
Moisture Content (dried @ 103°C)	%	0.1	5.4	21.4	5.9	19.7
TOTAL PETROLEUM HYDROCARBONS						
C6 - C9 Fraction	ng/kg	2	<2	<2	19	19
C10 - C14 Fraction	ng/kg	50	<50	<50	877	174
C15 - C28 Fraction	ng/kg	100	<100	<100	4010	634
C29 - C36 Fraction	ng/kg	100	<100	<100	2360	446
BTEX						
Benzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Toluene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
meta- & para-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
ortho-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2

COMMENTS:

Sch 4 - personal information

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CONTACT: Sch 4 - personal information
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LABORATORY: ENV BRISBANE
 BATCH NUMBER: EB7847
 SUB BATCH: 0
 No. OF SAMPLES: 66
 DATE RECEIVED: 07/02/97
 DATE COMPLETED: 20/02/97

ORDER No.: 34587 SAMPLE TYPE: SOIL PROJECT:

Analysis description	Units	LOR	125310	125316	125317	125318
Moisture Content (dried @ 103°C)	%	0.1	22.1	14.2	19.1	19.5
TOTAL PETROLEUM HYDROCARBONS						
C6 - C9 Fraction	ng/kg	2	4	7	3	<2
C10 - C14 Fraction	ng/kg	50	50	205	<50	<50
C15 - C28 Fraction	ng/kg	100	223	2430	147	140
C29 - C36 Fraction	ng/kg	100	190	1490	150	101
BTEX						
Benzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Toluene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
meta- & para-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
ortho-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2

COMMENTS:

Sch 4 - personal information

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CONTACT: Sch 4 - personal information

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LABORATORY: ENV BRISBANE
BATCH NUMBER: EB7847
SUB BATCH: 0
No. OF SAMPLES: 66
DATE RECEIVED: 07/02/97
DATE COMPLETED: 20/02/97

ORDER No.: 34587

SAMPLE TYPE: SOIL

PROJECT:

Analysis description	Units	LOD	125322	125323	125324	125327
Moisture Content (dried @ 103°C)	%	0.1	5.5	12.9	19.5	9.9
TOTAL PETROLEUM HYDROCARBONS						
C6 - C9 Fraction	ng/kg	2	3	<2	<2	10
C10 - C14 Fraction	ng/kg	50	81	<50	<50	246
C15 - C28 Fraction	ng/kg	100	976	215	<100	1600
C29 - C36 Fraction	ng/kg	100	545	147	<100	1430
BTEX						
Benzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Toluene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
meta- & para-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
ortho-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2

COMMENTS:

Sch 4 - personal information

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CONTACT: Sch 4 - personal information

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LABORATORY: ENV BRISBANE

BATCH NUMBER: EB7847

SUB BATCH: 0

No. OF SAMPLES: 66

DATE RECEIVED: 07/02/97

DATE COMPLETED: 20/02/97

ER No.: 34587

SAMPLE TYPE: SOIL

PROJECT:

Analysis description	Units	LOR	125328	125331	125332	125333
Moisture Content (dried @ 103°C)	%	0.1	16.9	6.7	24.2	4.3
IS TOTAL PETROLEUM HYDROCARBONS						
C6 - C9 Fraction	ng/kg	2	<2	<2	<2	<2
C10 - C14 Fraction	ng/kg	50	<50	<50	<50	<50
C15 - C28 Fraction	ng/kg	100	165	<100	<100	<100
C29 - C36 Fraction	ng/kg	100	159	<100	<100	<100
SS BTEX						
Benzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Toluene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
methyl- & para-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
ortho-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2

REMARKS:

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CONTACT: Sch 4 - personal information
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LABORATORY: ENV BRISBANE
 BATCH NUMBER: EB7847
 SUB BATCH: 0
 No. OF SAMPLES: 66
 DATE RECEIVED: 07/02/97
 DATE COMPLETED: 20/02/97

ORDER No.: 34587

SAMPLE TYPE: SOIL

PROJECT:

Analysis description	Units	LOR	125334	125335	125336	125337
Moisture Content (dried @ 103°C)	%	0.1	20.6	7.7	18.9	3.8
TOTAL PETROLEUM HYDROCARBONS						
C6 - C9 Fraction	ng/kg	2	<2	<2	<2	<2
C10 - C14 Fraction	ng/kg	50	<50	<50	<50	<50
C15 - C28 Fraction	ng/kg	100	<100	213	<100	159
C29 - C36 Fraction	ng/kg	100	<100	210	<100	162
BTEX						
Benzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Toluene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
meta- & para-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
ortho-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2

COMMENTS:

Sch 4 - personal information

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CONTACT: Sch 4 - personal information

CLIENT: SIMMONDS & BRISTOW PTY LTD

ADDRESS:

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LABORATORY: ENV BRISBANE
 BATCH NUMBER: EB7847
 - SUB BATCH: 0
 No. OF SAMPLES: 66
 DATE RECEIVED: 07/02/97
 DATE COMPLETED: 20/02/97

ORDER No.: 34587

SAMPLE TYPE: SOIL

PROJECT:

Analysis description	Units	LOR	125338	125339	125340	125345
Moisture Content (dried @ 103°C)	%	0.1	18.6	4.2	18.8	11.4
TOTAL PETROLEUM HYDROCARBONS						
C6 - C9 Fraction	ng/kg	2	<2	<2	<2	<2
C10 - C14 Fraction	ng/kg	50	<50	<50	<50	<50
C15 - C28 Fraction	ng/kg	100	<100	<100	<100	168
C29 - C36 Fraction	ng/kg	100	<100	<100	<100	179
BTEX						
Benzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Toluene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
meta- & para-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
ortho-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2

COMMENTS:

Sch 4 - personal information

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LABORATORY: ENV BRISBANE
 BATCH NUMBER: EB7847
 SUB BATCH: 0
 No. OF SAMPLES: 66
 DATE RECEIVED: 07/02/97
 DATE COMPLETED: 20/02/97

ORDER No.: 34587

SAMPLE TYPE: SOIL

PROJECT:

Analysis description	Units	LOR	125346	125347	125348	125349
Moisture Content (dried @ 103°C)	%	0.1	22.8	11.0	20.2	7.4
TOTAL PETROLEUM HYDROCARBONS						
C6 - C9 Fraction	ng/kg	2	<2	<2	<2	<2
C10 - C14 Fraction	ng/kg	50	<50	<50	<50	<50
C15 - C28 Fraction	ng/kg	100	<100	376	<100	<100
C29 - C36 Fraction	ng/kg	100	<100	438	<100	<100
RTEX						
Benzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Toluene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
meta- & para-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
ortho-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2

COMMENTS:

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ANALYTICAL REPORT

PAGE 10 of 17

CONTACT: Sch 4 - personal information

CLIENT: SIMMONDS & BRISTOW PTY LTD

ADDRESS:
30 SHOTTERY STREET
YERONGA QLD 4104

LABORATORY: ENV BRISBANE
 BATCH NUMBER: EB7847
 SUB BATCH: 0
 No. OF SAMPLES: 66
 DATE RECEIVED: 07/02/97
 DATE COMPLETED: 20/02/97

ER No.: 34587

SAMPLE TYPE: SOIL

PROJECT:

Analysis description	Units	LOR	125350	125353	125354	125355
Moisture Content (dried @ 103°C)	%	0.1	17.7	7.8	10.2	9.3
S TOTAL PETROLEUM HYDROCARBONS						
C6 - C9 Fraction	ng/kg	2	<2	<2	<2	<2
C10 - C14 Fraction	ng/kg	50	<50	<50	<50	<50
C15 - C28 Fraction	ng/kg	100	<100	<100	<100	<100
C29 - C36 Fraction	ng/kg	100	<100	<100	<100	<100
S BTEX						
Benzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Toluene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
meta- & para-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
ortho-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2

MENTS:

Sch 4 - personal information

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PAGE 11 of 17

CONTACT: Sch 4 - personal information
 CLIENT: SIMMONDS & BRISTOW PTY LTD
 ADDRESS: 30 SHOTTERY STREET
 YERONGA QLD 4104

LABORATORY: ENV BRISBANE
 BATCH NUMBER: EB7847
 SUB BATCH: 0
 No. OF SAMPLES: 66
 DATE RECEIVED: 07/02/97
 DATE COMPLETED: 20/02/97

ORDER No.: 34587

SAMPLE TYPE: SOIL

PROJECT:

Analysis description	Units	LOR	125356	125361	125362	125368
Moisture Content (dried @ 103°C)	%	0.1	19.4	9.6	20.6	5.2
TOTAL PETROLEUM HYDROCARBONS						
C6 - C9 Fraction	ng/kg	2	<2	<2	<2	<2
C10 - C14 Fraction	ng/kg	50	<50	<50	99	<50
C15 - C28 Fraction	ng/kg	100	<100	166	479	<100
C29 - C36 Fraction	ng/kg	100	<100	<100	214	<100
BTEX						
Benzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Toluene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
meta- & para-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
ortho-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2

COMMENTS:

Sch 4 - personal information

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ANALYTICAL REPORT

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CONTACT: Sch 4 - personal information

CLIENT: SIMMONDS & BRISTOW PTY LTD

ADDRESS:

30 SHOTTERY STREET
YERONGA QLD 4104

LABORATORY: ENV BRISBANE

BATCH NUMBER: EB7847

SUB BATCH: 0

No. OF SAMPLES: 66

DATE RECEIVED: 07/02/97

DATE COMPLETED: 20/02/97

ORDER No.: 34587

SAMPLE TYPE: SOIL

PROJECT:

