EIS 248 Vol 2

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Effects of coal mining on groundwater resources in the upper Hunter Valley

1.2.10.1

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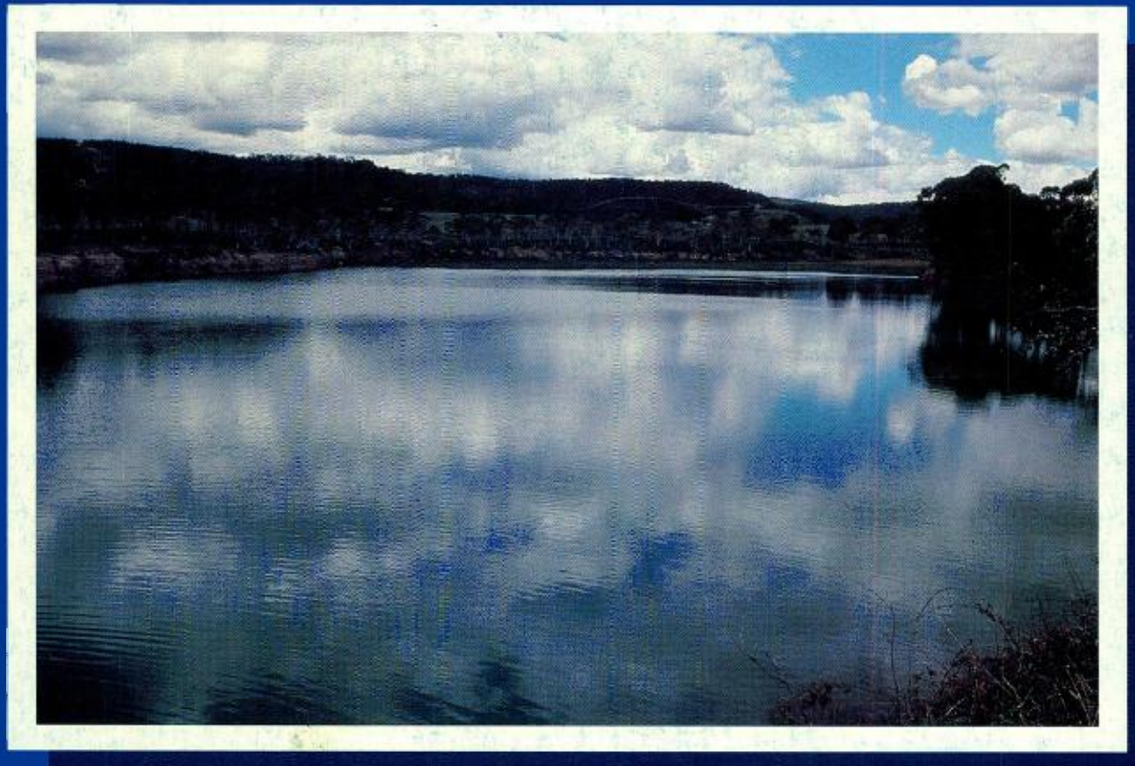
ENVIRONMENTAL GEOLOGY SECTION
GEOLOGICAL SURVEY OF N.S.W.

New South Wales Coal Association

Effects of Coal Mining on Groundwater Resources in the Upper Hunter Valley



VOLUME II

AUSTRALIAN GROUNDWATER CONSULTANTS PTY. LTD.

ENVIRONMENTAL GEOLOGY SUBSECTION
GEOLOGICAL SURVEY OF N.S.W.

NEW SOUTH WALES
COAL ASSOCIATION

EFFECTS OF MINING ON GROUNDWATER RESOURCES IN THE UPPER HUNTER VALLEY VOLUME 1

BY

AUSTRALIAN GROUNDWATER CONSULTANTS PTY. LTD.,

JUNE, 1984

EIS 248

NEW SOUTH WALES
COAL ASSOCIATION
EFFECTS OF MINING
ON GROUNDWATER RESOURCES IN THE UPPER HUNTER VALLEY

APPENDIX A
NUMERICAL
COMPUTER INFLOW SIMULATIONS

APPENDIX A

A.1 NUMERICAL MODEL DESCRIPTION

The computer model developed for this project is based on the two dimensional transient non-linear groundwater flow equation which may be written as:-

$$\text{div } (T(H) \text{ grad}(H)) = S\frac{\partial H}{\partial t} + W \quad \text{.....(A.1)}$$

where

T = Transmissivity (tensor); (LT^{-1})
H = Hydraulic head; (L)

and
$H = h_z + h_p$
H_z = elevation head; (L)
h_p = pressure head; (L)
S = Storativity (^{0})
W = Source/sink function; (LT^{-1})
t = time; (T)

For sloping aquifer conditions (see Figure A.1 and A3.1) Equation (A.1) may be written as:

$$\text{div } (T(hp) \text{ grad } (Hp)) = S\frac{\partial H}{\partial t} + W - (T(h_z) \text{ grad } (h_z))$$

.....(A.2)

In order to incorporate a multi-aquifer sequence comprising layers of different hydraulic conductivity, the transmissivity is computed as a product of the average hydraulic head and the respective hydraulic conductivity of each layer. Thus: (see Figure A.3)

$$T = \sum_{1}^{n} K_{n.} \min (b_n, h - D(n))$$

where:-

T = Transmissivity of the saturated sequence; ($M^2 T^{-1}$)
K_n = Hydraulic conductivity (MT^{-1})
b_n = Thickness of layer n, (L)
D(n)= elevation to the top of layer n; (L)
h = average hydraulic head of all layers; (L)
min= minimum value function

At each time step in the simulation Equation (A.2) is computed and used in the groundwater flow equation, and in the subsequent inflow calculations.

Equation (A.2) is written in terms of pressure and elevation heads. Since the elevation head remains constant, Equation (A.2) is solved in terms of pressure heads above the base of each aquifer.

In order to solve this equation over the mining area the aquifer systems is first subdivided into a series of cells. At the centre of each cell is an imaginary node point, at which Equation (A.2) above is set up, and where the hydraulic pressure head is computed. The pressure head computed at the node point represents approximately the average water level within each cell.

The model uses a variable size mesh. This allows for a better approximation of water level changes where the hydraulic gradients are steeper (near the mined area) and allows larger cells to represent areas where the gradients are flatter. The use of a variable mesh reduces the number of nodes in the model and subsequent cost of operation.

To simulate mining, cells representing overburden and the coal seams are progressively removed from the model by setting the pressure head to zero. The flow equations at all remaining nodes in response to mining are then solved and the flow into the pit calculated in the program using the Dupuit assumptions. The flow calculations allow for the formation of a seepage face in the high wall of the pit.

The removal of cells is repeated over a series of time steps until the required extent of mining has been simulated. Since, at each time step, the pressure head is computed within each block, water level data indicating the effect of mining of the regional aquifer system is also obtained.

Note that the model simulates a two dimensional plan view of the region. The representation of multi-layers is at best approximate. Normally, if several coal aquifers are present then these would be lumped into one aquifer. If either of these approaches is not sufficiently accurate then a pseudo three dimensional model simulation would be required. For this type of simulation an equation of the form given by (A.1) would need to be written for each layer, and where appropriate the W term would treat the leakage from one aquifer to another or vice-versa.

ASSUMPTIONS

. The model assumes that the aquifer parameters are uniform in each cell, but, they may be changed from cell to cell. The permeability may be set to decrease exponentially with depth, if required.

. Flow is assumed to occur through a continuous medium. The model does not consider discrete flow through fractures but assumes uniform flow over the modelled region.

The validity of assuming a continuous medium depends on the scale of the problem, and the hydraulic conductivity assigned to represent a statistically averaged continuous system.

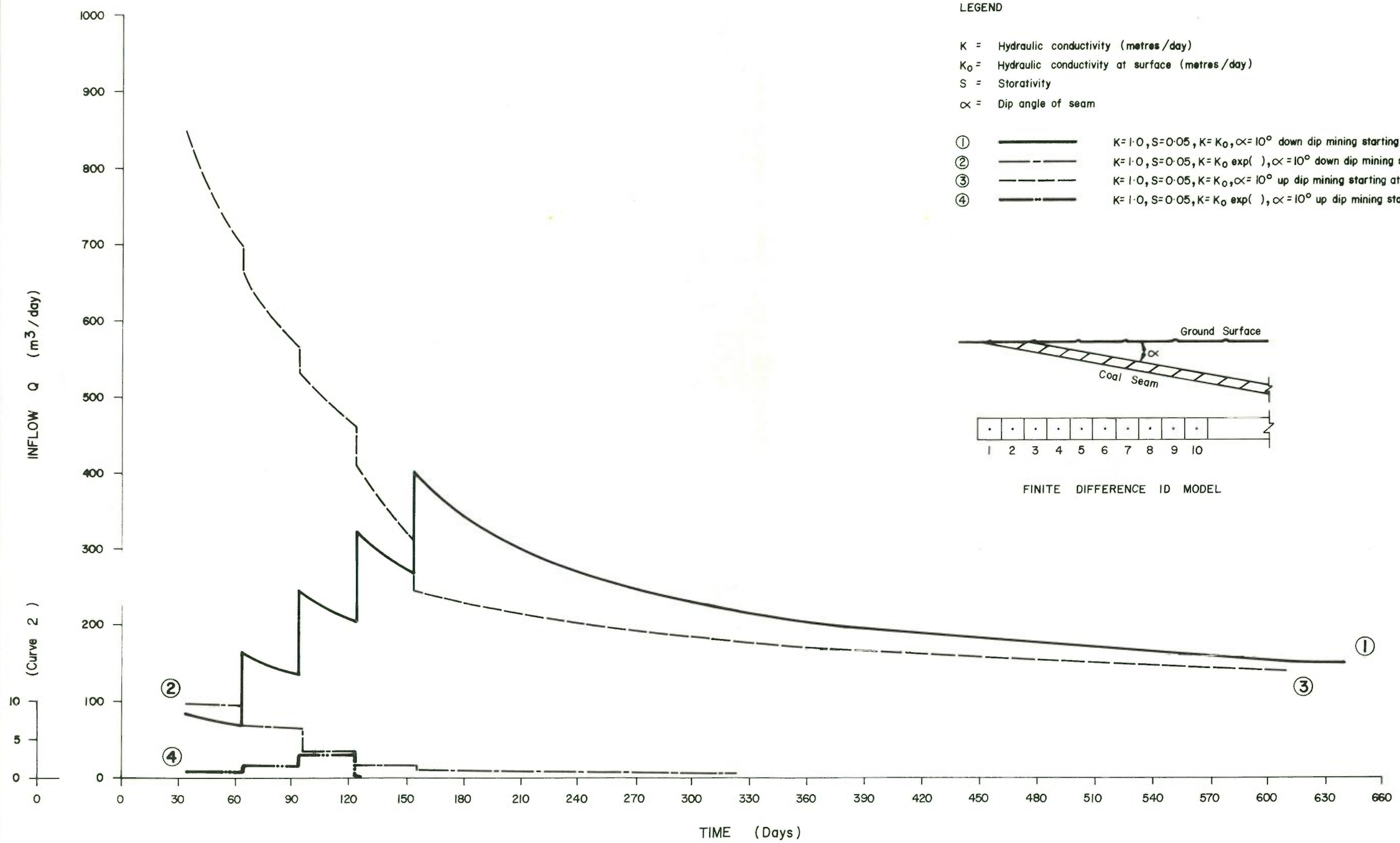
. The removal of pit material is assumed to be instantaneous at the start of each time step. In reality, workings in a mine will be progressive. Hence all other factors being the same, the initial inflows calculated immediately after the removal of the cell and inflow computed prior to the removal are probably higher than those which would occur in reality.

. Because of aquifer averaging, and a two dimensional representation of the real three dimensional flow system, the computed water levels or potentiometric surface represent the average pressure head decline. Individual piezometers may record less or more change depending on how well they measure the average hydraulic head in the sequence. This will depend on their depth of penetration and location of the piezometer opening.

Sensitivity of the Model

Experience in the use of the numerical model and its application to a number of field cases indicates that too large an inflow can be predicted if a decrease in permeability with resepct to depth is not taken into account. (See Chapter 2 Section 2.3.3 and Figure 2.12). The effects can be illustrated by a simulation example shown in Figure A.1. The model has been set up for a hypothetical coal seam which dips at an angle of 10 degrees (10^{o}) the permeability is assumed to be 1.0 m/day and storativity 0.05. Both down dip and up dip mining inflows are shown in Figure A.1.

Of particular interest is the case where the permeability K is assumed to be constant and the case where it decreases exponentially with depth. For the simulations depicted in Figure A.1 it was assumed that coal seam thickness is 10 m and the exponential constant is 0.063 (See Figure 2.33).



LEGEND

K = Hydraulic conductivity (metres/day)
K_0 = Hydraulic conductivity at surface (metres/day)
S = Storativity
α = Dip angle of seam

① K=1·0, S=0·05, K=K_0, α=10° down dip mining starting at block 1
② K=1·0, S=0·05, K=K_0 exp( ), α=10° down dip mining starting at block 1
③ K=1·0, S=0·05, K=K_0, α=10° up dip mining starting at block 6
④ K=1·0, S=0·05, K=K_0 exp( ), α=10° up dip mining starting at block 6

FINITE DIFFERENCE ID MODEL

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EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

SIMULATED INFLOW SENSITIVITY ANALYSIS

DATE MAY '84 | DWG. No. 667 | FIG. No. A1

For simplicity a one dimensional plan view of the seam was simulated, although of course a two dimensional representation is possible.

Block sizes for the one dimensional simulation were set equal to a constant 100 metres square and were removed or mined every 30 days.

The results for run 1 and 2 indicate that setting a constant permeability with depth yields inflows rates that are up to 400 times larger than for the case where the permeability decreases exponentially with depth.

The step-like increase in the inflows are due to the assumption of instantaneous extraction which causes initially, a high inflow decreasing with time over the 30 day extraction interval.

Runs 3 and 4 simulate up dip mining commencing at Block 6. As expected the assumption of a constant permeability yields much higher inflows compared to the case where the permeability decreases exponentially with depth.

A.2 APPLICATION OF NUMERICAL MODEL TO MUSWELLBROOK OPEN CUT SITE

2.1 Physiography

The mine area is situated in hilly country north east of Muswellbrook with local relief differences of up to 50 - 60m (Figure A2.1).