Analysis description	Units	LDR	125373	125374	125375	125376
Moisture Content (dried @ 103°C)	%	0.1	4.7	3.5	17.6	12.2
TOTAL PETROLEUM HYDROCARBONS						
C6 - C9 Fraction	ng/kg	2	156	<2	<2	<2
C10 - C14 Fraction	ng/kg	50	5490	<50	<50	240
C15 - C28 Fraction	ng/kg	100	4300	380	<100	1180
C29 - C36 Fraction	ng/kg	100	4030	251	<100	<100
BTEX						
Benzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Toluene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
meta- & para-xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
ortho-xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2

COMMENTS:

Sch 4 - personal information

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PAGE 14 of 17

CONTACT: Sch 4 - personal information

CLIENT: SIMMONDS & BRISTOW PTY LTD

ADDRESS:

30 SHOTTERY STREET
YERONGA QLD 4104

LABORATORY: ENV BRISBANE

BATCH NUMBER: EB7847

SUB BATCH: 0

No. OF SAMPLES: 66

DATE RECEIVED: 07/02/97

DATE COMPLETED: 20/02/97

DER No.: 34587

SAMPLE TYPE: SOIL

PROJECT:

Analysis description	Units	LOR	125377	125378	125379	125380
Moisture Content (dried @ 103°C)	%	0.1	21.0	5.8	22.4	6.4
-SS TOTAL PETROLEUM HYDROCARBONS						
C6 - C9 Fraction	ng/kg	2	14	145	9	110
C10 - C14 Fraction	ng/kg	50	458	2880	178	3420
C15 - C28 Fraction	ng/kg	100	1080	8290	936	7230
C29 - C36 Fraction	ng/kg	100	1270	5470	545	4970
-P-SS BTEX						
Benzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Toluene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
meta- & para-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	1.9
ortho-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	1.3

REMARKS:

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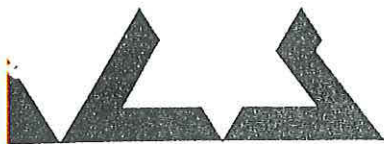
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CONTACT: Sch 4 - personal information

CLIENT: SIMMONDS & BRISTOW PTY LTD

ADDRESS:

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LABORATORY: ENV BRISBANE
BATCH NUMBER: EB7847
SUB BATCH: 0
No. OF SAMPLES: 66
DATE RECEIVED: 07/02/97
DATE COMPLETED: 20/02/97

ER No.: 34587

SAMPLE TYPE: SOIL

PROJECT:

Analysis description	Units	LOR	125381	125382	125383	125384
Moisture Content (dried @ 103°C)	%	0.1	22.5	8.4	24.9	16.9
S TOTAL PETROLEUM HYDROCARBONS						
C6 - C9 Fraction	ng/kg	2	14	105	6	8
C10 - C14 Fraction	ng/kg	50	240	2400	117	177
C15 - C28 Fraction	ng/kg	100	843	6060	1060	744
C29 - C36 Fraction	ng/kg	100	555	4750	574	480
S BTEX						
Benzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Toluene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
meta- & para-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
ortho-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2

MENTS:

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CONTACT: Sch 4 - personal information

CLIENT: SIMMONDS & BRISTOW PTY LTD

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LABORATORY: ENV BRISBANE
BATCH NUMBER: EB7847

SUB BATCH: 0

No. OF SAMPLES: 66

DATE RECEIVED: 07/02/97

DATE COMPLETED: 20/02/97

ORDER No.: 34587

SAMPLE TYPE: SOIL

PROJECT:

Analysis description	Units	LOR	125385	125386	125387	125388
Moisture Content (dried @ 103°C)	%	0.1	1.7	1.1	0.7	2.8
TOTAL PETROLEUM HYDROCARBONS						
C6 - C9 Fraction	ng/kg	2	<2	<2	<2	<2
C10 - C14 Fraction	ng/kg	50	<50	<50	<50	<50
C15 - C28 Fraction	ng/kg	100	<100	<100	<100	<100
C29 - C36 Fraction	ng/kg	100	<100	<100	<100	<100
BTEX						
Benzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Toluene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
meta- & para-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2
ortho-Xylene	ng/kg	0.2	<0.2	<0.2	<0.2	<0.2

REMARKS:

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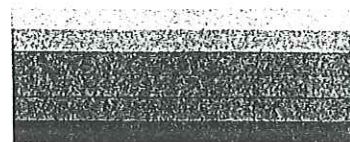
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SERVICES P/L
A.C.N. 009 838 035

ORGANICS QUALITY CONTROL REPORT

CH No. : EB7847

DATE BATCH RECEIVED : 07/02/97

CLIENT : Simmonds & Bristow

DATE BATCH COMPLETED : 19/02/97

Method Code	Test	Matrix	Method Reference		QC Lot Number	Date Samples Extracted	Date Samples Analysed
			Extraction	Analysis			
P-071	TPH-Volatile	Soil	USEPA 5030 A	USEPA 8260A	VOCS1426 VOCS1427 VOCS1428 VOCS1429	10/02/97	16/02/97
	-Semivolatile	Soil	Tumbler	USEPA 8015A	TPHT1367 TPHT1368 TPHT1369 TPHT1370	11/02/97	14/02/97
P-080	BTEX	Soil	USEPA 5030 A	USEPA 8260A	VOCS1426 VOCS1427 VOCS1428 VOCS1429	10/02/97	16/02/97

BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

MATRIX: Soil

ANALYST: 4 - personal information

QC LOT No.: TPHT1367

Semivolatile Components

COMPOUND	Level Of	Blank	Spike	Spike Results				Control Limits		
	Reporting	Conc.	Conc.	SCS	DCS	Av.	RPD	Recovery		RPD
	(LOR)			Conc.	Conc.	Rec.		%		
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
C11-C14	50	<LOR	110	133	126	118	5	89	116	20
C15-C28	100	<LOR	220	270	260	120	4	94	124	20
C29-C36	100	<LOR	N/A	N/A	N/A	N/A	N/A	60	110	20

COMMENTS:

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) * : Recovery or RPD falls outside the recommended control limit.

BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

MATRIX: Soil

ANALYST: 4 - personal informa

QC LOT No.: TPHT1368

Semivolatile Components

COMPOUND	Level Of	Blank	Spike	Spike Results				Control Limits		
	Reporting	Conc.	Conc.	SCS	DCS	Av.	RPD	Recovery		RPD
	(LOR)			Conc.	Conc.	Rec.		%		
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
C11-C14	50	<LOR	110	129	136	121	6	89	116	20
C15-C28	100	<LOR	220	261	274	122	5	94	124	20
C29-C36	100	<LOR	N/A	N/A	N/A	N/A	N/A	60	110	20

COMMENTS:

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) * : Recovery or RPD falls outside the recommended control limit.

BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

MATRIX: Soil

ANALYST 14 - personal informat

QC LOT No.: TPHT1369

Semivolatile Components

COMPOUND	Level Of	Blank	Spike	Spike Results				Control Limits		
	Reporting	Conc.	Conc.	SCS	DCS	Av.	RPD	Recovery		RPD
	(LOR)			Conc.	Conc.	Rec.		%		
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
C11-C14	50	<LOR	110	126	127	115	1	89	116	20
C15-C28	100	<LOR	220	262	271	121	3	94	124	20
C29-C36	100	<LOR	N/A	N/A	N/A	N/A	N/A	60	110	20

COMMENTS:

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) * : Recovery or RPD falls outside the recommended control limit.

BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

MATRIX: Soil

ANALYST: 4 - personal informat

QC LOT No.: TPHT1370

Semivolatile Components

COMPOUND	Level Of	Blank	Spike	Spike Results				Control Limits		
	Reporting	Conc.	Conc.	SCS	DCS	Av.	RPD	Recovery		RPD
	(LOR)			Conc.	Conc.	Rec.		%		
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
C11-C14	50	<LOR	110	136	127	120	7	89	116	20
C15-C28	100	<LOR	220	275	257	121	7	94	124	20
C29-C36	100	<LOR	N/A	N/A	N/A	N/A	N/A	60	110	20

COMMENTS:

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) * : Recovery or RPD falls outside the recommended control limit.

BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

QC Lot No. : VOCS1426

ANALYST: 4 - personal informa

MATRIX: Soil

Volatile Components

COMPOUND	Level Of Reporting (LOR)	Blank Conc	Spike Conc	SPIKE RESULTS				Control Limits		
				SCS Conc	DCS Conc	Av. Rec.	RPD	Recovery (%)	RPD	
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
C6-C9	2.0	<LOR	31	30.39	29.73	97	2	91	109	20
C10	2.0	<LOR	6	5.53	5.88	96	6	84	113	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/06)
- 2) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

QC Lot No. : VOCS1427

MATRIX: Soil

ANALYST: 4 - personal informa

Volatile Components

COMPOUND	Level Of	Blank	Spike	SPIKE RESULTS				Control Limits		
	Reporting	Conc	Conc	SCS	DCS	Av.	RPD	Recovery		
	(LOR)			Conc	Conc	Rec.		(%)	RPD	
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
C6-C9	2.0	<LOR	31	30.20	30.97	99	3	91	109	20
C10	2.0	<LOR	6	5.49	5.24	90	5	84	113	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/06)
- 2) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

QC Lot No. : VOCS1428

ANALYST: 4 - personal informa

MATRIX: Soil

Volatile Components

COMPOUND	Level Of Reporting (LOR)	Blank Conc	Spike Conc	SPIKE RESULTS				Control Limits		
				SCS Conc	DCS Conc	Av. Rec.	RPD	Recovery (%)		RPD
				mg/kg	mg/kg	%	%	Low	High	%
C6-C9	2.0	<LOR	31	30.97	32.16	102	4	91	109	20
C10	2.0	<LOR	6	5.24	5.38	89	3	84	113	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/06)
- 2) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