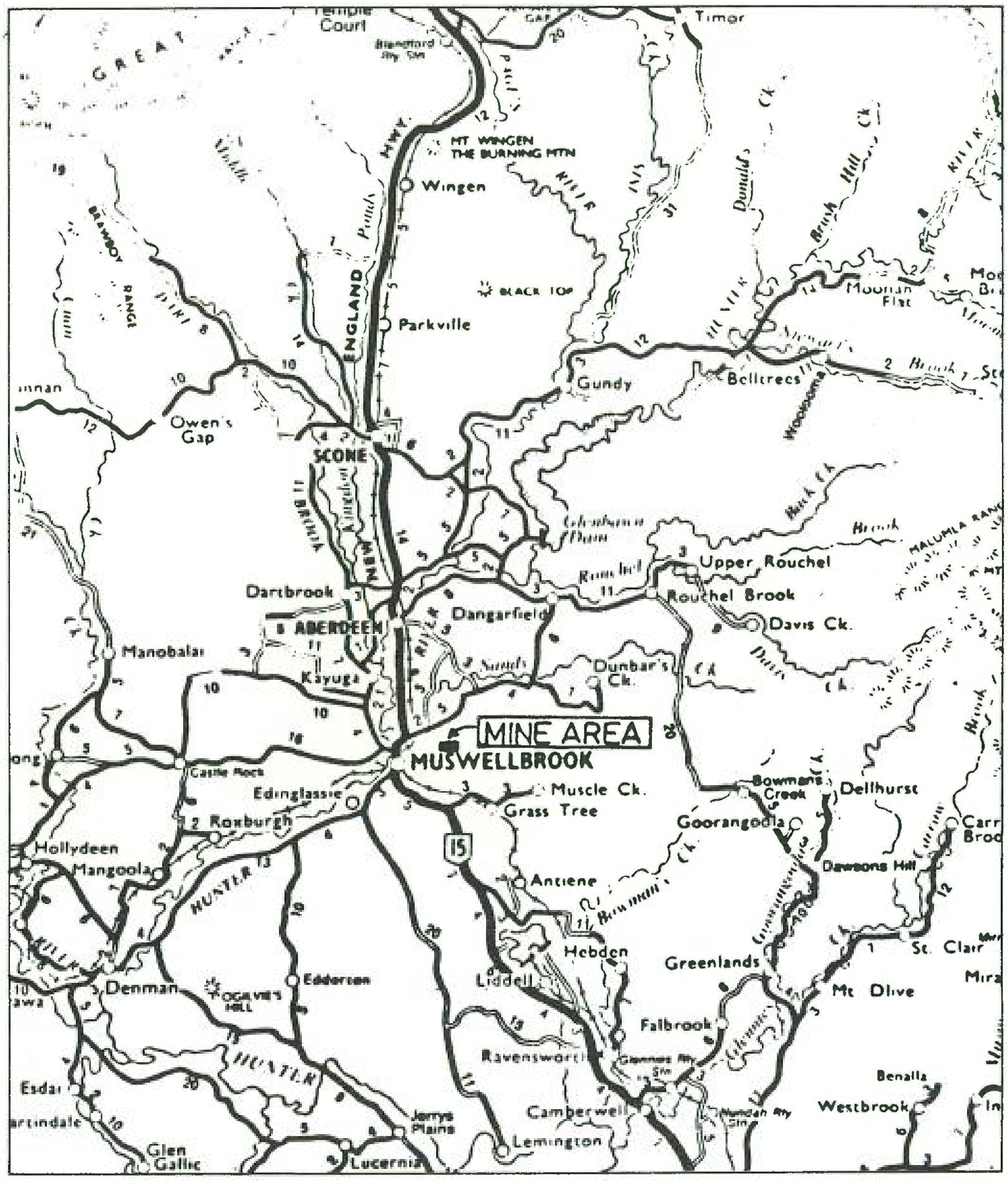
The present pit is located in relatively elevated terrain (RL=240m) which falls away rapidly to the south-east and more gently to the south-west. Drainage is via several gullies, which radiate out from the present open cut. These ephemeral gullies join a major tributary of Sandy Creek which in turn joins the Hunter River west of the mine area.

2.2 Geology

The mine lies at the crest of the Muswellbrook anticline, the axis of which runs in a north easterly direction through the present pit. The Greta Coal Measures in the area dip at an angle of about 12^{o} in the existing pit, decreasing to about 4^{o} (see Figure A2.5) to the west - north-west, on the western limb of the anticline. The coal seams on the eastern limb have been disrupted and displaced by thrust faulting.

Numerous drill holes used for reserve estimation have been sunk in the area. The locations of these are shown in Figure A2.2. The lithological log of bore hole 315, constructed by A.G.C. for hydraulic testing purposes, Figure A2.3 shows the typical sequence of coal seams in the area.

The coal seams are inter-bedded mainly with fine grained light grey sandstones and siltstones.



SCALE

0 5 10 15 20km.

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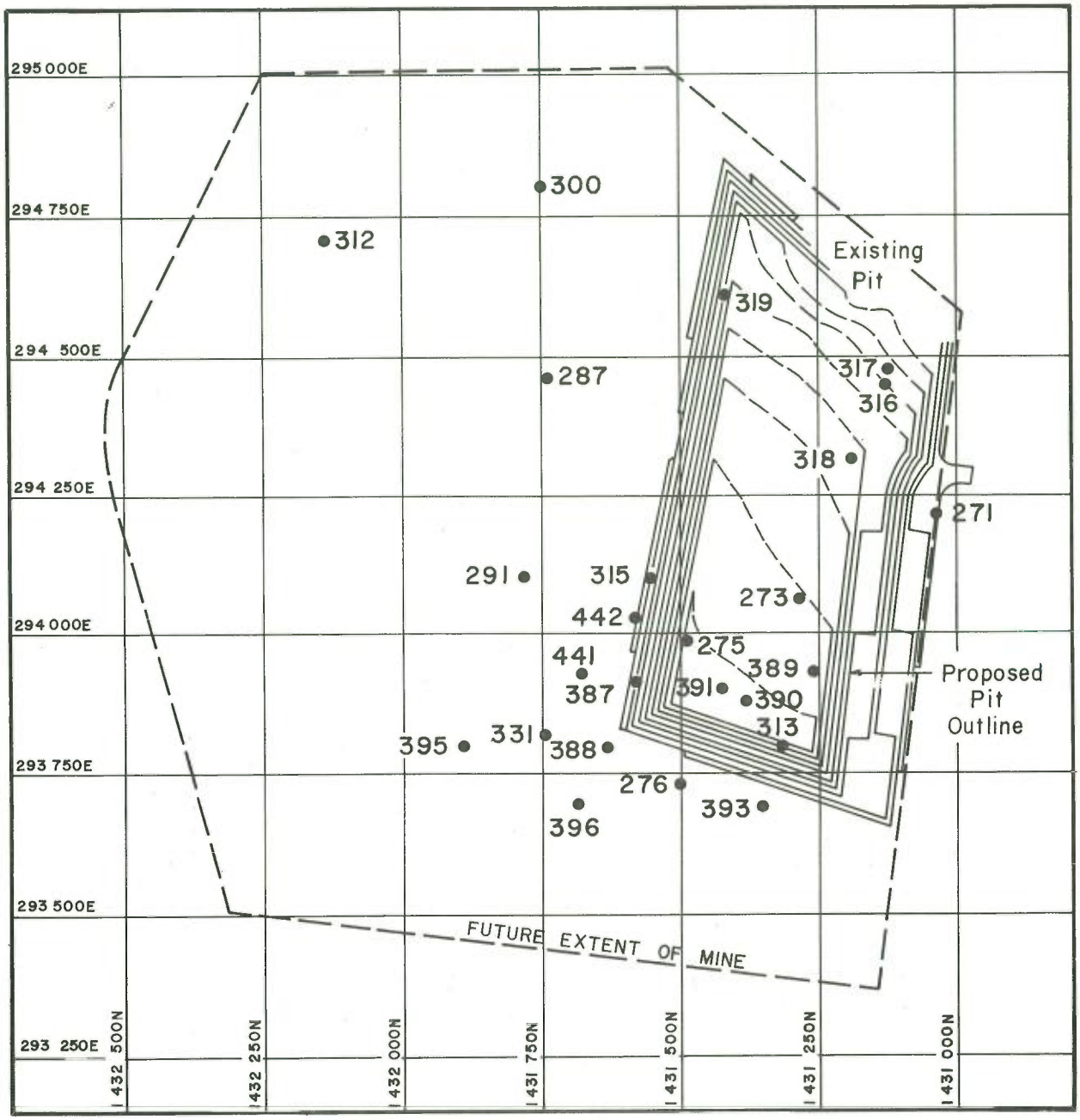
LOCALITY PLAN

MUSWELLBROOK OPEN CUT

DATE NOV '83	DWG. No. 667	FIG. No. A 2.1



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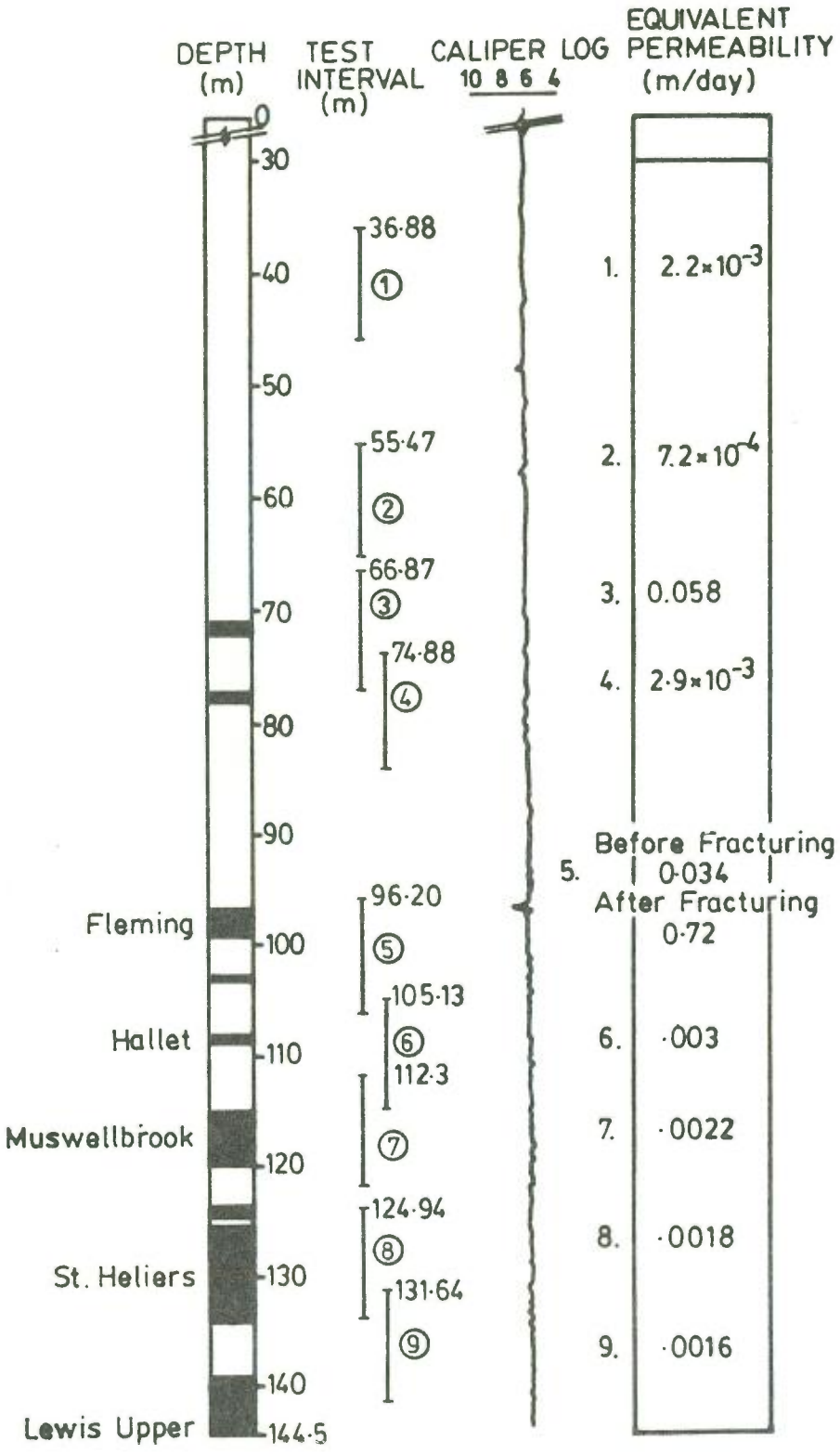
BORE LOCATIONS
MUSWELLBROOK OPEN CUT

DATE	DWG. No.	FIG. No.
NOV '83	667	A2.2



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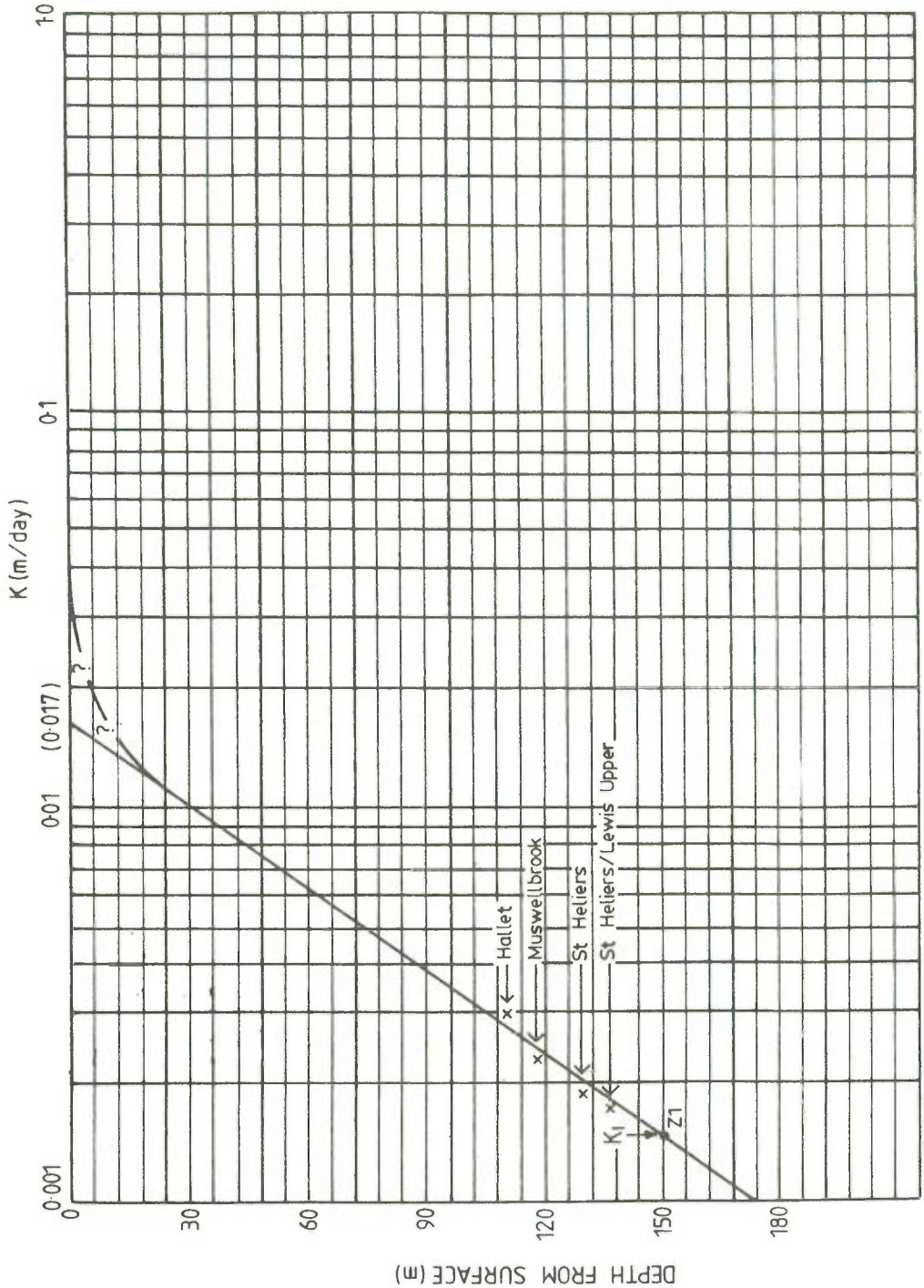
BORE 315 - PERMEABILITY VALUES
MUSWELLBROOK OPEN CUT

DATE	DWG. Nº.	FIG. Nº.
NOV '83	667	A2.3



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CHANGE OF HYDRAULIC CONDUCTIVITY WITH DEPTH BOREHOLE 315 MUSWELLBROOK OPEN CUT

DATE	DWG. NO.	FIG. NO.
NOV '83	667	A2.4

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EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

CROSS SECTION A - A' SHOWING COAL SEAMS AND PIT GENERATION

MUSWELLBROOK OPEN CUT

DATE	DWG. No.	FIG. No.
NOV '83	667	A2.5

2.3 Groundwater System

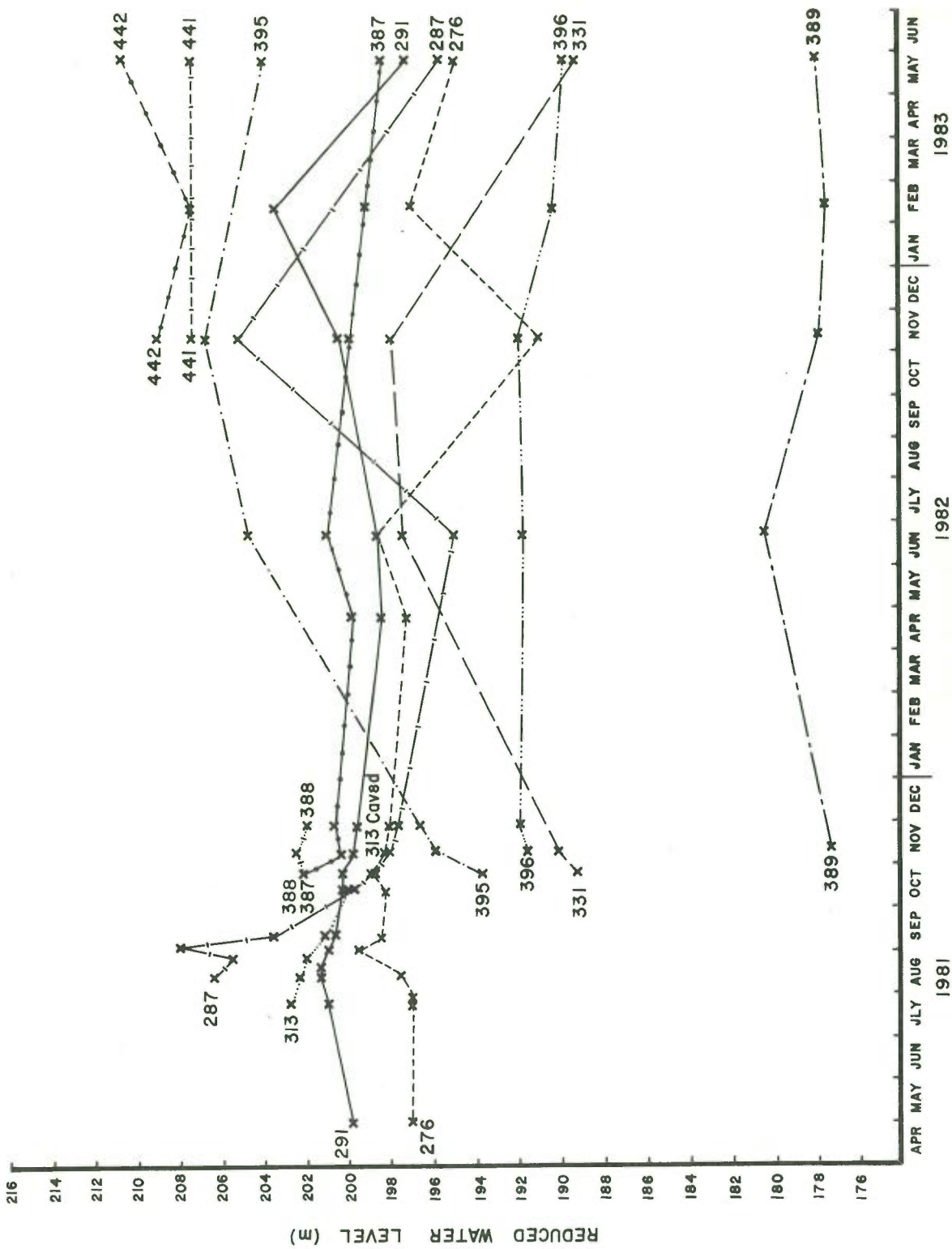
Groundwater in the Greta Coal Measures occurs mainly in secondary induced fractures such as cleats in the coal seam; bedding partings in and between the coal and adjacent rocks and joints in the sandstone.

The main water bearing zones or aquifers are the coal seams. Minor water bearing zones occur in the inter-burden rocks.

Groundwater is therefore confined and under pressure in the coal seam with the interburden rocks acting as confining layers or aquitards. As the aquitards are not completely impermeable, they can also provide water to the more permeable coal seams by vertical leakage when water is extracted from or flows out of the seam.

Measurement of water levels over the site were conducted at several observation holes. Monitoring results for the periods from 1981 to 1983 together with rainfall for the period are shown in Figures A.2.6 and A.2.7. Groundwater table/potentiometric contours have been drawn in Figures A2.8 - A2.12 for several periods. These show that although water levels throughout the region vary during the 3 year period there is a decline varying between 10 to 15 metres within 100 to150 metres from the edge of the cut decreasing to about 5 to 10 metres about 500 metres from the edge of the pit.

The water levels show a regional flow away from the elevated sub-outcrop area and a reversal of gradient and flow into the existing pit.



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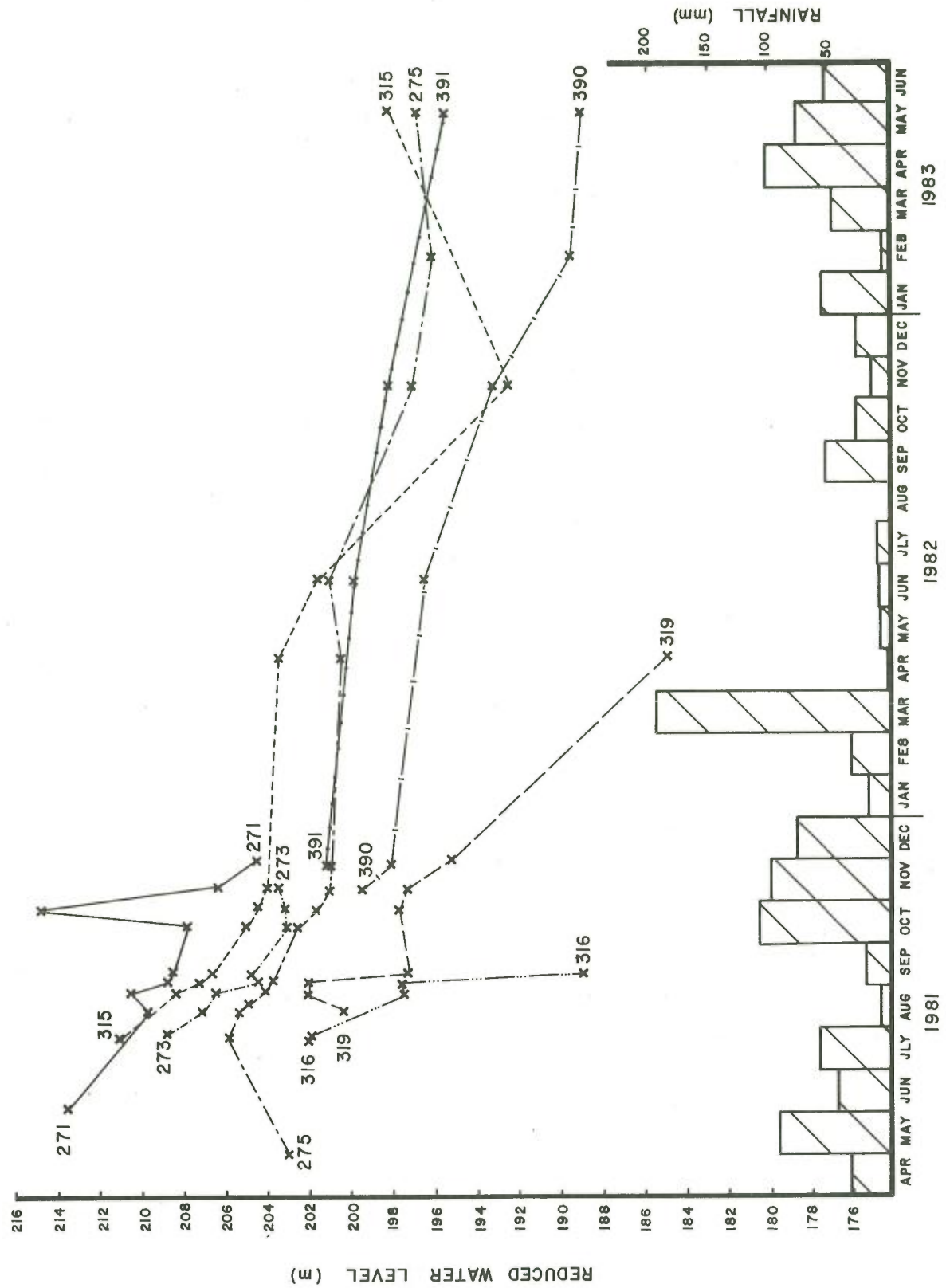
EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

WATER LEVELS
MUSWELLBROOK OPEN CUT
1981 TO 1983

DATE	DWG. Nº	FIG. Nº
NOV '83	667	A2.6



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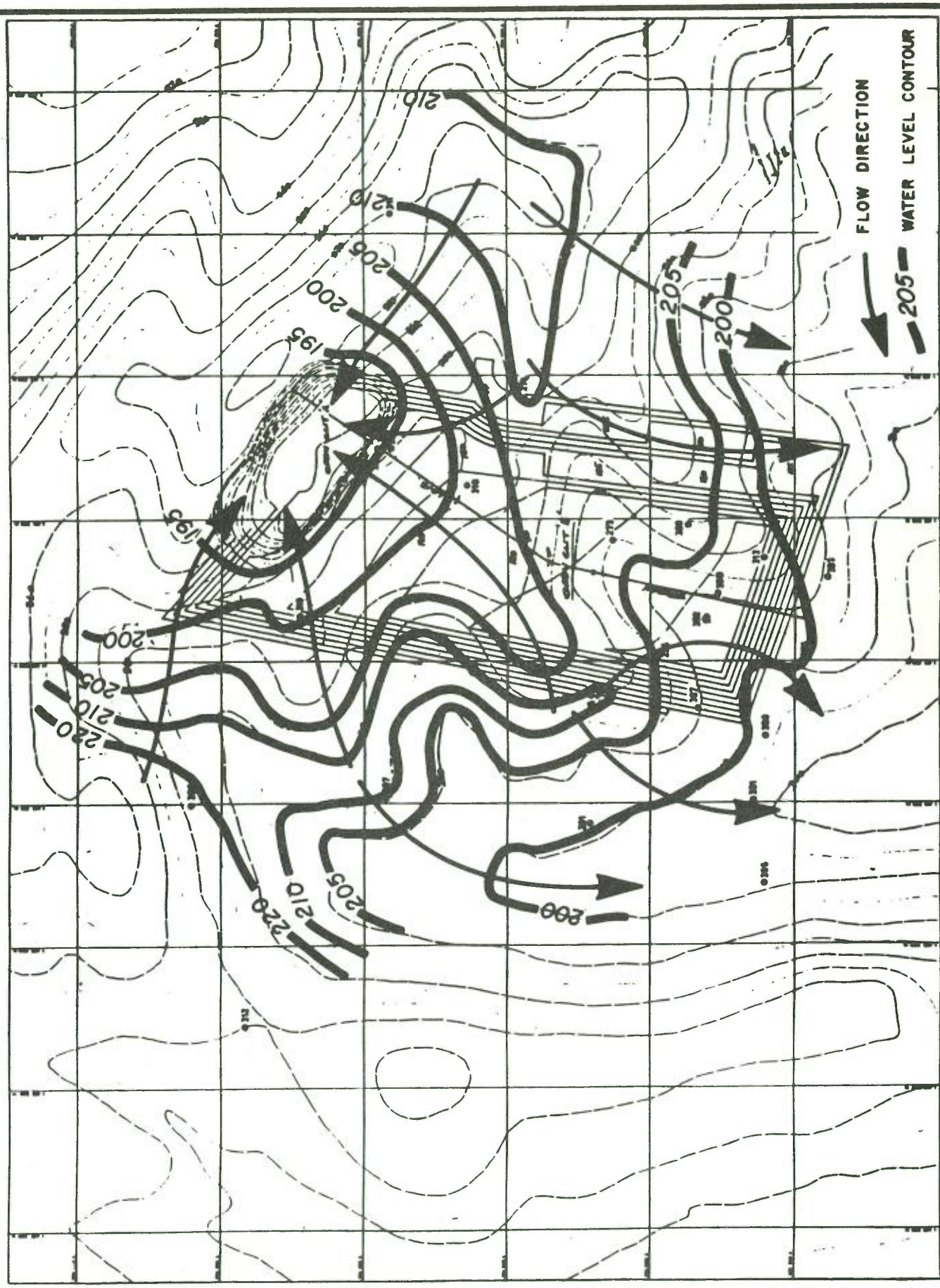
EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

WATER LEVELS

MUSWELLBROOK OPEN CUT

1981 TO 1983

DATE	DWG. NO.	FIG. NO.
NOV '83	667	A2.7



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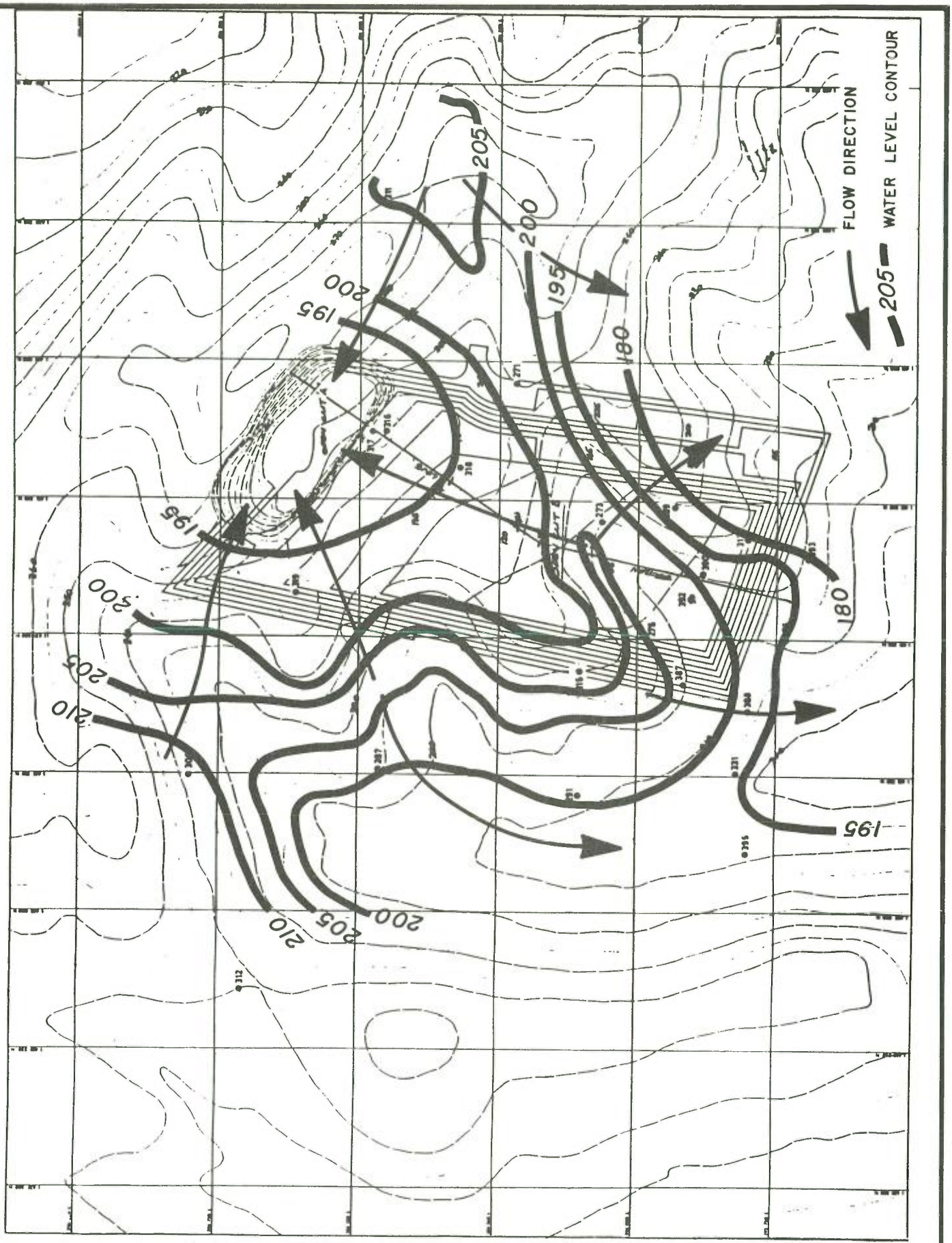
WATER LEVEL CONTOURS
MUSWELLBROOK OPEN CUT
AUGUST 1981