QC Lot No. : VOCS1429

MATRIX: Soil

ANALYST: [REDACTED] h 4 - personal informati

Volatile Components

COMPOUND	Level Of	Blank	Spike	SPIKE RESULTS				Control Limits		
	Reporting	Conc	Conc	SCS	DCS	Av.	RPD	Recovery		RPD
	(LOR)			Conc	Conc	Rec.		(%)		
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
C6-C9	2.0	<LOR	31	29.09	29.41	95	1	91	109	20
C10	2.0	<LOR	6	5.23	5.40	90	3	84	113	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/06)
- 2) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL

ALS EP-080 : BTEX ANALYSIS

QC Lot No. : VOCS1426
MATRIX: Soil

ANALYST h 4 - personal informat

COMPOUND	Blank Results	Spike Conc	QC SPIKE RESULTS				Control Limits		
			SCS Conc	DCS Conc	Av. Rec.	RPD	Recovery		RPD
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
Benzene	<LOR	1.0	0.97	1.02	99	5	89	107	20
Toluene	<LOR	1.0	1.01	1.04	103	4	88	109	20
Chlorobenzene	<LOR	1.0	1.00	0.99	100	1	93	106	20
Ethylbenzene	<LOR	1.0	1.02	1.00	101	2	89	110	20
m- & p-Xylene	<LOR	1.0	1.00	0.99	100	1	89	111	20
o-Xylene	<LOR	1.0	1.00	1.00	100	0	90	110	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/07)
- 2) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL

ALS EP-080 : BTEX ANALYSIS

QC Lot No. : VOCS1427

ANALYST: n 4 - personal informat

MATRIX: Soil

COMPOUND	Blank Results	Spike Conc	QC SPIKE RESULTS				Control Limits		
			SCS Conc	DCS Conc	Av. Rec.	RPD	Recovery		RPD
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
Benzene	<LOR	1.0	1.00	1.05	102	5	89	107	20
Toluene	<LOR	1.0	0.99	0.95	97	4	88	109	20
Chlorobenzene	<LOR	1.0	1.02	1.03	102	1	93	106	20
Ethylbenzene	<LOR	1.0	0.99	1.02	100	3	89	110	20
m- & p-Xylene	<LOR	1.0	1.00	1.06	103	5	89	111	20
o-Xylene	<LOR	1.0	1.01	1.06	103	5	90	110	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/07)
- 2) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL

ALS EP-080 : BTEX ANALYSIS

QC Lot No. : VOCS1428
MATRIX: Soil

ANALYST: 4 - personal informat

COMPOUND	Blank Results	Spike Conc	QC SPIKE RESULTS				Control Limits		
			SCS Conc	DCS Conc	Av. Rec.	RPD	Recovery		RPD
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
Benzene	<LOR	1.0	1.07	1.05	106	2	89	107	20
Toluene	<LOR	1.0	0.99	1.01	100	2	88	109	20
Chlorobenzene	<LOR	1.0	1.01	1.02	102	1	93	106	20
Ethylbenzene	<LOR	1.0	1.01	1.01	101	0	89	110	20
m- & p-Xylene	<LOR	1.0	1.02	1.02	102	0	89	111	20
o-Xylene	<LOR	1.0	1.05	1.00	103	5	90	110	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/07)
- 2) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL

ALS EP-080 : BTEX ANALYSIS

QC Lot No. : VOCS1429
MATRIX: Soil

ANALYST: h 4 - personal informati

COMPOUND	Blank Results	Spike Conc	QC SPIKE RESULTS				Control Limits		
			SCS Conc	DCS Conc	Av. Rec.	RPD	Recovery		RPD
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
Benzene	<LOR	1.0	0.92	0.96	94	4	89	107	20
Toluene	<LOR	1.0	1.02	1.04	103	2	88	109	20
Chlorobenzene	<LOR	1.0	1.00	1.00	100	0	93	106	20
Ethylbenzene	<LOR	1.0	0.96	0.95	95	2	89	110	20
m- & p-Xylene	<LOR	1.0	0.95	0.97	96	2	89	111	20
o-Xylene	<LOR	1.0	0.96	0.93	95	3	90	110	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/07)
- 2) * : Recovery or RPD falls outside of the recommended control limits.

Sch 4 - personal information

Stammers & Baistow.



Dear Sch 4 - personal information

RESOURCES DATA

I refer to your request on 16/3/88 for data in relation to ground water near
 Elvin St., Mackay.....

PLEASE NOTE THAT THE DATA IS SUPPLIED ON THE FOLLOWING CONDITIONS:

1. The Department of Natural Resources ("the Corporation") undertakes to provide data that is as accurate, up-to-date and reliable as prevailing conditions at the time of collection and current measuring methods permit.
2. The Corporation shall not be responsible for any inaccuracies, misinterpretation or misuse of the data under any circumstances, and whether arising out of negligence on the part of the Corporation or not.
3. The Recipient shall indemnify and save harmless the Corporation from and against all actions, claims, suits, losses, damages and expenses arising from or relating to -
 - (1) failure by the Recipient to observe, fulfil and comply with the requirements of this Agreement; and/or
 - (2) the Data.
4.
 - a) The Recipient acknowledges the Corporation's ownership of the intellectual property rights in the data and agrees that such rights shall not pass to the Recipient at any time.
 - b) The Recipient agrees not to:
 - (i) reproduce the data in a material form; or
 - (ii) publish the data; or
 - (iii) make the data available in any form whatsoever to any other person or organisation for any purpose whatsoever,
 in whole or in part without the prior written consent of the Corporation or its representative PROVIDED ALWAYS that the Recipient shall be entitled to reproduce, for the Recipient's exclusive use, such number of copies of the data as the Recipient reasonably requires for the Recipient's own purposes.
5. The Recipient shall be entitled to alter, adapt, selectively use or modify any of the data in whole or in part, for the Recipient's own purposes.
6. If any errors or significant omissions are discovered in the data by the Recipient, the Recipient shall forthwith notify such errors or omissions to the Corporation.

IF YOU DO NOT ACCEPT THE ABOVE CONDITIONS PLEASE DO NOT USE THE DATA AND RETURN SAME FORTHWITH. YOU WILL NOT BE CHARGED FOR THE DATA IN SUCH CIRCUMSTANCES. YOUR USE OF THE DATA CONSTITUTES ACCEPTANCE OF THE ABOVE CONDITIONS OF SALE.

AN INVOICE IS ENCLOSED HEREWITH/WILL FOLLOW. (delete whichever applicable).

Yours faithfully

Sch 4 - personal information

for EXECUTIVE DIRECTOR, RESOURCE MANAGEMENT



DEPARTMENT OF NATURAL RESOURCES

QUEENSLAND GOVERNMENT

QUEENSLAND
IRRIGATION AND WATER SUPPLY COMMISSION

REPORT

ON

GROUNDWATER RESOURCES

PIONEER VALLEY

VOLUME I (TEXT)

FOR COMMISSION USE ONLY
DECEMBER 1978

2.16

TABLE 2.4 (Contd.)

Bore No.	Transmissivity m ³ /day/m	Hydraulic Conductivity m /day	Water Bed Material	Water Bed Thickness (m)
46199	465	65	Medium Sand	7.1
46196	890	81	Sand and Gravel	11.0
46213	1 600	186	Medium to Coarse Sand and Gravel	8.6
46241	782	40	Clay, Fine Sand, Small Gravel	4.6
46251	350	88	Sand and Gravel	4.0
46369	1 600	250	Cemented Sand and Gravel	6.4

(2.8) Alluvium Sub-Area 5

This sub-area covers the zone from near Marian on the Pioneer River, east to Mackay and south along the coast to Sarina. The area has been divided into 5 separate hydrologic sub-areas and these are:-

- 5a Pioneer River-Baker's Creek
- 5b Baker's Creek-Sandy Creek
- 5c Sandy Creek-Alligator Creek

Details of each are dealt with below. Figures 2.28 - 2.30 show the general features of these storages.

(2.8.1) Alluvium Sub-Area 5(a)Pioneer River-Baker's Creek:(a) Geology

This sub-area forms a long narrow alluvial lobe running eastward from Marian adjacent to the Pioneer River to Mackay. The storage covers some 33 800 ha, ranges up to 30 m in thickness and is the most developed in the Pioneer Valley.

2.17

The following bore lines demonstrate the general sub-surface geology of the storage:

- (1) Wollingford Line (Figure 2.31)
- (2) Pleystowe Line (Figure 2.32)
- (3) Walkerston Line (Figure 2.33)
- (4) Te Kowai Line (Figure 2.34)
- (5) Racecourse Line (Figure 2.35)
- (6) Northern part of the Mackay-Sarina Line (Figure 2.36)

At the western end of the storage the alluvium forms a deep U-shaped channel incised into the igneous bedrock. The section here is clayey, with some groundwater supplies being obtained from the fractured rocks on the southern flanks of the alluvium. The natural surface proper suggests a levee bank development with a more permeable gravel section developed nearer the present stream course.

In the Pleystowe area, the unconsolidated sediment section is relatively simple with a claybound gravel grading upwards through sandy clays to clay. This cycle is repeated twice in most bores and again indicates the fining upwards pattern.

Near Walkerston, the old Pioneer River channel becomes more pronounced south of the present stream. The sedimentary section becomes finer grained overall, with less gravel development. The interbedding of sands and clays apparently increases with increased repetitions of the decreasing grain sized cycle up the section.

As the storage widens further east, the marked basement incision of the present Pioneer-Baker's Creek System becomes less pronounced after the Te Kowai section, where the bedrock becomes a more planar feature dipping eastward. Generally, the sedimentary section is relatively fine grained with more sand and gravel development apparent in the Baker's Creek area.