DATE	DWG. No.	FIG. No.
NOV '83	667	A2.8



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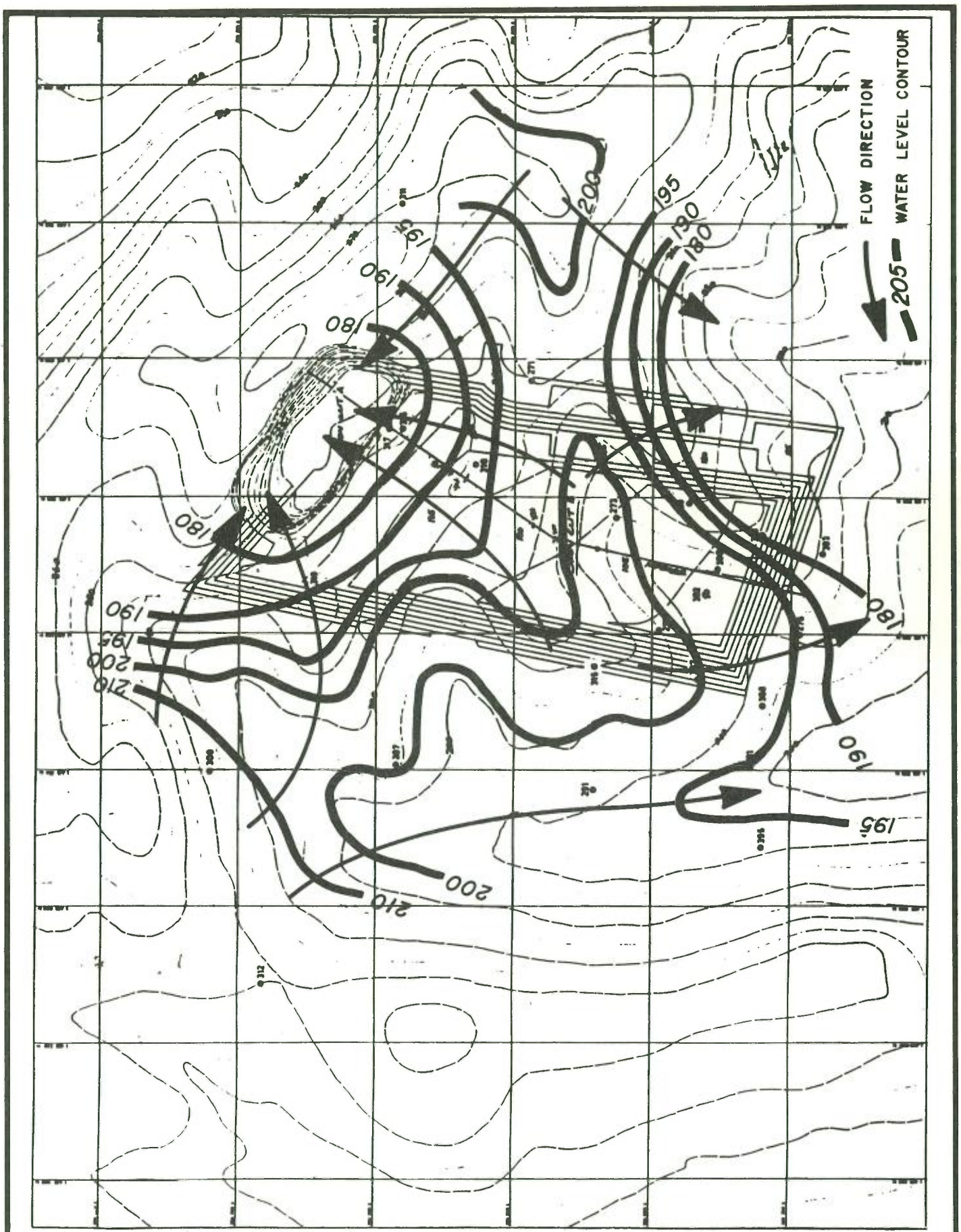
WATER LEVEL CONTOURS MUSWELLBROOK OPEN CUT NOVEMBER 1981

DATE	DWG. Nº	FIG. Nº
NOV '83	667	A2.9



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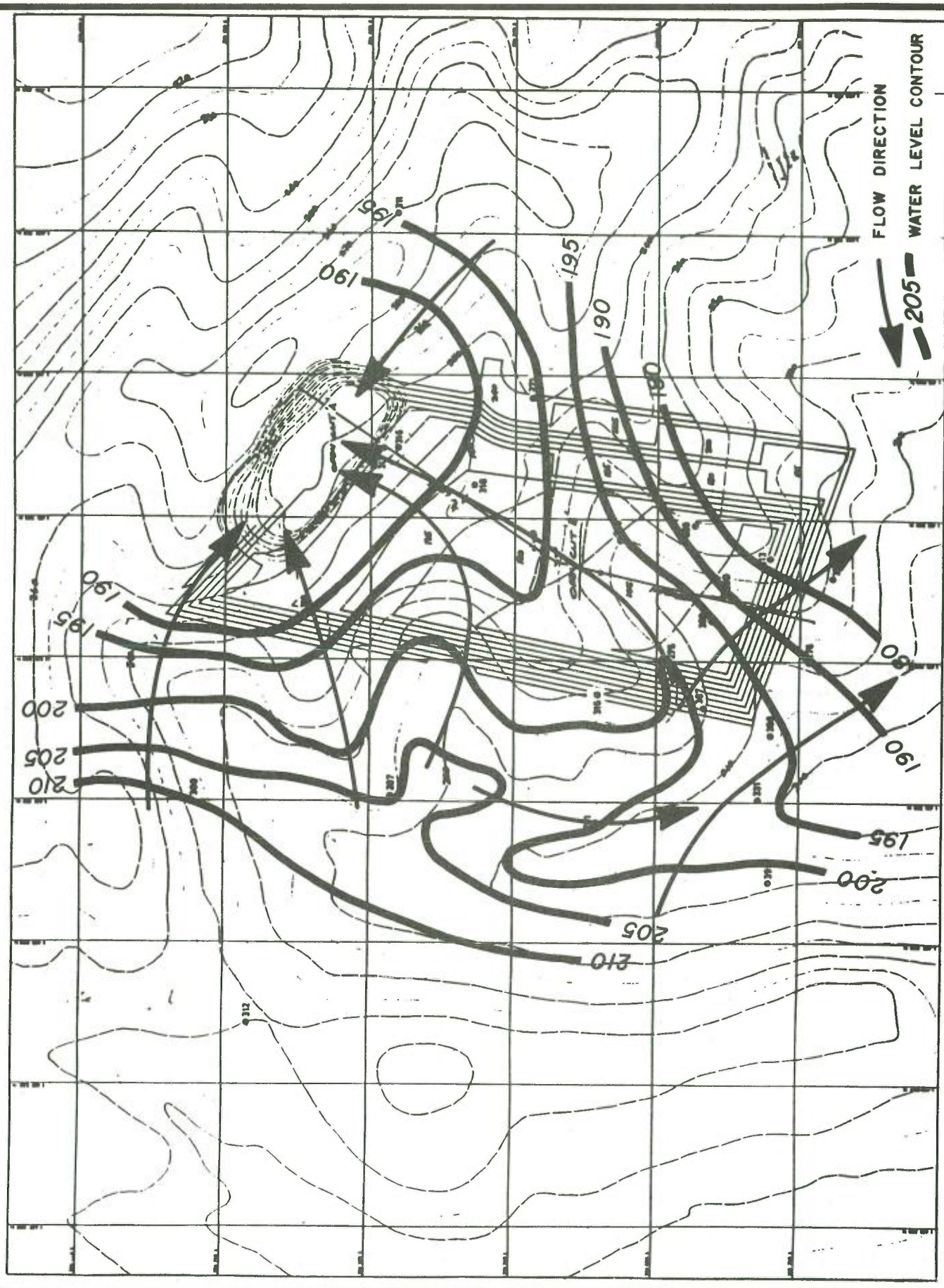
WATER LEVEL CONTOURS MUSWELLBROOK OPEN CUT JUNE 1982

DATE	DWG. No.	FIG. No.
NOV '83	667	A2.10



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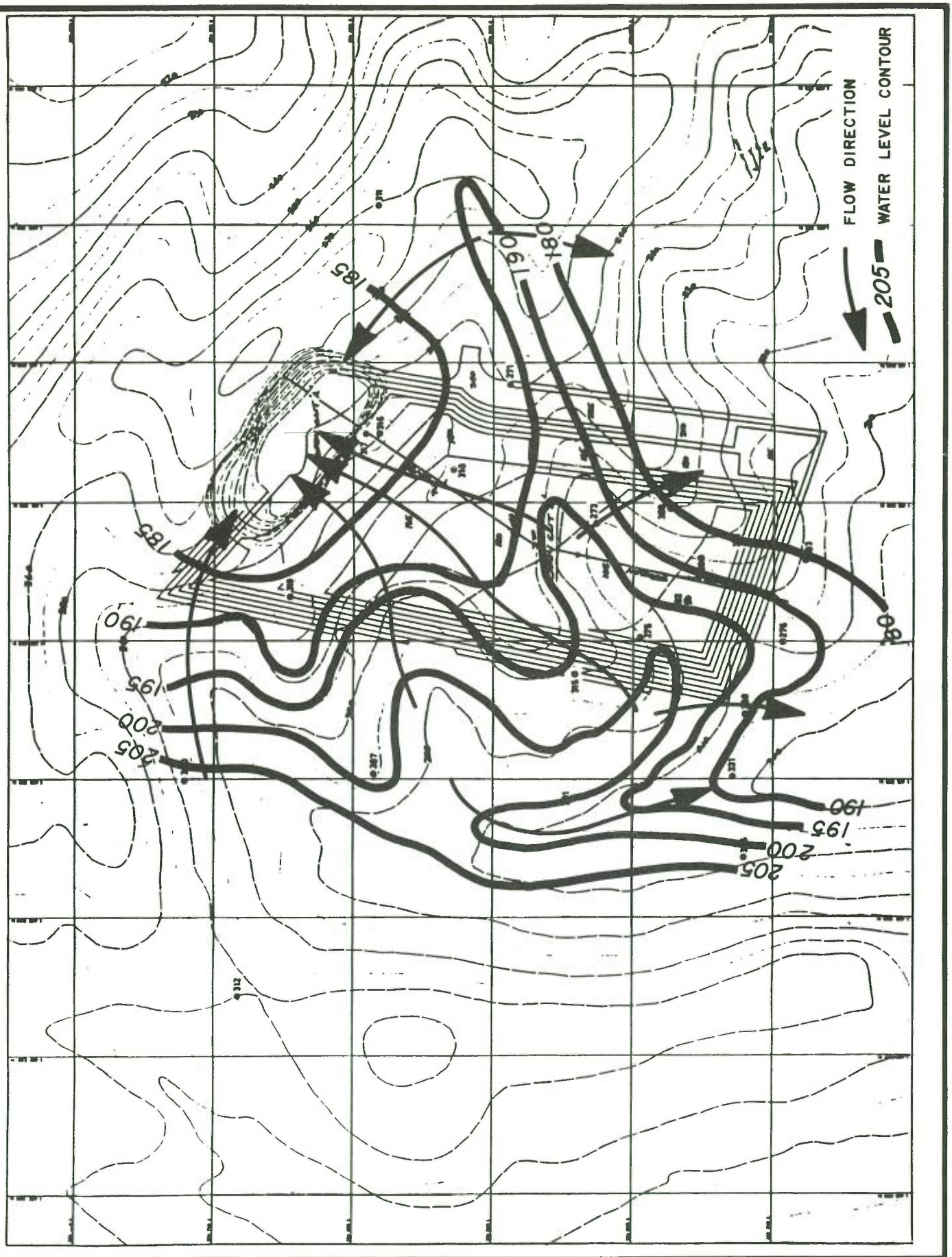
WATER LEVEL CONTOURS
MUSWELLBROOK OPEN CUT
NOVEMBER 1982

DATE	DWG. No.	FIG. No.
NOV '83	667	A2.11



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WATER LEVEL CONTOURS
MUSWELLBROOK OPEN CUT
MAY 1983

DATE	DWG. No.	FIG. No.
NOV '83	667	A2.12

2.4 Aquifer Parameters

Hydraulic Conductivity (Permeability)

An extensive series of packer permeability tests to determine the permeability of the individual coal seams and interburden materials were carried out on borehole 315.

The packer permeability tests confirm the results observed during drilling and initial hydraulic airlift testing of the borehole. This indicated that most of the water in the bore was derived from the un-named coal seam aquifer located above the Fleming Seam.

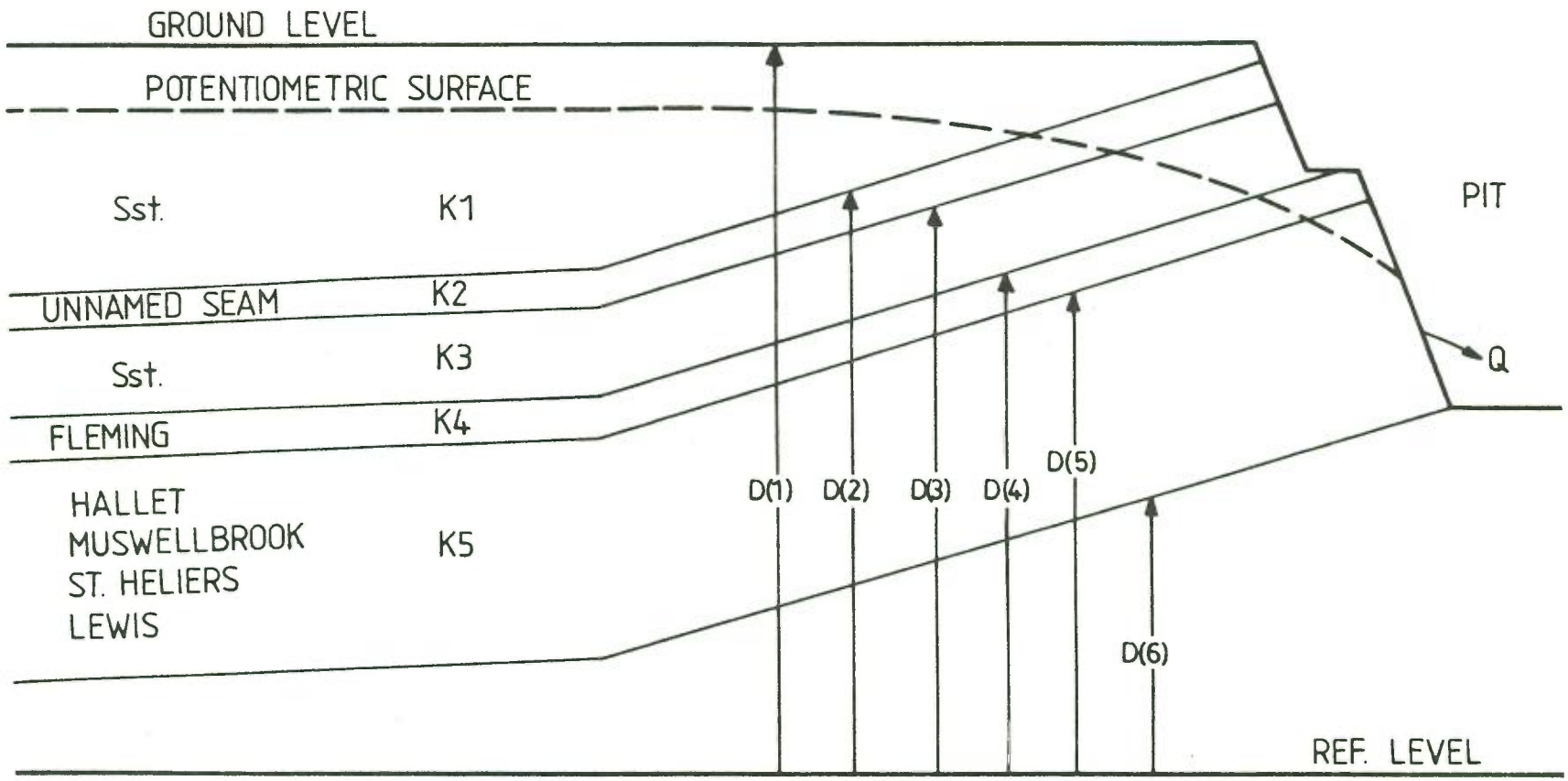
The equivalent permeability of this upper aquifer, over the 10 metre test section, is 0.058 m/day; however, since the seam is approximately 1 metre thick, the actual permeability is 0.58 m/day.