2.18

Figure 2.37 shows the bedrock contours for the storage. The contour pattern suggests an easterly dipping incised valley with the main axis lying slightly south of the present river course in the vicinity of Walkerston. A further basement incision is apparent north of the mouth of Baker's Creek. This may also represent a past course of the Pioneer River.

The sedimentary pattern at the outflow portion of the Pioneer River-Baker's Creek storage is shown in the northern part of the Coastal Outflow section. (Figure 2.39).

(b) Water Level Pattern

(i) Bore Lines:

Examination of Figures 2.31 - 2.36 inclusive show that the water level profiles suggest groundwater flow towards the major streams - the Pioneer River and Baker's Creek. The divide between the two flow systems runs approximately along the road between Walkerston and Mackay.

(ii) Area Distribution:

Figure 2.38 is a representative water level contour plan. Generally, the contours show a down-valley flow pattern with leakage to the Pioneer River and Baker's Creek. Both streams are acting as sinks for the groundwater flow. A noticeable feature is the groundwater divide running east from Walkerston, approximately along the main Mackay-Eungella Road. Groundwater north of this feature flows toward the Pioneer River while groundwater to the south, flows towards Baker's Creek.

Groundwater underflow moves due east below the present coastline.

(c) Transmissivity

A summary of the transmissivity data in the storage is given below:

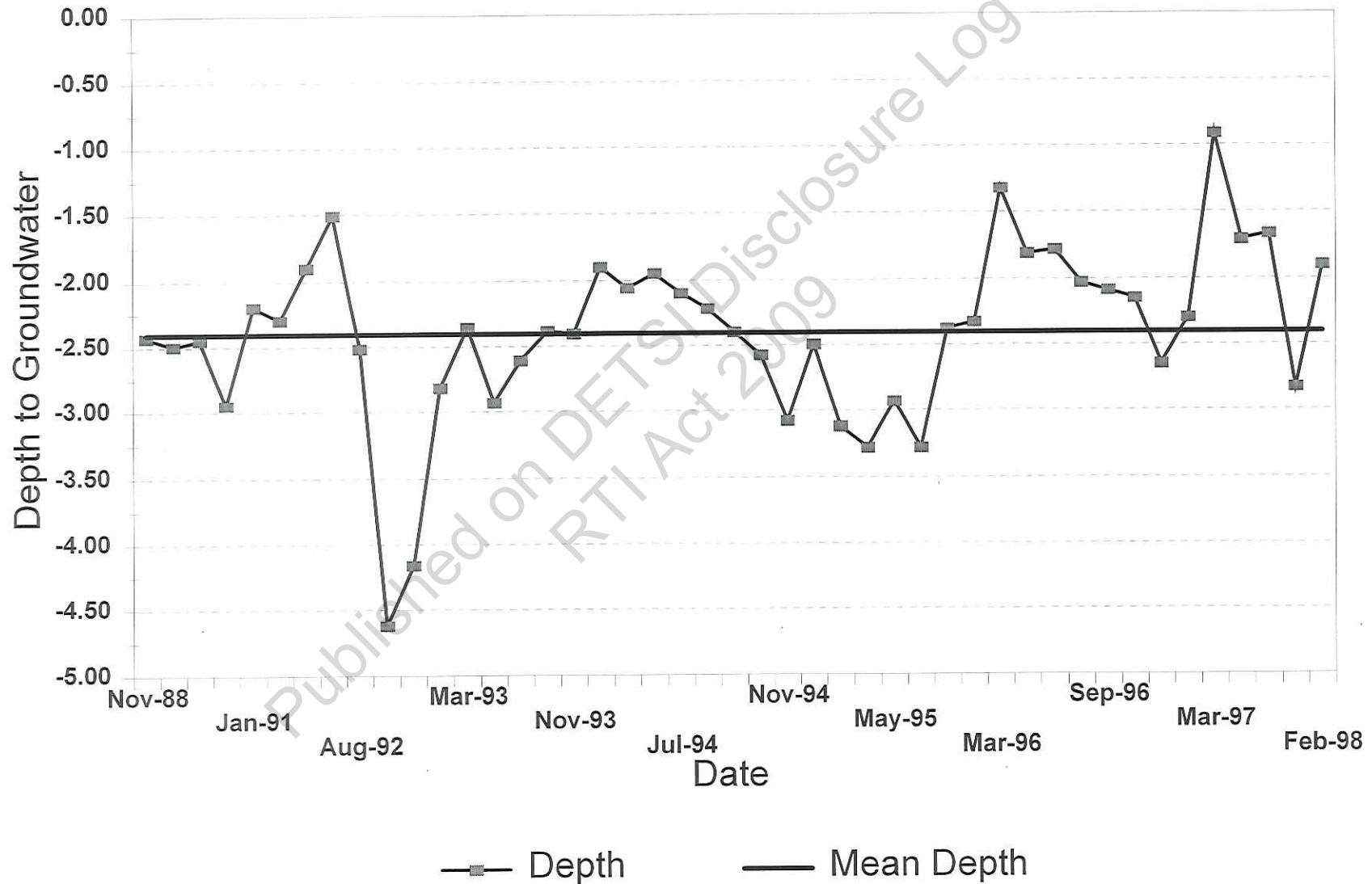
TABLE 2.5

Bore No.	Transmissivity $\text{m}^3/\text{day}/\text{m}$	Hydraulic Conductivity m/d	Water Bed Material	Water Bed Thickness (m)
24671	1 070	126	Coarse Gravel	8.5
30946	100	37	Medium to coarse Sand and Gravel	2.7
33745	1 000	164	Sand and Gravel	6.1



Groundwater Levels Paget Mackay

Water Resources Bore No 12600077



GROUNDWATER DATABASE
DATE: 16/03/98
REGISTERED NUMBER ***

12600077*

WATER RESOURCES

PAGE: 1

BORE CARD REPORT - COMPLETE RECORD

REGISTRATION DETAILS

DISTRICT OFFICE	DRAINAGE SUB-BASIN . 1260	LATITUDE .. 21-10-53	MAP-SCALE..
D/O FILE NUMBER MKY721	SUB-AREA PBS	LONGITUDE . 149-10-16	MAP-SERIES.M
R/O FILE NUMBER	SHIRE MACKAY CITY (956)	EASTING ... 725417	MAP-NOK2-53400
H/O FILE NUMBER	LOT	NORTHING .. 7656198	MAP NAME :
	RP	ZONE 55	PROGRESS SECTION..
	DESCRIPTION	ACCURACY ..	PRES EQUIPMENT..NE
		CHECKED ...	

FACILITY TYPE SF	PARISH	HOWARD (2381)
STATUS EX	COUNTY	CARLISLE
ROLE	PROPERTY NAME	
	FIELD LOCATION	

DATE DRILLED 1- 1-1968

DRILLERS NAME

COMPANY

METHOD OF CONSTRUCTION.... CABLE TOOL/ PERCUSSION HAMMER

ORIGINAL BORE NO. C45
BORE LINE.....

POLYGON.....
RN OF BORE REPLACED....

CONFIDENTIAL

LICENSE DETAILS

NO RECORD

CASING DETAILS

PIPE	DATE	RECORD NUMBER	MATERIAL DESCRIPTION	INT SIZE (MMS)	SIZE DESC	OUTSIDE DIA (MMS)	TOP (M)	BOTTOM (M)
A	1- 1-1968	1	PLAS	3.048	WT	50	0.00	16.50
A	1- 1-1968	2	PERF	2.032	AP	50	15.50	16.50

STRATA LOG DETAILS

RECORD NUMBER	STRATA TOP (M)	STRATA BOT (M)	STRATA DESCRIPTION
1	0.00	0.80	TOP SOIL
3	0.80	1.50	SANDY CLAY
5	1.50	4.60	BROWN GRITTY CLAY
7	4.60	8.50	FINE SANDY CLAY
9	8.50	10.60	BROWN GRITTY CLAY
11	10.60	10.90	FINE SANDY CLAY
13	10.90	14.00	BROWN GRITTY CLAY
15	14.00	15.20	BROWN SANDY CLAY
17	15.20	15.80	FINE TO COARSE SAND
19	15.80	16.90	BROWN SANDY CLAY
21	18.90	28.60	WEATHERED GRANITE

STRATIGRAPHY DETAILS

SOURCE	RECORD NUMBER	STRATA TOP (m)	STRATA BOT (m)	STRATA DESCRIPTION
WR	1	0.00	16.50	ALLUV BAKERS CK

GROUNDWATER DATABASE
DATE: 16/03/98
REGISTERED NUMBER ***

12500077*

WATER RESOURCES

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BORE CARD REPORT - COMPLETE RECORD

AQUIFER DETAILS

RECORD NUMBER	TOP BED (M)	BOTTOM BED (M)	BED LITHOLOGY	DATE	SWL (m)	FLOW QUALITY	YIELD (l/s)	CTR CONDIT	FORMATION NAME
1	15.00	15.00	SAND	-	-	-	-	-	UC ALLUV BAKERS CK