Similarly, for the Fleming Seam with a thickness of 3m, the actual permeability is 0.11 m/day.

Permeabilities determined for the remaining seams, ie: Hallett, Muswellbrook, St. Heliers and Lewis have the same order of magnitude. A plot of the results, in Figure A.2.4 shows that the permeability of the coal decreases exponentially with depth.

The wide variation of permeabilities throughout the sequence and the existence of narrow preferred flow paths indicated that it was not possible to consider flow over a uniform saturated thickness with an average permeability.

The model analysis used a pseudo multi-layered approach so that vertical changes in permeability could be simulated approximately. The multilayers were set up as shown in Figure A.3.1.



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EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

MULTI-LAYER PERMEABILITY USED IN COMPUTER MODEL-MUSWELLBROOK OPEN CUT

DATE NOV '83

DWG. No. 667

FIG. No. A3.1

Storativity

No specific tests were conducted to determine the storativity of the sequence. This parameter is required to determine the changes in water level with respect to the time due to mining.

Results obtained in similar areas indicate storativity values in the range 10^{-3} to 10^{-4}. However these tests are usually of short duration, and experience indicates that on a long term basis the effective storativity increases with time.

The long term effective storativity for the fracture rock system could increase to about 0.01. It should be noted that adopting a lower value for storativity would tend to under-estimate the total flow into the mine, whilst over-estimating the decline in the surrounding water table or potentiometric surface. For simulations conducted in the pit, a uniform storativity of 0.01 was adopted.

A.3 GROUNDWATER INFLOWS INTO MINE

3.1 Modelling Approach

Groundwater inflows into the proposed open cut was modelled using the finite difference mine inflow simulation program described in A.1.

Permeability in the model were assigned values given by the results of packer testing in bore 315, and adjusted for depth using the exponential relationship.

Thus the permeability in all layers is assumed to uniformly decrease down dip and increase up dip from bore 315.

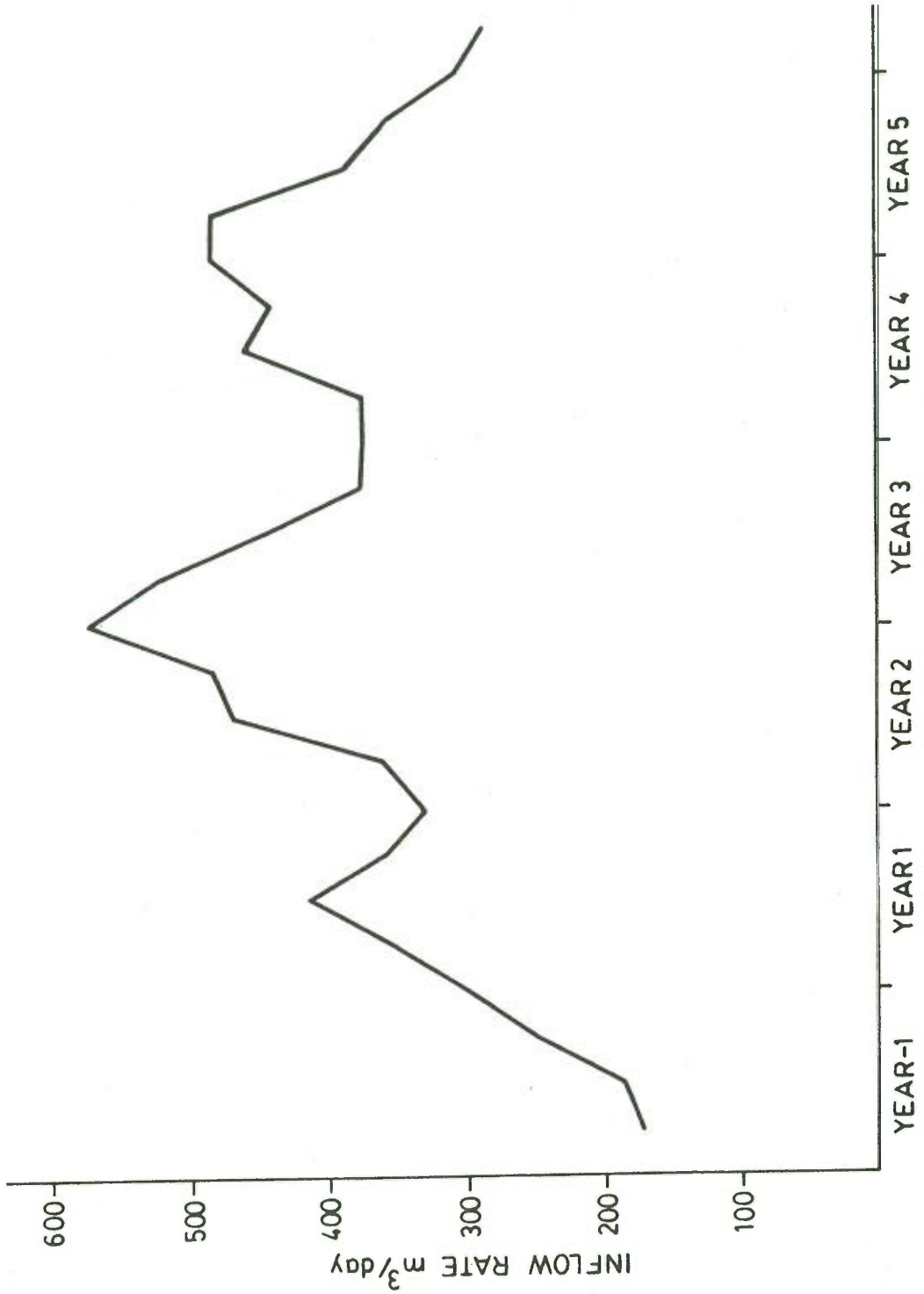
3.2 Inflows into Open Pit

Predicted groundwater inflow curves into the open cut are given in Figure A.3.2.

Generally the inflows increase with time up to a maximum of about 590 m^3/day. Variations of flows depicted in Figure A.3.2 are due to selective mining of layers with higher permeability, during each stage.

The model results indicate that up to year 4, water table declines will be less than 5 metres about 700 metres from the edge of the pit.

Measured inflows since the predictions were performed have been found to be in good agreement with the predicted inflows. In August 1982 for example, virtually no rain had fallen in the valley and groundwater pumpage from the cut averaged 450 m^3/day.



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EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

PREDICTED AVERAGE FLOW RATE

MUSWELLBROOK OPEN CUT

DATE	DWG. No.	FIG. No.
NOV '83	667	A3.2

APPENDIX B

DRILLING AND BORE HOLE PACKER TESTING

B.1 DRILLING AND BORE HOLE PACKER TESTING

1.1 WARKWORTH MINE

1.2 FIELD PROGRAM

1.3 BOREHOLE PACKER TESTING

1.4 RESULTS

APPENDIX B

B.1 DRILLING AND BOREHOLE PACKER TESTING

1.1 WARKWORTH MINE

Drilling and packer testing was carried out at Warkworth Mine Limited between 31st May and 2nd June, 1982.

The purposes of this work was to:

1) determine hydraulic conductivity (K) values for the Coal Measure sequence in this area, and
2) test a new mechanical packer with pneumatic piezometers and readout equipment.

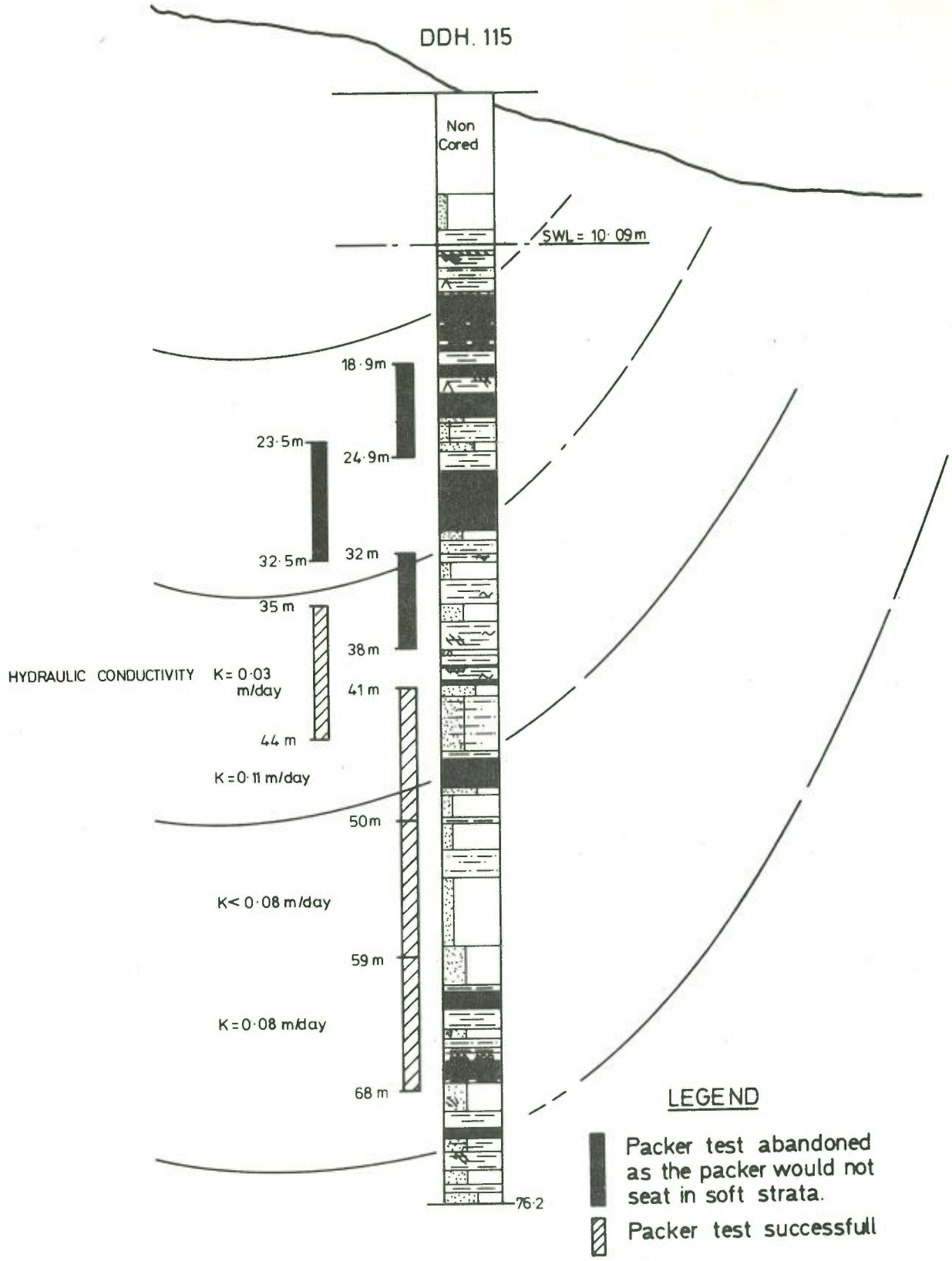
The hole was drilled near the Department of Mineral Resources coal exploration hole DDH115 so that good geological control was available (see Figure B.1).

1.2 FIELD PROGRAM

One 150 mm diameter hole was drilled to 76 m. The bore was then airlift tested for 1 hour at a maximum rate of 0.75 L/s. This was followed by 1 hour recovery measurements.

A transmissivity of 0.85m^2/day and a hydraulic conductivity of 0.06 m/day was calculated from the pumping test data (see Figure B.2).

Packer testing was carried out on several zones within the borehole (see Figure B.1). The soft weathered nature of several of the shaley horizons prevented the packer setting in some instances. These intervals were abandoned as water was found to be leaking past the packer.



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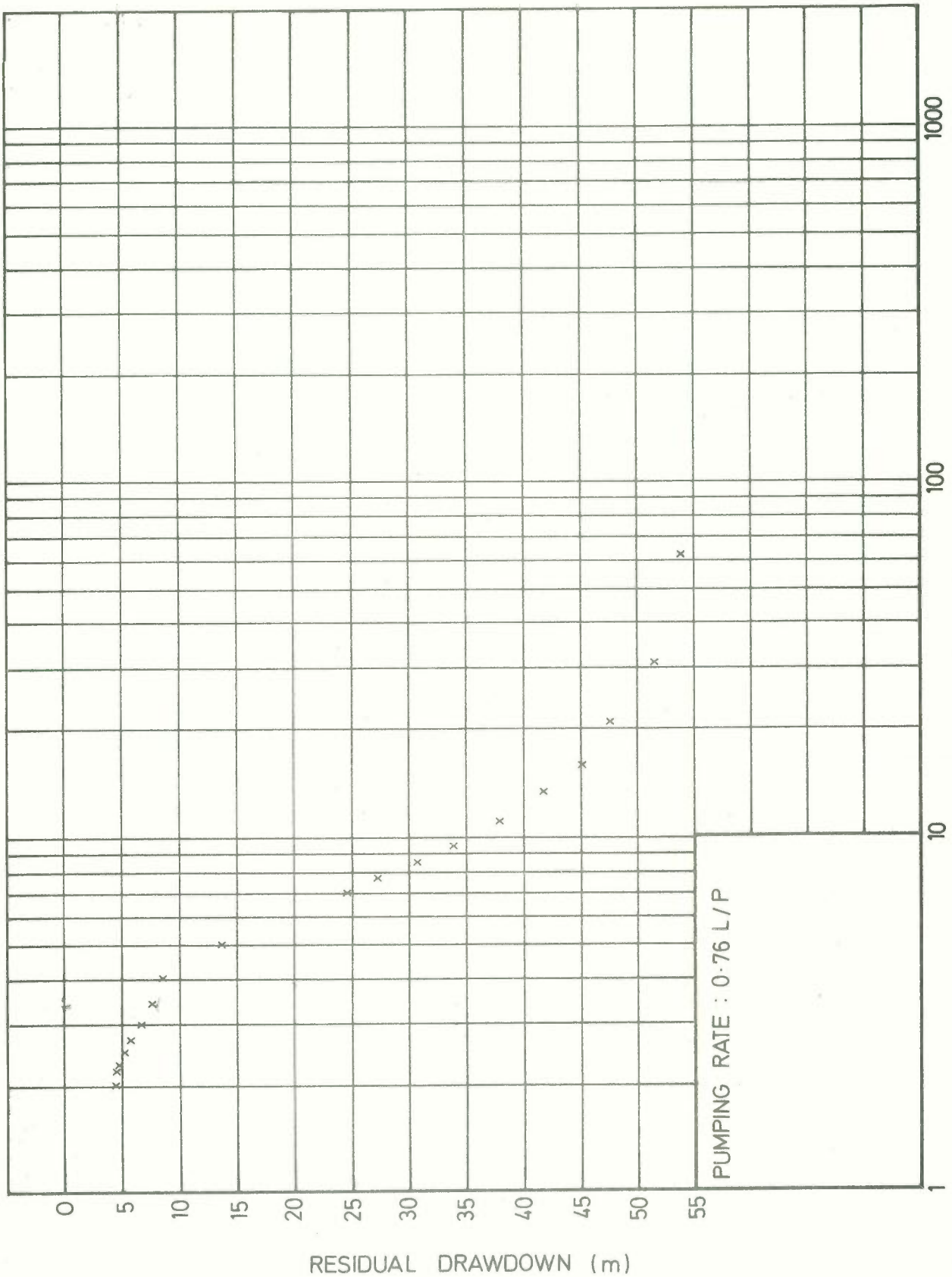
EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

PACKER TESTED INTERVALS AT BORE SITE DDH 115 - WARKWORTH MINE

DATE NOV '83 | DWG. No. 667 | FIG. No. B.1



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EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

RESIDUAL DRAWDOWN ON BORE DDH - 115

DATE	DWG. No.	FIG. No.
NOV '83	667	B.2

1.3 BOREHOLE PACKER TESTING

The mechanical packer was set at a selected depth and the following tests carried out.