PUMP TEST DETAILS PART 1

NO RECORD

ELEVATION DETAILS

PIPE	DATE	ELEVATION	N/R	DATUM	PRECISION	SOURCE
A	8- 5-1968	4.82	R	AHD	SVY	
X	8- 5-1968	4.41	N	AHD	SVY	

WATER ANALYSIS PART 1

PIPE	DATE	RD	ANALYST	QAN	DEPTH (m)	RMK SRC	COND. (uS/cm)	PH	TOTAL DIS. TOTAL DIS.		HARD.	ALK	FIG. OF MERIT	SAR	RAH
									IONS (mg/L)	SOLIDS (mg/L)					
A 25- 8-1993	1	GCL	153588	16.00	AIR GB	16300	8.3	49	11198.23	10848.82	940	677	0.1	52.8	0.00
A 25- 8-1992	1	GCL	140245		AIR GB	15436	8.6	55	9780.33	9488.63	781	619	0.1	51.7	0.00
A 23- 3-1983	1	GCL	101309		PUM GB	8300	6.8	39	4463.35	4271.07	356	374	0.1	34.6	0.35
A 21- 4-1982	1	GCL	093730	17.00	GB	9900	7.2	54	6226.00	1678.24	450	650	0.1	40.0	4.00
A 9-12-1981	1	GCL	092302		AIR GB	9310	7.5	52	5957.50	5296.04	432	490	0.1	41.0	0.96
A 19- 2-1981	1	GCL	090054	21.00	AIR GB	3600	6.7	11	2059.10	2058.92	196	18	0.2	18.2	
A 9-10-1980	1	GCL	087418		AIR GB	15300	7.6	45	9849.40	9524.87	916	596	0.1	47.0	
A 20- 3-1980	1	GCL	085858		GB	13000	7.2	41	8993.70	8619.42	849	670	0.1	44.6	
A 22- 2-1979	1	GCL	080556		GB	12500	7.6	29	7737.20	7396.67	701	596	0.1	41.4	
A 25-10-1978	1	GCL	079402		GB	14500	8.1	40	8803.10	8452.73	788	630	0.1	43.7	
A 20- 9-1978	1	GCL	076911		GB	15000	7.4	5	9835.50	9493.33	966	560	0.1	44.9	
A 22- 8-1978	1	GCL	078289		GB	14300	8.1	37	9456.60	9152.53	1066	550	0.2	42.0	
A 20- 2-1978	1	GCL	076118		GB	3700	7.2	49	2149.80	1976.16	71	360		35.4	5.77
A 1-11-1976	1	GCL	70450		GB	2350	8.0		1597.70	1363.37	44	378		29.6	6.69
A 1- 9-1976	1	GCL	70224		GB	2850	8.2		1746.90	1511.05	36	390		40.1	7.09
A 1- 8-1976	1	GCL	69590		GB	2750	8.1		1744.20	1506.32	70	392		28.8	6.42
A 0- 0- 0	1	GCL	084353		GB	8700	6.6	33	5282.20	5082.91	409	375	0.1	35.9	

WATER ANALYSIS PART 2

(All units are Milligrams/Litre)

P	DATE	RD	Na	K	Ca	Mg	Fe	Mn	HCO3	(All units are Milligrams/Litre)			F	NO3	SO4	Zn	Al	B	Cu
										CO3	Cl								
A 25- 8-1993	1		3719.3	89.0	190.4	63.0	0.00	0.00	782.8	21.4	5552.0	0.83	26.0	753.5					
A 25- 8-1992	1		3321.8	92.5	159.7	49.9	0.00	0.00	682.1	35.8	4709.0	0.47	5.0	724.0					
A 23- 3-1983	1		1500.0	78.0	55.0	52.0	0.99	0.66	455.0	0.3	2200.0	0.40	6.0	115.0					
A 21- 4-1982	1		1950.0	70.0	85.0	40.0			790.0	1.3	3050.0	0.50	40.0	200.0					
A 9-12-1981	1		1980.0	55.0	80.0	45.0			597.0	0.0	2930.0	0.50	70.0	200.0					
A 19- 3-1981	1		565.0	61.0	35.0	21.0			22.0	0.0	830.0	0.10	380.0	125.0					
A 9-10-1980	1		3270.0	95.0	180.0	70.0			727.0	0.0	4900.0	0.40	47.0	560.0					
A 20- 3-1980	1		2990.0	80.0	170.0	60.0			817.0	0.0	4430.0	0.30	6.4	440.0					
A 22- 2-1979	1		2520.0	70.0	140.0	50.0			727.0	0.0	4200.0	0.20	28.0	2.0					
A 25-10-1978	1		2820.0	75.0	155.0	60.0			768.0		4390.0	0.10	5.0	530.0					
A 20- 9-1978	1		3210.0	100.0	190.0	90.0			603.0	0.0	4960.0	0.50	12.0	600.0					

GROUNDWATER DATABASE

DATE: 16/03/98

REGISTERED NUMBER *** 12600077*
 A 22- 8-1978 1 3150.0 100.0 180.0 130.0
 A 20- 2-1978 1 686.0 30.0 10.0 12.0
 A 1-11-1976 1 450.0 24.0 7.0 6.0
 A 1- 9-1976 1 550.0 24.0 5.0 6.0
 A 1- 8-1976 1 555.0 19.0 8.0 15.0
 A 0- 0- 0 1 1670.0 70.0 75.0 40.0

WATER RESOURCES

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BORE CARD REPORT - COMPLETE RECORD
 671.0 0.0 4900.0 0.30 5.3 320.0
 438.0 0.4 815.0 0.40 100.0 58.0
 461.0 0.0 565.0 0.70 16.0 68.0
 464.0 5.8 592.0 0.80 9.3 90.0
 468.0 4.7 595.0 0.50 11.0 68.0
 457.0 0.0 2400.0 0.20 345.0 225.0

WATER LEVEL DETAILS

PIPE	DATE	MEASUREMENT (M)	N/R	RMK
A	4- 2-1998	-1.90	R	
A	29-10-1997	-2.83	R	
A	5- 6-1997	-1.67	R	
A	12- 5-1997	-1.71	R	
A	4- 3-1997	-0.91	R	
A	24- 1-1997	-2.30	R	
A	21-11-1996	-2.65	R	
A	1-10-1996	-2.15	R	
A	2- 9-1996	-2.09	R	
A	6- 8-1996	-2.03	R	
A	12- 6-1996	-1.78	R	
A	24- 4-1996	-1.81	R	
A	7- 3-1996	-1.32	R	
A	7-12-1995	-2.33	R	
A	18- 9-1995	-2.38	R	
A	21- 6-1995	-3.28	R	
A	11- 5-1995	-2.93	R	
A	19- 4-1995	-3.28	R	
A	29- 3-1995	-3.12	R	
A	16-12-1994	-2.50	R	
A	29-11-1994	-3.08	R	
A	3-10-1994	-2.58	R	
A	15- 9-1994	-2.40	R	
A	17- 8-1994	-2.22	R	
A	25- 7-1994	-2.10	R	
A	17- 6-1994	-1.95	R	
A	21- 4-1994	-2.06	R	
A	17- 3-1994	-1.90	R	
A	3-11-1993	-2.41	R	
A	1-10-1993	-2.39	R	
A	25- 8-1993	-2.61	R	
A	22- 4-1993	-2.93	R	
A	9- 3-1993	-2.36	R	
A	12- 2-1993	-2.82	R	
A	8-12-1992	-4.16	R	
A	26-10-1992	-4.62	R	
A	25- 8-1992	-2.52	R	
A	8- 4-1992	-1.51	R	
A	5- 9-1991	-1.90	R	
A	5- 5-1991	-2.30	R	
A	10- 1-1991	-2.20	R	
A	8- 9-1990	-2.95	R	
A	16- 3-1990	-2.45	R	
A	3- 2-1990	-2.50	R	
A	17-11-1988	-2.43	R	

GROUNDWATER DATABASE
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WATER RESOURCES

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	BORE CARD REPORT -	COMPLETE RECORD
A 29- 2-1988	-2.50	R
A 20-11-1987	-2.90	R
A 17- 7-1987	-2.46	R
A 20- 3-1987	-5.10	R
A 21-11-1986	-2.45	R
A 12- 9-1986	-2.50	R
A 23- 5-1986	-2.10	R
A 28- 2-1986	-2.30	R
A 13- 3-1985	-2.45	R
A 19-10-1984	-2.70	R
A 13- 7-1984	-2.62	R
A 4- 8-1983	-2.22	R
A 23- 3-1983	-2.60	R
A 28-10-1982	-4.68	R
A 17- 8-1982	-2.21	R
A 19- 5-1982	-1.86	R
A 21- 4-1982	-2.49	R
A 18- 2-1982	-4.25	R
A 9-12-1981	-2.35	R
A 13-11-1981	-4.23	R
A 25- 8-1981	-2.26	R
A 20- 3-1981	-1.80	R
A 19- 3-1981	-1.76	R
A 13-11-1980	-3.85	R
A 9-10-1980	-3.99	R
A 28- 7-1980	-1.90	R
A 30- 5-1980	-1.83	R
A 20- 3-1980	-1.95	R
A 15- 2-1980	-2.67	R
A 1-11-1979	-3.47	R
A 27- 9-1979	-2.78	R
A 25- 6-1979	-1.75	R
A 22- 2-1979	-1.40	R
A 25-10-1978	-2.34	R
A 16-10-1978	-2.14	R
A 8- 8-1978	-1.89	R
A 1- 6-1978	-1.87	R
A 22- 2-1978	-2.03	R
A 23-11-1977	-3.15	R
A 5- 8-1977	-2.36	R
A 24- 5-1977	-1.45	R
A 1- 4-1977	-1.73	R
A 11- 1-1977	-1.86	R
A 22-12-1976	-2.65	R
A 14-12-1976	-3.90	R
A 2-11-1976	-1.99	R
A 29-10-1976	-2.07	R
A 30- 9-1976	-2.44	R
A 25- 8-1976	-2.02	R
A 25- 6-1976	-1.93	R
A 3- 3-1976	-1.48	R
A 21-11-1975	-2.55	R
A 22- 9-1975	-2.50	R
A 30- 6-1975	-1.85	R
A 4- 4-1975	-1.42	R
A 5-11-1974	-3.12	R