- Constant head test
- Pressure drop test
- Falling head test

The layout used for the borehole packer testing is shown in Figure B.3.

The pneumatic piezometer was set up to take water pressure readings inside the packer. Some difficulties arose however from leakage in the transducer housing the packer and use of the pneumatic piezometer had to be abandoned. The pressure readings were then taken from a pressure gauge at the surface.

1.4 RESULTS

Hydraulic conductivities were determined by the bore hole packer method for the following intervals are as follows:

Depth (m)	K (m/day)
33 - 44	0.03
41 - 50	0.11
50 - 59	0.08
59 - 68	0.08

The results compare reasonably well with the permeability determined from the pumping test data (K = 0.06 m/day).

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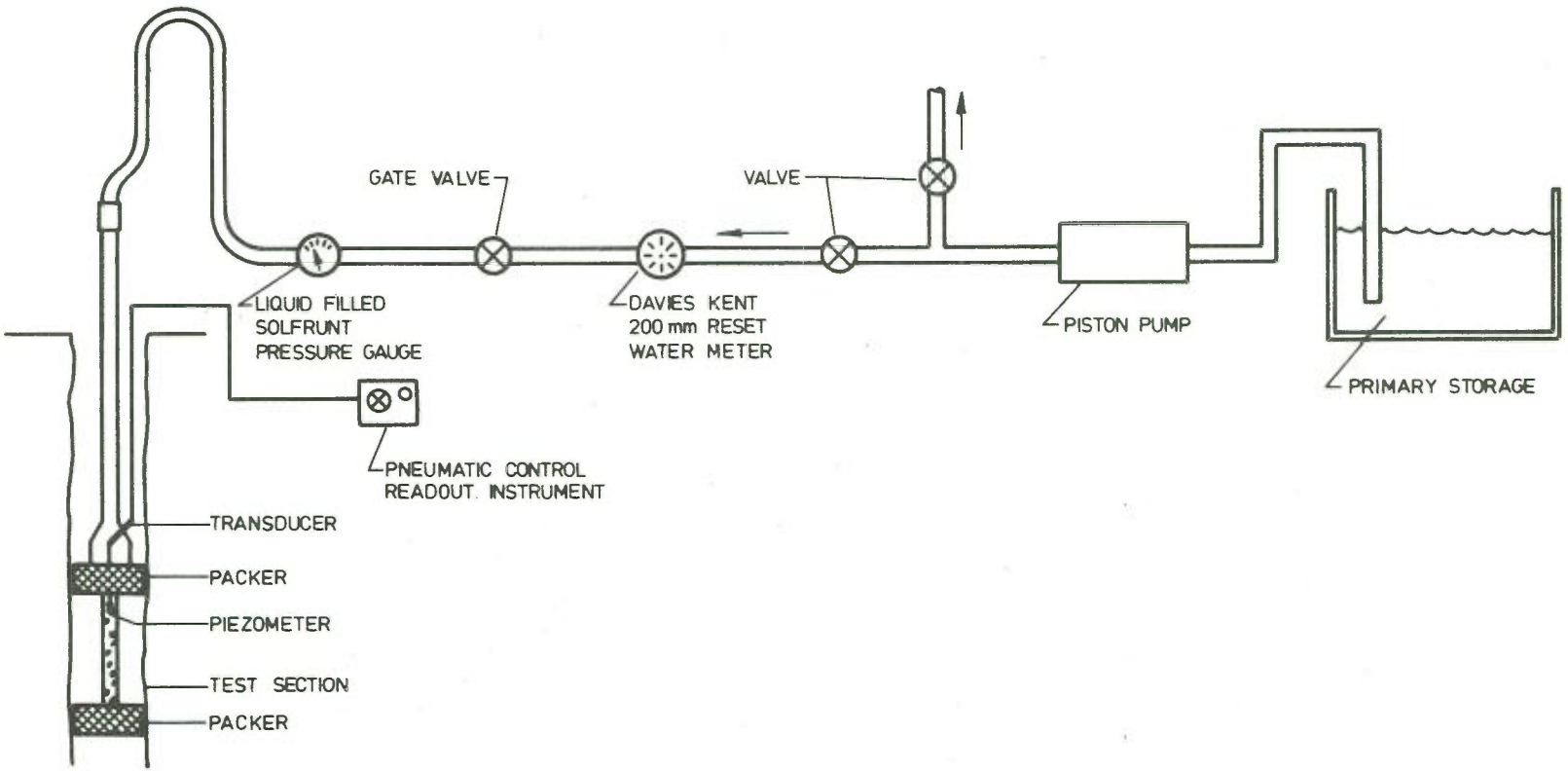
EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

SYSTEMATIC LAYOUT OF WATER PRESSURE TEST EQUIPMENT

DATE NOV '83

DWG. No. 667

FIG. No. B.3



The mechanical borehole packer worked well in competent rock types allowing accurate hydraulic conductivities to be determined for a selected interval. In soft or weathered rock types however, an effective seal could not be obtained. The method is not suitable for use in soft or weathered strata.

The pneumatic piezometer with readout equipment did not operate properly and further modifications of test set up is required. The readout equipment used (i.e. Petur) although suitable for slowly changing pressures was found to be unsuitable for relatively rapid changing pressures obtained using the packer assembly. As funds were not available to test other pressure transducer units no further testing using the packer piezometer was carried out. Nevertheless the piezometer modifications in the packer is expected to work provided a suitable pressure transducer is used with the test set up.

APPENDIX C

REGIONAL ANALYSIS OF GROUNDWATER FLOW SYSTEM

APPENDIX C

C.1 REGIONAL ANALYSIS OF GROUNDWATER FLOW SYSTEM

C.1.1 INTRODUCTION

Mienzer (1917) followed by Hubbert (1940), first outlined the general groundwater flow pattern in regional systems.

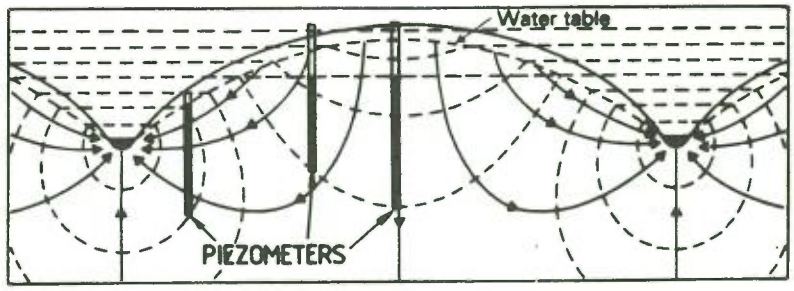
Hubbert (1940) considered flow in a uniform isotropic medium. As water offers no resistance to deformation its movement from high elevations to lower elevations would under closed conditions result in drainage of water in topographic highs and result in a flat surface of minimum potential energy (the hydrostatic condition). This tendency is opposed by continuous replenishment of rainfall recharge. The result of this movement-renewal process is the flow pattern in Figure C.1(a), the upper surface in which is a subdued replica of topography.

This diagram shows the total or hydrostatic head or equipotentials as a dotted line and the flow as solid lines. For the isotropic medium the flow lines are always perpendicular to the equipotentials

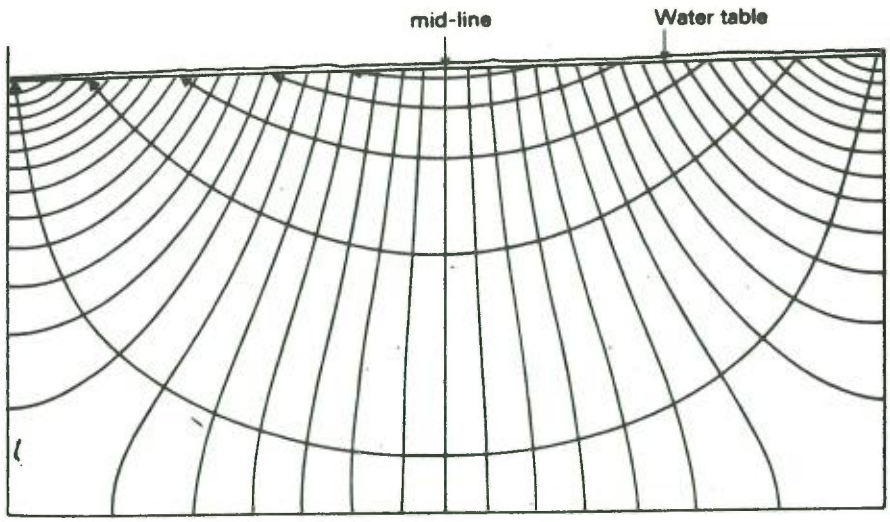
The equipotential is the total head H, and is the sum of the elevation head h_z and pressure head h_p

$$H = h_p + h_z \qquad (C.1)$$

Piezometers have been superimposed on Hubberts (1940) original diagram Figure C.1(a) to show the levels to which water would rise in them. These levels can be obtained by tracing the equipotential line along until it reaches the water table; a horizontal line drawn from this point to the piezometer represents the level to which the water level will rise in the piezometer.



(a)



(b)

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EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

FLOW PATTERN IN UNIFORM PERMEABLE MATERIAL

DATE	DWG. No.	FIG. No.
NOV '83	667	C.1

The work by Hubbert (1940) was extended by Toth (1962,1963) who showed that the flow system was influenced by a combination of regional and local topographic relief. He showed that for a gently sloping topography as depicted in Figure C.1(b) with no major discharge streams that recharge and discharge from the groundwater system is distributed over an area between a so-called mid-line and the lower lying area. Thus upstream of this mid-line, groundwater flow is downward, whilst downstream the flow is upward. These zones correspond to the recharge or source area and discharge or sink areas respectively. Between these two areas is a zone of lateral flow.

Because of the lack of numerical computer techniques at the time, Toth resorted to using analytical solutions to compute regional flow patterns for idealised configurations of the topography. These solutions are summarised by Domenico (1972).

Solutions were obtained for the hydrostatic head in a groundwater system for two idealised topography relief surfaces, namely:-

. A linear water table gradient
. A sine-wave approximation of the water table

These are depicted in Figure C.2.

Assuming that the water table can be expressed as a function of distance x, the two water table configurations can be expressed:

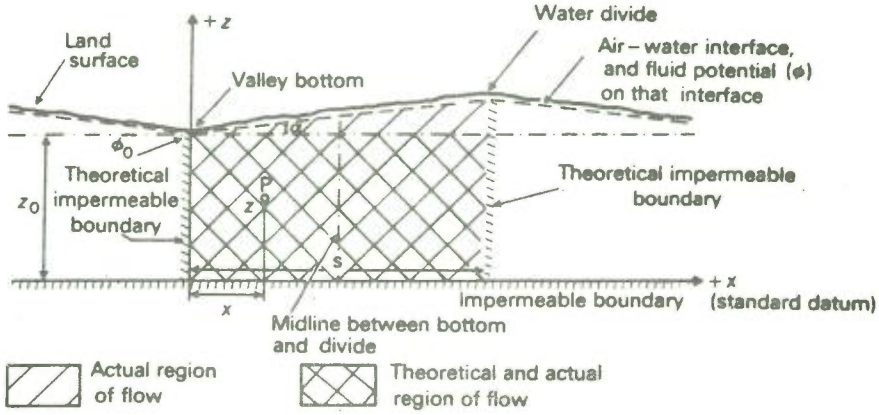
Linear -

$$f(x) = z_o + c'x \qquad (C.2)$$

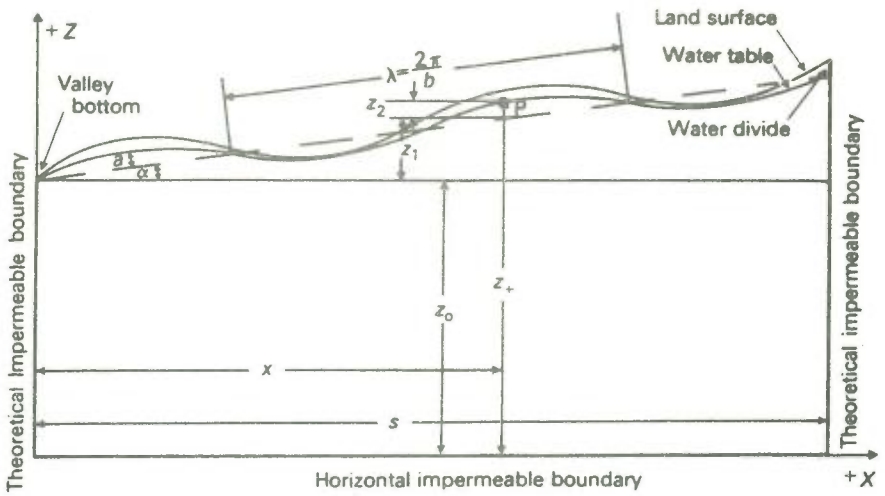
Sine-Wave -

$$f(x) = z_o + c'x + a'\sin b'x \qquad (C.3)$$

where the first represents a linear water table whose elevation decreases from the topographic high to the valley bottom, and the second is a sine-wave super-imposed on a regional slope.



(a)



(b)

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	EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES	
	TWO-DIMENSIONAL, UNCONFINED MODELS FOR LINEAR AND SINE WAVE APPROXIMATION OF WATER TABLE	
	DATE NOV '83	DWG. NO. 667 / FIG. NO. C.2

It should be pointed out that in real systems, although a linear slope is nearly possible, a sine-wave is an idealised representation of a real land surface. Nevertheless, it serves to illustrate the general principles, which would apply in more complex topography situations.

The solutions for the equipotential for each case, is given by the following equations:

Linear -

$$\Phi = g\left(z_0 + \frac{cs}{2}\right) - \frac{4gcs}{\Pi^2} \sum_{m=0}^{\infty} \frac{\cos\left[(2m+1)\Pi x/s\right] \cosh\left[(2m+1)\Pi 2/s\right]}{(2m+1)^2 \cosh\left[(2m+1)\Pi z_0/s\right]} \qquad \text{(C-4)}$$

Sine-Wave -

$$\Phi = g\left(z_0 + \frac{c's}{2} + \frac{a'}{sb'}(1 - \cos b's) + 2\sum_{m=1}^{\infty}\left[\frac{a'b'(1 - \cos b's \cos m\Pi)}{b'^2 - m^2\Pi^2/s^2} + \frac{c's^2}{m^2\Pi^2}(\cos m\Pi - 1)\right]\cos\frac{(m\Pi x/s)\cosh(m\Pi z/s)}{s\cosh(m\Pi z_0/s)}\right) \qquad \text{(C-5)}$$

where -

z_o = elevation of the water table above datum at the bottom

α = angle of slope of the water table

$c' = \tan\alpha$

$a' = \dfrac{a}{\cos\alpha}$

$b' = \dfrac{b}{\cos\alpha}$

a = amplitude of sine-curve

$b = 2\pi/\lambda$ = frequency of the sine-wave

λ = period of the sine-wave

The preceeding methods assume that the water table is stationary (ie. steady-state conditions). The analysis is therefore valid where the water table represents the average level over a long time period or where changes in water level are small compared to the depth of the groundwater system.

It is also valid where the storage flow ratio is high. The storage/flow ratio may be taken approximately as the time it would take to fill the regional system with groundwater at the natural nett recharge rate. Thus systems with a high storage/flow ratio do not fluctuate significantly in response to different climatic changes and/or recharge events.

Most regional systems in fractured and porous rocks have a large storage/flow ratio and for practical purposes the assumption of steady state may be assumed for regional flow system analysis.

Toth applied equations C.4 and C.5 to various hypothetical situations, and defined three types of flow systems.

1. A local system which has its recharge area at a topographic high and its discharge area at a topographic low that are adjacent to each other. This system is virtually synonymous with the flow system portrayed in Figure C.1.

2. An intermediate system, which is characterised by one or more topographic highs and lows located between its recharge and discharge areas.

3. A regional system, which has its recharge area at the major topographic high and its discharge area at the bottom of the basin.

Further he made three conclusions regarding the conditions under which these three systems may develop.

1. If local relief is negligible, and there is a general slope of topography, only regional systems will develop.

2. Pronounced local relief suggests that no extensive unconfined regional systems can exist across valleys of large rivers or highly elevated water-sheds. The greater the relief, the deeper the local systems that develop.

3. Under extended flat areas unmarked by local relief, neither regional nor local systems can develop. Waterlogged areas may develop, and the groundwater may be highly mineralized from concentration of salts.

Freeze and Witherspoon (1967) extended Toths concepts but made use of a more general solution technique to illustrate the regional groundwater flow pattern. They used finite-difference solution methods to solve the problem.

This technique allowed a more realistic water table configuration to be considered. Examples of flow patterns which illustrate the concepts of Toth of local and regional systems as computed by Freeze and Witherspoon are shown in Figure C.3.

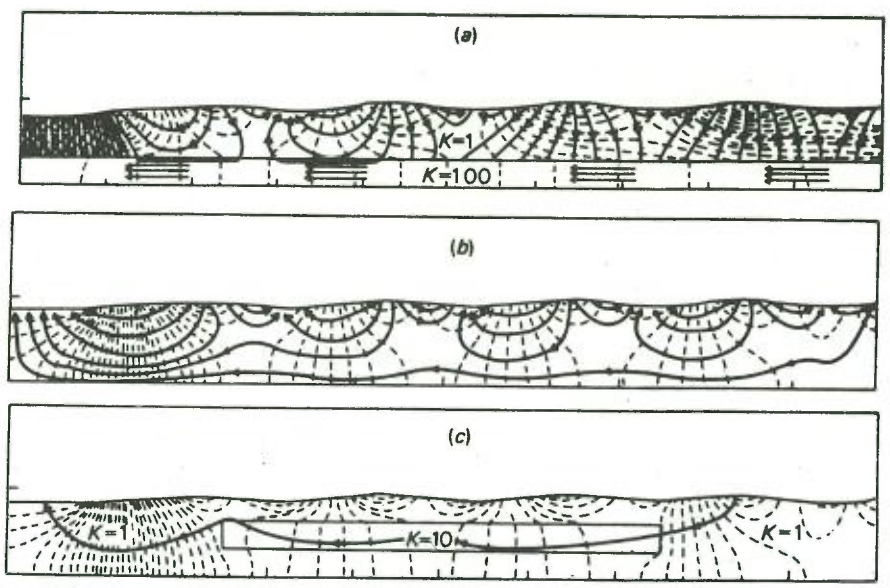
C.1.2 FINITE ELEMENT METHOD

A more powerful technique for dealing with the solution of this type of problem is now available using finite element methods. This method has been used in the present study to illustrate groundwater flow patterns in the Upper Hunter.

The finite element method is similar to the finite difference method. In both methods the flow region is divided up into a series of discrete cells or elements. In the case of the finite difference technique, the cell contains a node at its centre at which the hydraulic head is computed. In the finite element technique nodes are placed at the corners of the cell or element (Figure C.4).

Aquifer properties of the flow system within each cell or element are assumed to be constant although they may be changed from cell to cell or element to element.

For the present work a linear triangular element was used and a Galerkin solution technique to solve the necessary mathematical equations.



Flow patterns of (*a*) interbasin flow controlled by continuous high-permeability unit, (*b*) interbasin flow controlled by topographic relief, and (*c*) interbasin flow controlled by a lenticular body of high permeability. (*After Freeze and Witherspoon*, 1967.)

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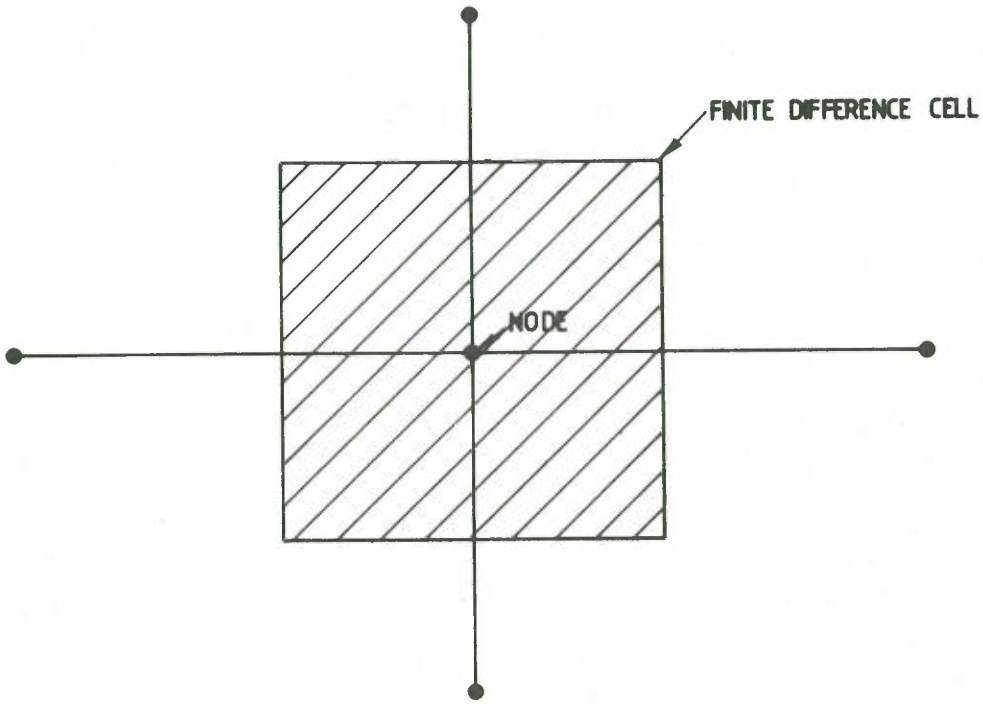
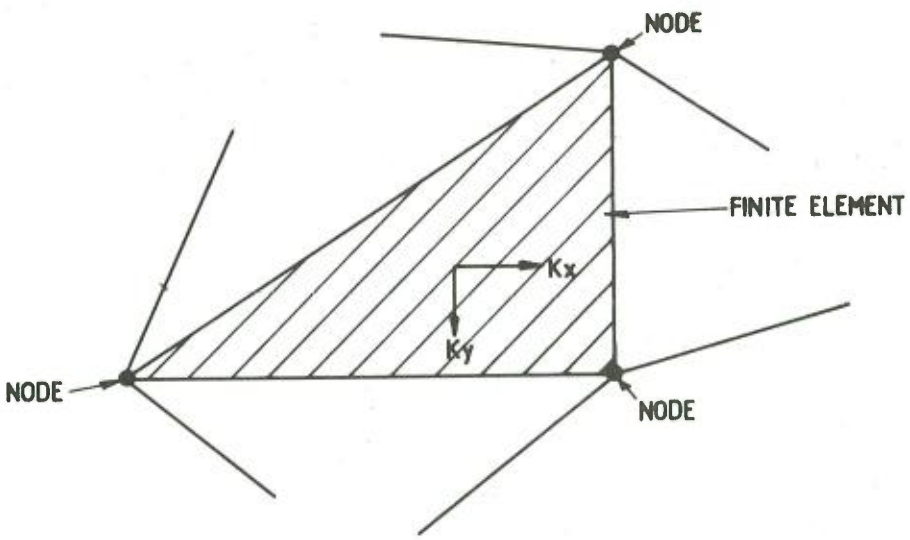
EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

SIMULATED GROUNDWATER FLOW PATTERNS

DATE NOV '83	DWG. NO. 667	FIG. NO. C.3



A. FINITE DIFFERENCE METHOD



B. FINITE ELEMENT METHOD

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EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

FINITE DIFFERENCE AND FINITE ELEMENT METHODS

DATE NOV '83 | DWG. No. 667 | FIG. No. C.4

The computer program solves the two dimensional steady state groundwater flow equation.

$$\frac{\partial}{\partial x}\left(Kx\frac{\partial h}{\partial x}\right) + \frac{\partial}{\partial y}\left(Ky\frac{\partial h}{\partial y}\right) = 0$$

where Kx, Ky are the horizontal and vertical hydraulic conductivities (permeabilities) respectively and h is the total potential (ie. pressure head and elevation head).

Complex sub-surface geological layering or structure can be represented easily by fitting a number of finite elements over these layers.

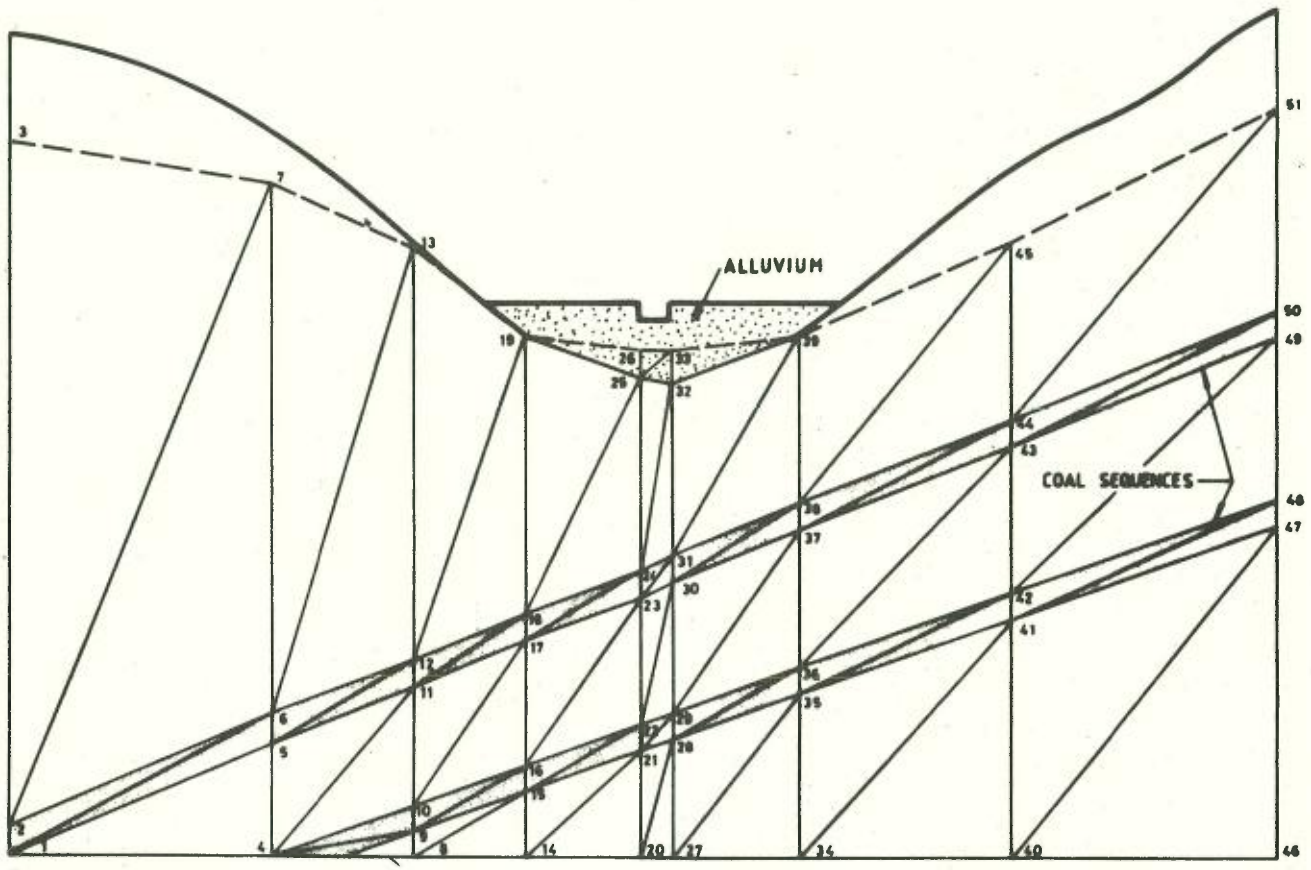
Figure C.5 shows the elements for a hypothetical profile across the Coal Measure and Hunter River Alluvium. Representative permeabilities for the alluvium, coal and interbedded rocks are first assigned to elements representing these respective layers.

Simulations are carried out by assigning constant heads at the nodes along the water table equal to the elevation head above a datum located along the bottom row of nodes in the model. The program then solves the above equation for the total head at each node point over the discretized region. Several situations were simulated in this way and are shown in Figures 2.20 and 2.21. The effect of constructing a mining pit is shown in Figure 2.22.

The figures show dotted lines of equal total head (equipotential lines) and the corresponding flow lines which for an isotropic medium will be at right angles to the equipotential lines.

In Figure 2.20 a high river stage has been represented whilst in Figure 2.21 the river is dry, and the water table in the alluvium is below the river bed.

The results of the simulations are discussed in the main text in Chapter 2.0, Section 2.5.



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EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

FINITE ELEMENT GRID
COAL MEASURES AND ALLUVIAL GROUNDWATER FLOW SYSTEMS

DATE NOV '83	DWG. Nº. 667	FIG. Nº. C.5

APPENDIX D

AQUIFER MINE PIT CHEMICAL BALANCE MODEL

APPENDIX D

The inflow model described in Appendix A has been combined with an aquifer mass transport and pit chemical balance model, to describe the hydraulic and chemical changes which will occur in the mine voids and adjacent aquifers. These models have been designated as Model 1, 2 and 3 respectively.

MODEL 1

This model determines the hydraulic behaviour of the aquifer system, and comprises the existing inflow model used for mine inflow estimation. It is based on the two-dimensional, non-linear, groundwater flow equation which may be written as:-

$$\frac{\partial}{\partial x}\left\{K_x h \frac{\partial h}{\partial x}\right\} + \frac{\partial}{\partial y}\left\{K_y h \frac{\partial h}{\partial y}\right\} = S\frac{\partial h}{\partial t} + W_s \qquad \text{(D.1)}$$

where -

Kx, Ky = the principal components of the hydraulic conductivity tensor; (L^2T^{-1})

h = hydraulic head; (L)

where -

h = $h_p + h_z$ and hp = the pressure head,

h_z = elevation head

t = time; (T)

S = storativity; (dimensionless)

W_s = hydraulic source/sink; (LT^{-1})

It is assumed here that the fracture rock system is equivalent to a continuous porous medium on a statistical basis.