011
DPI/DNR MACKAY
13/03 '98 14:46 FAX 61 79 514509

GROUNDWATER DATABASE
DATE: 16/03/98
REGISTERED NUMBER ***

12600077*

WATER RESOURCES

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BORE CARD REPORT -			COMPLETE RECORD
A	5- 8-1974	-2.48	R
A	26- 3-1974	-1.28	R
A	11- 7-1973	-1.98	R
A	12- 3-1973	-1.98	R
A	18- 1-1973	-3.51	R
A	15-12-1972	-3.49	R
A	11-10-1972	-2.88	R
A	29- 6-1972	-2.03	R
A	23- 3-1972	-1.52	R
A	30-11-1971	-2.33	R
A	4- 8-1971	-2.03	R
A	13- 5-1971	-1.83	R
A	8- 3-1971	-2.44	R
A	24-11-1970	-2.80	R
A	1-10-1970	-2.55	R
A	7- 7-1970	-2.16	R
A	1- 6-1970	-2.33	R
A	7- 4-1970	-2.06	R
A	2- 3-1970	-1.83	R
A	27- 1-1970	-2.13	R
A	20-11-1969	-2.46	R
A	29- 9-1969	-2.29	R
A	19- 8-1969	-2.29	R
A	18- 7-1969	-2.11	R
A	17- 6-1969	-2.16	R
A	26- 5-1969	-2.21	R
A	21- 4-1969	-2.21	R
A	14- 3-1969	-2.10	R
A	31- 1-1969	-2.34	R
A	11-10-1968	-2.26	R
A	11- 9-1968	-2.06	R
A	14- 8-1968	-1.96	R
A	2- 7-1968	-1.93	R
A	3- 6-1968	-1.75	R
A	8- 5-1968	-1.91	R

WIRE LINE LOG DETAILS

NO RECORD

FIELD MEASUREMENTS

PIPE	DATE	DEPTH (m)	COND (uS/cm)	pH	TEMP (C)	NO3 (mg/l)	DO (mg/l)	Eh (mV)	REM SRC
A	2-10-1997		6340						PUM
A	18- 6-1996		7840						AIR
A	9- 1-1995		1370						AIR
A	25- 3-1993		16360						AIR
A	25- 8-1992		13340						AIR
A	20-11-1987		6000						PUM
A	20- 3-1987		7500						PUM
A	21-11-1986		7800						PUM
A	23- 5-1986		5900						
A	23- 3-1983		9000						PUM
A	19- 3-1981		3600						

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GROUNDWATER DATABASE
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12600077*

A 9-10-1980
A 30- 5-1980
A 20- 3-1980
A 26- 9-1979
A 22- 2-1979
A 22- 2-1978
A 24- 5-1977
A 1-11-1976
A 1- 9-1976
A 1- 8-1976
A 11-10-1972
A 4- 8-1971
A 13- 5-1971
A 24-11-1970
A 7- 7-1970

WATER RESOURCES

BORE CARD REPORT - COMPLETE RECORD

15300
13500
13000
8700
12000
14500
4900
2450
2850
2650
2400
8700
6900
8600
6750

PUM
PUM
PUM

SPECIAL WATER ANALYSIS

NO RECORD

VALIDATION LOG part 1

PIPE	REGDET	LICDET	CASING	STRLOG	AQUIFER	PUMTES	ELVDET	WLVDET	FIELDQ
A	24/ 3/93	/ /	24/ 3/93	24/ 3/93	24/ 3/93	/ /	6/ 4/93	24/ 3/93	7/ 4/93

VALIDATION LOG part 2

PIPE	WATANL	SPANAL	STRTIG	WIRLOG	METUSE	MULCND	BRCOND	FPREAD	GNOTES
A	29/ 3/93	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /

GENERAL NOTES

NO RECORD

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12600355*

WATER RESOURCES

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BORE CARD REPORT - COMPLETE RECORD

REGISTRATION DETAILS

DRAINAGE SUB-BASIN . 1260
SUB-AREA PBS
SHIRE MACKAY CITY (956)
LOT
RP
DESCRIPTION

DISTRICT OFFICE
D/O FILE NUMBER
R/O FILE NUMBER
H/O FILE NUMBER

FACILITY TYPE SF
STATUS EX
ROLE

PARISH HOWARD (2381)
COUNTY CARLISLE
PROPERTY NAME
FIELD LOCATION

LATITUDE .. 21-11-02 MAP-SCALE..
LONGITUDE .. 149-10-17 MAP-SERIES.M
EASTING ... 725433 MAP-NOK2-53400
NORTHING .. 7655946 MAP NAME :
ZONE 55 PROGRESS SECTION..
ACCURACY .. PRES EQUIPMENT..NE
CHECKED ...

DATE DRILLED 1- 1-1975
DRILLERS NAME
COMPANY
METHOD OF CONSTRUCTION.... ROTARY RIG

ORIGINAL BORE NO.
BORE LINE.....

POLYGON.....
RN OF BORE REPLACED....

CONFIDENTIAL

LICENSE DETAILS

NO RECORD

CASING DETAILS

PIPE	DATE	RECORD NUMBER	MATERIAL DESCRIPTION	MAT SIZE (MMS)	SIZE DESC	CUTSIDE DIA (MMS)	TOP (M)	BOTTOM (M)
A	1- 1-1975	1	PLAS			51	0.00	20.00
B	1- 1-1975	2	PLAS				0.00	7.90

STRATA LOG DETAILS

RECORD NUMBER	STRATA TOP (M)	STRATA BOT (M)	STRATA DESCRIPTION
1	0.00	0.30	TOP SOIL
3	0.30	6.00	SANDY CLAY
5	6.00	8.70	WHITE SILTY SAND
7	8.70	10.40	SANDY CLAY
9	10.40	11.10	SAND
11	11.10	17.00	SILTY CLAY
13	17.00	19.50	SANDY CLAY
15	19.50	20.00	WEATHERED GRANITE

STRATIGRAPHY DETAILS

SOURCE	RECORD NUMBER	STRATA TOP (m)	STRATA BOT (m)	STRATA DESCRIPTION
WR	1			ALLUVIUM
WR	2			ALLUVIUM

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AQUIFER DETAILS

RECORD NUMBER	TOP BED (M)	BOTTOM BED (M)	BED LITHOLOGY
1	1.00	3.00	CSAN
2	17.00	20.00	CSAN

DATE	SWL (m)	FLOW QUALITY
- -	-	-
- -	-	-

YIELD (l/s)	CTR	CONDIT	FORMATION NAME
			UC ALLUVIUM
			UC ALLUVIUM

PUMP TEST DETAILS PART 1

NO RECORD

ELEVATION DETAILS

PIPE	DATE	ELEVATION	N/R	DATUM	PRECISION	SOURCE
A	1- 8-1975	3.86	R	AHD	SVY	
B	1- 8-1975	3.86	R	AHD	SVY	
X	1- 8-1975	3.67	N	AHD	SVY	

WATER ANALYSIS PART 1

PIPE	DATE	RD	ANALYST	QAN	DEPTH (m)	RMK SRC	COND. (uS/cm)	PH	SI (mg/L)	TOTAL DIS. IONS (mg/L)	TOTAL DIS. SOLIDS (mg/L)	HARD. ALK	FIG. OF MERIT	SAR	RAH
A 25-	8-1993	1	GCL	155914		AIR GB	3810	8.7	65	2183.77	2101.09	149 261	0.1	26.4	2.23
A 25-	8-1992	1	GCL	140252		AIR GB	5208	8.6	66	3054.68	2981.25	289 241	0.1	25.9	0.00
A 23-	7-1992	1	GCL	140293		PUM GB	5121	8.5	75	3008.86	2944.48	283 238	0.1	25.8	0.00
A 3-	8-1984	1	GCL	105694		AIR GB	110	6.4	5	66.91	65.81	13 10	0.5	1.3	
A 1-	2-1984	1	GCL	104645		GB	97	7.6	8	53.01	58.62	12 4	0.5	1.4	
A 23-	3-1983	1	GCL	101304		PUM GB	4400	8.3	49	2689.26	2593.39	187 242		29.3	1.10
A 21-	4-1982	1	GCL	093710	20.00	GB	4850	7.9	57	2986.20	2903.42	311 229	0.1	23.7	
A 9-12-	1981	1	GCL	092280		AIR GB	3540	7.9	39	2076.30	2019.74	192 156	0.1	21.0	
A 19-	3-1981	2	GCL	090070		AIR GB	25100	7.6	34	15429.20	15414.40	2952 79	0.3	38.8	
A 19-	3-1981	1	GCL	090025	8.00	AIR GB	1020	7.9	25	684.10	611.51	59 159	0.1	11.1	2.02
A 9-10-	1980	1	GCL	087396		AIR GB	2110	8.0	59	1285.20	1199.33	93 237	0.1	17.6	2.87
A 20-	3-1980	1	GCL	085976		GB	1740	7.8	62	1137.30	1043.76	74 253	0.1	17.7	3.57
A 27-	9-1979	1	GCL	083889		GB	300	7.8	3	145.60	102.34	72 75	3.8	0.5	0.06
A 22-	2-1979	1	GCL	080569		GB	44	6.5	1	30.30	31.30	6	0.6	0.9	
A 25-10-	1978	1	GCL	079414		GB	3500	8.0	49	2055.70	1964.41	131 230		25.7	1.99
A 22-	8-1978	1	GCL	078302		GB	3400	7.8	48	1980.60	1891.85	149 225	0.1	23.7	1.52
A 20-	2-1978	1	GCL	076131		GB	50	6.1	2	29.10	28.00	4 5	0.4	1.0	0.02
A 1-	9-1976	1	GCL	70190		GB	1900	8.4		1173.30	1023.35	91 250	0.1	16.2	3.19
A 1-	8-1976	1	GCL	69073		GB	1570	8.0		915.80	795.84	92 196	0.2	12.4	2.08
A 1-	3-1976	1	GCL	1		GB	1900	8.3		1171.80	999.99	123 285	0.2	13.4	3.24
A 1-	1-1976	1	GCL	66969		GB	3360	7.8		1985.00	1818.79	131 268		24.9	2.75
A 1-10-	1975	1	GCL	66178		GB	2850	7.7		1633.00	1450.01	272 295	0.3	11.9	0.46
B 25-	8-1993	1	GCL	155915		AIR GB	10380	8.0	46	6746.61	6752.24	1743 71	0.5	17.7	0.00
B 25-	8-1992	1	GCL	140251		AIR GB	10625	7.7	47	6880.67	6874.30	1834 87	0.5	18.0	0.00
B 23-	7-1992	1	GCL	140294		PUM GB	7611	7.7	57	4744.57	4728.19	1058 120	0.4	17.4	0.00
B 30-	8-1984	2	GCL	101293		GB	2050	8.6	48	1324.71	1240.55	161 226	0.2	13.0	1.29
B 3-	8-1984	1	GCL	105743		AIR GB	2700	7.9	52	1656.90	1569.12	214 229	0.2	14.6	0.30
B 1-	2-1984	1	GCL	104696		GB	1500	9.2	29	836.72	799.64	85 109	0.2	11.8	0.48
B 23-	3-1983	1	GCL	101293		PUM GB	2050	8.6	48	1328.76	1240.60	161 226	0.2	13.0	1.29
B 21-	4-1982	1	GCL	093692	8.00	GB	2000	8.1	64	1229.60	1151.28	102 233	0.1	16.0	2.64
B 9-12-	1981	1	GCL	092295		AIR GB	6460	7.8	47	4084.60	4060.57	954 102	0.4	15.6	

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B 22- 2-1979 1 GCL
B 25-10-1978 1 GCL
B 22- 8-1978 1
B 20- 2-1978 1 GCL
B 1- 9-1976 1 GCL
B 1- 8-1976 1 GCL
B 1- 3-1976 1 GCL
B 1- 1-1976 1 GCL
B 1-10-1975 1 GCL
B 0- 0- 0 2 GCL
B 0- 0- 0 1 GCL

080570
079415
078303
076132
70191
069074
1
66981
66179
085476
083924

WATER RESOURCES

BORE CARD REPORT - COMPLETE RECORD

GB 1720 8.0 46 1078.10 980.25
GB 1800 8.7 48 1102.20 1005.84
GB 2100 8.1 38 1231.60 1142.02
GB 1800 7.4 60 1109.30 1010.71
GB 1800 7.9 1112.40 956.35
GB 1770 7.8 1088.70 931.13
GB 1800 7.8 1085.10 928.54
GB 1750 7.8 1089.20 925.53
GB 2350 10.6 1146.00 1138.88
GB 105 6.1 4 68.10 60.92
GB 840 7.8 24 490.50 453.00

64 235 18.4 3.43
68 250 18.1 3.63
144 210 13.7 1.31
64 257 18.6 3.86
60 255 19.6 3.90
70 256 17.4 3.72
65 255 18.3 3.79
82 264 16.3 3.64
142 83 13.5
10 18 1.9 0.16
34 100 11.1 1.31

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WATER ANALYSIS PART 2

(All units are Milligrams/Litre)

P	DATE	RD	Na	K	Ca	Mg	Fe	Mn	HCO3	CO3	Cl	F	NO3	SO4	Zn	Al	B	Cu
A	25- 8-1993	1	739.0	16.5	25.5	17.6	0.00	1.45	290.1	13.5	926.5	0.34	0.9	153.8				
A	25- 8-1992	1	1013.1	18.3	48.7	35.4	0.00	0.00	273.7	9.9	1410.2	0.28	1.0	244.0				
A	23- 7-1992	1	999.4	16.8	47.1	36.0	0.01	0.00	273.8	8.2	1379.9	0.28	8.0	239.3				
A	3- 8-1984	1	11.0	4.8	1.7	2.4	0.01	0.00	12.0	0.0	16.0	0.00	8.0	11.0				
A	1- 2-1984	1	11.0	4.5	1.6	2.3	0.50	0.01	4.7	0.0	14.0	0.10	7.1	7.2				
A	23- 3-1983	1	920.0	18.0	32.0	22.0	0.15	0.01	285.0	4.8	1200.0	0.30	7.0	200.0				
A	21- 4-1982	1	960.0	20.0	50.0	42.0			275.0	1.9	1400.0	0.30	7.0	230.0				
A	9-12-1981	1	668.0	12.0	32.0	24.0			188.0	1.1	970.0	0.20	1.0	180.0				
A	19- 3-1981	2	4840.0	153.0	590.0	210.0			96.0	0.0	8440.0	0.20	0.0	1100.0				
A	19- 3-1981	1	195.0	12.0	8.0	10.0			192.0	0.8	187.0	0.30	13.0	66.0				
A	9-10-1980	1	390.0	14.0	16.0	11.0			285.0	2.0	473.0	0.20	0.0	154.0				
A	20- 3-1980	1	350.0	14.0	12.0	10.0			366.0	1.2	410.0	0.20	3.0	28.0				
A	27- 9-1979	1	8.8	1.7	3.0	24.0			91.0	0.3	12.0	0.10	1.7	3.0				
A	22- 2-1979	1	5.3	1.1	0.9	1.1			0.0	0.0	18.0	0.10	0.8	3.0				
A	25-10-1978	1	676.0	14.0	22.0	16.0			276.0	2.2	920.0	0.10	0.4	129.0				
A	22- 8-1978	1	664.0	17.0	24.0	20.0			271.0	1.6	860.0	0.40	0.6	122.0				
A	20- 2-1978	1	4.8	1.0	0.5	0.8			6.1	0.0	8.0	0.10	2.8	5.0				
A	1- 9-1976	1	355.0	15.0	13.0	15.0			295.0	5.1	428.0	0.60	5.6	40.0				
A	1- 8-1976	1	274.0	14.0	15.0	12.0			236.0	1.3	318.0	0.50	0.0	45.0				
A	1- 3-1976	1	340.0	14.0	14.0	26.0			338.0	4.5	410.0	0.30	0.0	25.0				
A	1- 1-1976	1	654.0	14.0	22.0	16.0			327.0		850.0			102.0				
A	1-10-1975	1	450.0	16.0	40.0	43.0			360.0		674.0			50.0				
B	25- 8-1993	1	1698.9	44.5	305.6	194.9	0.00	0.03	83.9	1.1	2837.4	1.25	4.8	1574.2				
B	25- 8-1992	1	1775.9	42.7	325.9	198.0	0.00	3.87	104.8	0.6	2863.0	0.72	0.0	1569.0				
B	23- 7-1992	1	1304.0	29.8	183.7	121.2	0.00	2.61	145.0	0.9	1969.6	0.80	8.0	981.6				
B	30- 8-1984	2	380.0	15.0	24.0	25.0		0.01	260.0	7.4	465.0	0.30	13.0	135.0				
B	3- 8-1984	1	490.0	15.0	38.0	23.0	0.00	0.00	275.0	1.9	630.0	0.40	3.6	180.0				
B	1- 2-1984	1	250.0	14.0	14.0	11.0	0.01	0.01	130.0	1.5	325.0	0.20	29.0	62.0				
B	23- 3-1983	1	380.0	15.0	24.0	25.0	0.05	0.01	260.0	7.4	465.0	0.30	13.0	135.0				
B	21- 4-1982	1	370.0	14.0	18.0	11.0			280.0	2.3	470.0	0.30	4.0	60.0				
B	9-12-1981	1	1110.0	25.0	165.0	110.0			124.0	0.0	1770.0	0.60	0.0	780.0				
B	22- 2-1979	1	338.0	12.0	10.0	9.0			283.0	1.8	405.0	0.10	1.2	18.0				
B	25-10-1978	1	343.0	12.0	11.0	9.0			284.0	10.0	405.0	0.10	0.1	28.0				
B	22- 8-1978	1	377.0	15.0	15.0	33.0			251.0	2.4	470.0	0.20	0.0	68.0				
B	20- 2-1978	1	341.0	13.0	10.0	9.0			312.0	0.5	400.0	0.20	8.6	15.0				
B	1- 9-1976	1	347.0	14.0	9.0	9.0			307.0	1.9	398.0	0.60	0.9	25.0				
B	1- 8-1976	1	335.0	13.0	11.0	10.0			310.0	1.2	392.0	0.50	0.0	16.0				
B	1- 3-1976	1	340.0	14.0	10.0	9.6			308.0	1.3	385.0	0.20	0.0	17.0				
B	1- 1-1976	1	339.0	1.2	9.0	16.0			222.0		400.0							
B	1-10-1975	1	370.0	17.0	1.0	55.0			14.0	41.0	554.0			92.0				

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B	0-0-	0 2	14.0	2.6	1.2	2.0
B	0-0-	0 1	150.0	7.3	5.0	5.5

WATER RESOURCES

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22.0	20.0	0.10	4.7	1.5
121.0	0.5	190.0	0.10	1.1 10.0

WATER LEVEL DETAILS

PIPE	DATE	MEASUREMENT N/R RMK (M)
A	4-2-1998	-1.60 R
A	29-10-1997	-2.95 R
A	5-6-1997	-1.43 R
A	12-5-1997	-1.45 R
A	4-3-1997	-1.29 R
A	24-1-1997	-1.70 R
A	21-11-1996	-2.32 R
A	1-10-1996	-1.69 R
A	2-9-1996	-1.59 R
A	7-8-1996	-1.61 R
A	12-6-1996	-1.55 R
A	24-4-1996	-1.80 R
A	7-3-1996	-1.35 R
A	7-12-1995	-1.81 R
A	18-9-1995	-1.87 R
A	21-6-1995	-1.73 R
A	11-5-1995	-2.26 R
A	19-4-1995	-2.68 R
A	29-3-1995	-2.82 R
A	16-12-1994	-2.23 R
A	29-11-1994	-3.71 R
A	15-9-1994	-2.55 R
A	17-8-1994	-2.04 R
A	25-7-1994	-1.60 R
A	21-4-1994	-1.83 R
A	17-3-1994	-1.68 R
A	19-11-1993	-2.63 R
A	3-11-1993	-1.95 R
A	1-10-1993	-1.87 R
A	25-8-1993	-1.75 R
A	22-4-1993	-2.29 R
A	9-3-1993	-1.60 R
A	12-2-1993	-2.20 R
A	8-12-1992	-3.09 R
A	26-10-1992	-4.01 R
A	25-8-1992	-2.42 R
A	23-7-1992	-1.70 R
A	2-7-1992	-1.47 R
A	22-5-1992	-1.50 R
A	8-4-1992	-1.52 R
A	10-3-1992	-1.82 R
A	3-1-1992	-1.68 R
A	28-10-1991	-4.54 R
A	4-9-1991	-1.86 R
A	9-8-1991	-1.55 R
A	2-7-1991	-1.50 R
A	3-6-1991	-1.48 R
A	7-5-1991	-1.75 R
A	10-1-1991	-2.30 R

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	BORE CARD REPORT -	COMPLETE RECORD
A	16- 3-1990	-1.23 R
A	20-11-1987	-2.00 R
A	3- 3-1987	-4.85 R
A	21-11-1986	-1.90 R
A	23- 5-1986	-1.30 R
A	13- 3-1985	-1.60 R
A	3- 8-1984	-1.65 R
A	1- 2-1984	-1.98 R
A	23- 3-1983	-1.76 R
A	21- 4-1982	-1.08 R
A	9-12-1981	-1.74 R
A	19- 3-1981	-2.32 R
A	9-10-1980	-3.95 R
A	20- 3-1980	-1.16 R
A	27- 9-1979	-2.48 R
A	22- 2-1979	-0.79 R
A	25-10-1978	-1.61 R
A	20- 2-1978	-1.18 R
A	22-11-1977	-2.45 R
A	26- 7-1977	-1.26 R
A	1- 6-1977	-1.01 R
A	7- 3-1977	-0.72 R
A	11- 1-1977	-1.14 R
A	14-12-1976	-3.65 R
A	2-11-1976	-1.33 R
A	29-10-1976	-1.33 R
A	30- 9-1976	-1.77 R
A	24- 8-1976	-1.29 R
A	17- 6-1976	-0.98 R
A	3- 3-1976	-0.80 R
A	7- 1-1976	-0.96 R
A	3-10-1975	-2.65 R
A	1- 8-1975	-1.32 R
B	4- 2-1998	-1.20 R
B	29-10-1997	-2.45 R
B	5- 6-1997	-1.03 R
B	12- 5-1997	-1.17 R
B	4- 3-1997	-0.70 R
B	24- 1-1997	-1.75 R
B	21-11-1996	-2.17 R
B	1-10-1996	-1.71 R
B	2- 9-1996	-1.53 R
B	7- 8-1996	-1.42 R
B	12- 6-1996	-1.34 R
B	24- 4-1996	-1.38 R
B	7- 3-1996	-0.82 R
D	7-12-1995	-1.67 R
B	18- 9-1995	-1.56 R
B	21- 6-1995	-1.36 R
B	11- 5-1995	-1.84 R
B	19- 4-1995	-2.02 R
B	29- 3-1995	-2.00 R
B	16-12-1994	-1.90 R
B	29-11-1994	-2.76 R
B	15- 9-1994	-1.87 R
B	17- 8-1994	-1.59 R

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B	25- 7-1994	-1.40 R
B	21- 4-1994	-1.44 R
B	17- 3-1994	-1.13 R
B	19-11-1993	-2.05 R
B	3-11-1993	-1.90 R
B	1-10-1993	-1.91 R
B	25- 8-1993	-1.66 R
B	22- 4-1993	-1.74 R
B	9- 3-1993	-1.35 R
B	12- 2-1993	-1.68 R
B	8-12-1992	-2.66 R
B	26-10-1992	-2.80 R
B	25- 8-1992	-2.16 R
B	23- 7-1992	-1.55 R
B	2- 7-1992	-1.31 R
B	22- 5-1992	-0.98 R
B	8- 4-1992	-1.00 R
B	10- 3-1992	-1.42 R
B	3- 1-1992	-1.35 R
B	28-10-1991	-2.57 R
B	4- 9-1991	-1.74 R
B	9- 8-1991	-1.45 R
B	2- 7-1991	-1.28 R
B	3- 6-1991	-1.14 R
B	7- 5-1991	-1.30 R
B	10- 1-1991	-0.85 R
B	16- 3-1990	-1.57 R
B	20-11-1987	-1.50 R
B	3- 3-1987	-2.85 R
B	21-11-1986	-1.45 R
B	23- 5-1986	-0.85 R
B	13- 3-1985	-1.10 R
B	3- 8-1984	-1.31 R
B	1- 2-1984	-1.72 R
B	23- 3-1983	-1.25 R
B	21- 4-1982	-0.62 R
B	9-12-1981	-1.35 R
B	19- 3-1981	-1.55 R
B	9-10-1980	-2.36 R
B	20- 3-1980	-1.16 R
B	27- 8-1979	-1.45 R
B	22- 2-1979	-0.45 R
B	25-10-1978	-1.64 R
B	20- 2-1978	-0.80 R
B	22-11-1977	-1.97 R
B	26- 7-1977	-0.94 R
B	1- 6-1977	-0.53 R
B	7- 3-1977	-0.28 R
B	11- 1-1977	-0.56 R
B	14-12-1976	-1.91 R
B	2-11-1976	-0.76 R
B	29-10-1976	-1.04 R
B	30- 9-1976	-1.74 R
B	24- 8-1976	-0.99 R
B	17- 6-1976	-0.63 R
B	3- 3-1976	-0.17 R

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B 7- 1-1976 -0.40 R
B 3-10-1975 -2.75 R
B 1- 8-1975 -0.88 R

WIRE LINE LOG DETAILS

NO RECORD

FIELD MEASUREMENTS

PIPE	DATE	DEPTH (m)	COND (uS/cm)	pH	TEMP (C)	NO3 (mg/l)	DO (mg/l)	Eh (mV)	REM SRC
A	1-10-1997		5090						PUM
A	19- 3-1997		3930						PUM
A	11- 9-1996		5110						PUM
A	18- 6-1996		3680						AIR
A	25- 8-1993		3690						AIR
A	25- 8-1992		4530						AIR
A	23- 7-1992		4750						PUM
A	22- 5-1992		4550						AIR
A	3- 1-1992		4700						AIR
A	9- 8-1991		5410						AIR
A	7- 5-1991		5480						AIR
A	20-11-1987		380						PUM
A	20- 3-1987		325						PUM
A	21-11-1986		320						PUM
A	23- 5-1986		250						PUM
A	3- 8-1984		950						PUM
A	1- 2-1984		100						PUM
A	23- 3-1983		4300						PUM
A	19- 3-1981		25100						PUM
A	9-10-1980		5520						PUM
A	20- 3-1980		105						PUM
A	27- 9-1979		300						PUM
A	22- 2-1979		43						PUM
A	20- 2-1978		89						PUM
A	1- 6-1977		1950						PUM
A	1- 9-1976		1900						PUM
A	1- 8-1976		1570						PUM
A	1- 3-1976		1900						PUM
A	1- 1-1976		3360						PUM
A	1-10-1975		2850						PUM
A	1- 8-1975		3650						PUM
B	1-10-1997		2400						PUM
B	18- 6-1996		5470						AIR
B	25- 8-1993		9770						AIR
B	25- 8-1992		9050						AIR
B	23- 7-1992		7120						PUM
B	22- 5-1992		9450						AIR
B	3- 1-1992		7230						AIR
B	9- 8-1991		4690						AIR
B	7- 5-1991		8200						AIR
B	20-11-1987		4150						PUM
B	20- 3-1987		4100						PUM
B	21-11-1986		4000						PUM

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B	23-	5-1986	3500	
B	3-	8-1984	3250	PUM
B	1-	2-1984	1500	PUM
B	23-	3-1983	2100	PUM
B	19-	3-1981	1020	
B	9-	10-1980	2110	
B	20-	3-1980	1740	
B	27-	9-1979	840	
B	22-	2-1979	1750	
B	20-	2-1978	1800	
B	1-	6-1977	1750	
B	1-	9-1976	1800	PUM
B	1-	8-1976	1770	PUM
B	1-	3-1976	1800	PUM
B	1-	1-1976	1750	PUM
B	1-	10-1975	2350	PUM
B	1-	8-1975	1690	PUM

SPECIAL WATER ANALYSIS

NO RECORD

VALIDATION LOG part 1

PIPE	REGDET	LICDET	CASING	STRLOG	AQUIFR	PUMTES	ELVDET	WLVDET	FIELDQ
A	/ /	/ /	5/ 5/93	5/ 5/93	5/ 5/93	/ /	6/ 4/93	5/ 5/93	7/ 3/93
B	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /	7/ 4/93

VALIDATION LOG part 2

PIPE	WATANL	SPANAL	STRTIG	WIRLOG	METUSE	MULCND	BRCOND	FPREAD	GNOTES
A	29/ 3/93	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /
B	29/ 3/93	/ /	/ /	/ /	/ /	/ /	/ /	/ /	/ /

GENERAL NOTES

NO RECORD