MODEL 2

This model describes the chemical changes within the aquifer system and the interchange of chemical mass from the void into the aquifer and vice versa. It is based on the advection-dispersion equation which may be written as:-

$$\frac{\partial}{\partial x}\{D_x \frac{\partial c}{\partial x}\} + \frac{\partial}{\partial y}\{Dy \frac{\partial c}{\partial y}\} - Vx \frac{\partial c}{\partial x} - Vy \frac{\partial c}{\partial y} = \frac{\partial c}{\partial t} + Wc \quad (D.2)$$

where -

Dx, Dy = Hydrodynamic dispersion co-efficients; (L^2T^{-T})
c = concentration of the chemical species; (ML^{-3}).
Vx, Vy = velocity components; (LT^{-T})
t = time; (T)
Wc = chemical source/sink; (LT^{-1})

The above equation also assumes that the fractured rock system can be described as a continuous porous medium on a statistical basis.

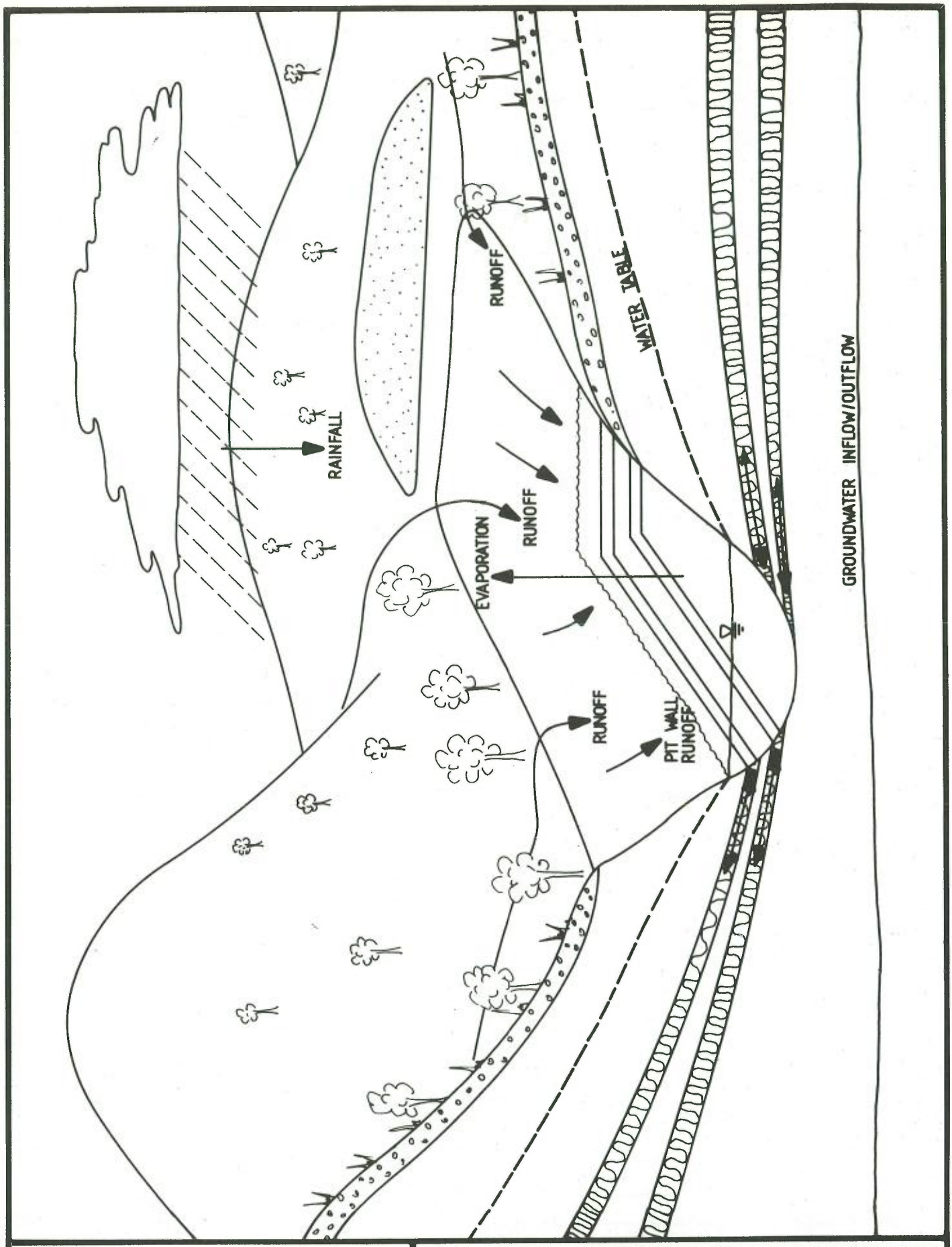
MODEL 3

This model describes the pit or void mixing and includes various input and output components.

Figure D.1 shows the components of flow considered in the pit water and chemical balance.

Catchment runoff and pit wall runoff is calcuated using the Rational Method. This method computes the runoff as a percentage of the incident rainfall. Seepage inflow and outflow is computed from the existing model in which a cell or a number of cells represent the mine pit or void.

The pit can be of a rectangular shape with vertical or sloping walls.



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EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

PIT CHEMICAL BALANCE MODEL AND COMPONENTS

DATE	DWG. No.	FIG. No.
NOV '83	667	D.1

The mine pit water balance is first computed using the relationship:

$$V_I - V_o = \Delta V \qquad (D.3)$$

where -

V_I = inflow volume; (L^3)
V_o = outflow volume; (L^3)
ΔV = change in volume; (L^3)

A chemical balance of the pit is next computed using the chemical concentrations of the various inflows to the pit.

Any outflows from the pit are assumed to be equal to the concentration of the pit water. (ie. well mixed storage).

The chemical mass balance of the pit is given by the equation:

$$M_I - M_o = \Delta M \qquad (D.4)$$

where -

M_I = mass inflow; (M)
M_o = chemical mass inflow (M)
ΔM = change in chemical mass; (M)

If we apply equation (D.3) and (D.4) over an arbitrary time step Δt and remember that:

Mass = concentration x volume

ie. $M = CV$

and that $\frac{V_I}{\Delta t} = Q_I$ and $\frac{V_o}{\Delta t} = Q_o$ we have that:

$$Q_I - Q_o = \frac{\Delta V}{\Delta t} \qquad (D.5)$$

$$C_I Q_I - C\, Q_o = \frac{\Delta (CV)}{\Delta t} \qquad (D.6)$$

where -

C_I = input concentration; (ML^{-3})

C = output concentration; (ML^{-3})

Q_I = inflow rate; (L^3T^{-1})

Q_o = outflow rate; (L^3T^{-1})

V = volume of pit; (L^3)

Two sets of conditions can apply to these equations:

1. $Q_I = Q_o$ (ie. steady state)
2. $Q_I \neq Q_o$ (ie. transient flow)

Condition 1 would occur where the inflow into the pit equals the outflow.

In this case the volume of the pit V is a constant and $\frac{\Delta V}{\Delta t}$ is zero in equation (D.5)

V is also a constant in equation (D.6)

Hence the equation becomes;

$$C_I Q_I - C\,Q_o = V\,\frac{C}{\Delta t} \qquad (D.7)$$

or

$$C_I Q_I - C\,Q_o = \frac{V(C_{t+\Delta t} - C_t)}{\Delta t} \qquad (D.8)$$

where -

$C_{t+\Delta t}$ = concentration at the end of the time step t ; (ML^{-3})

C_t = concentration at the beginning of the time step t; (ML^{-3})

Analytical Solution

It is possible to derive an analytical solution to Equation (D.8) for the pit. This solution is given by:

$$C = C_I + (C_o - C_I)\, e^z \qquad (D.9)$$

where:

$z = \frac{Qt}{V}$

C = concentration of the pit volume; (ML^{-3})

C_I = input chemical concentration; (ML^{-3})

Q = input rate; (L^3T^{-1})

t = time period; (T)

Condition 2 is the most common case since the input rate is generally not equal to the output rate. In this case Equation (D.9) can be written:

$$C_I Q_I - C\, Q_o = \frac{(C_{t+\Delta t}\, V_{t+\Delta t} - C_t\, V_t)}{\Delta t} \qquad (D.10)$$

Analytical Solution

An analytical solution to (D.10) can be derived by integration which yields:

$$C = C_o + (C_o - C_I)e^z \qquad (D.11)$$

where

$$z = \frac{Q_o}{(Q_I - Q_o)} \ln \frac{(V_o - (Q_I t - Q_o t)}{V_o} \qquad (D.12)$$

For the finite difference model Equations (D.5) and (D.10) can be used directly.

Given that the area of the pit is A then (D.5) can be written as:

$$Q_I - Q_o = A.\frac{h_{t+\Delta t} - h_t}{\Delta t} \qquad (D.13)$$

Thus,

$$h_{t+\Delta t} = \frac{\Delta t}{A}(Q_I - Q_o) + h_t \qquad (D.14)$$

Also Equation (D.10) can be written as:

$$C_{t+\Delta t} = \frac{\Delta t}{V_{t+\Delta t}}(C_I Q_I - C Q_o) + \frac{C_t V_t}{V_{t+\Delta t}} \qquad (D.15)$$

For a sloping sided pit the depth, area volume relationship can be obtained by creating an imaginary pyramid with an internal angle θ and height h.

$$V = hA/3 \qquad (D\text{-}16)$$

where V = volume of pyramid; (L^3)
h = depth of pyramid; (L)
A = area; (L^2)

$$\text{also } h = 0.5\ L.\ \tan\theta \qquad (D\text{-}17)$$

Where L = length of pit at surface; (L)
θ = pit wall slope from the horizontal

The influent volume is added to the imaginary pyramid volume and a new height is calculated as follows:

$$h_T = (0.75.V.\ \tan\theta_1,\ \tan\theta_2)^{1/3} \qquad (D\text{-}18)$$

Where θ_1 = pit wall slope at one end of the pit
θ_2 = pit wall slope at the adjacent ends

Note: θ_2 is obtained by calculating θ from D-17 using the adjacent pit width.

The depth of water in the pit is $(h_T - h)$

$$\text{Also } A = 4h_T^2/\tan\theta_1.\tan\theta_2 \qquad (D\text{-}19)$$

For the pit $h_{t+\Delta c}$ is first determined from Equation (D.14) and then substituted in equation (D.15) to determine $C_{t+\Delta t}$.

C_I,Q_I and Q_o are determined by the finite difference model. Note that C in Equation (D.15) can be taken at the t or $t+\Delta t$ time level.

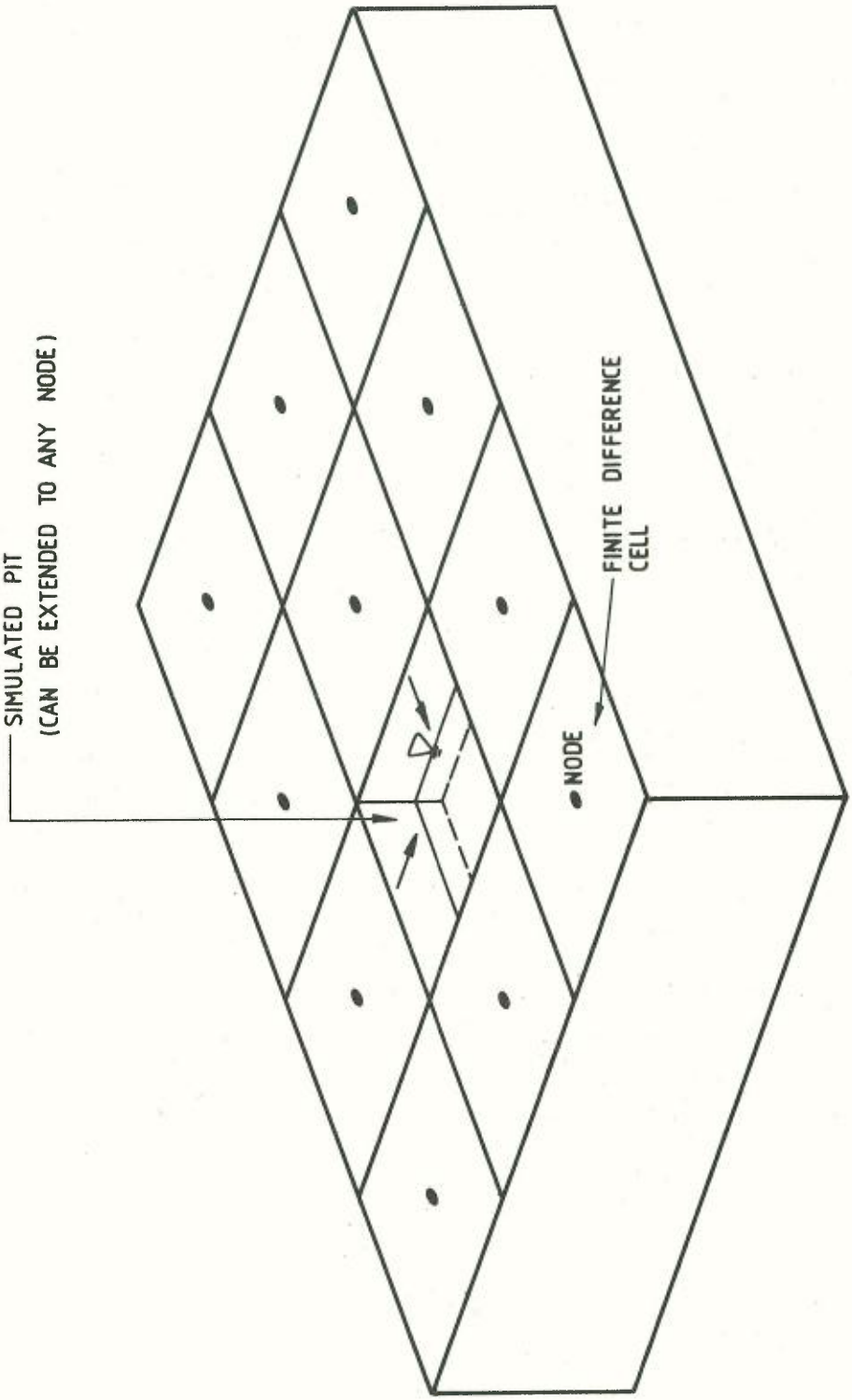
The model is operated in the following way: the decline caused by the construction of the mine pit is first simulated. This involves solving Equation D.1 over a defined grid which extends over the area. This results in a series of hydraulic heads at each node point. (Figure D.2). Groundwater velocities in the aquifer are determined from these hydraulic heads between each cell. These velocities are used in Equation D.2. The rate of inflow or outflow from the aquifer to the void is then determined. Inflow occurs if the pit water level is below the water table, whilst outflow occurs if the pit water level is above the water table.

Equation (D.2) is then solved over the grid or cell system to determine the concentrations at each node.

Finally, Equations (D.14) and (D.15) are solved to determine the new water concentrations in the void.

This process is carried out over a series of time steps over the selected total simulation time.

Note that the model is capable of extending the dimensions of pit with respect to time if required.



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EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

FINITE DIFFERENCE INFLOW & CHEMICAL BALANCE PIT MODEL

DATE NOV '83	DWG. No. 667	FIG. No. D.2

APPENDIX E

SPOIL DRILLING AND TESTING

APPENDIX E

E.1 SPOIL DRILLING AND TESTING

1.1 DRILLING

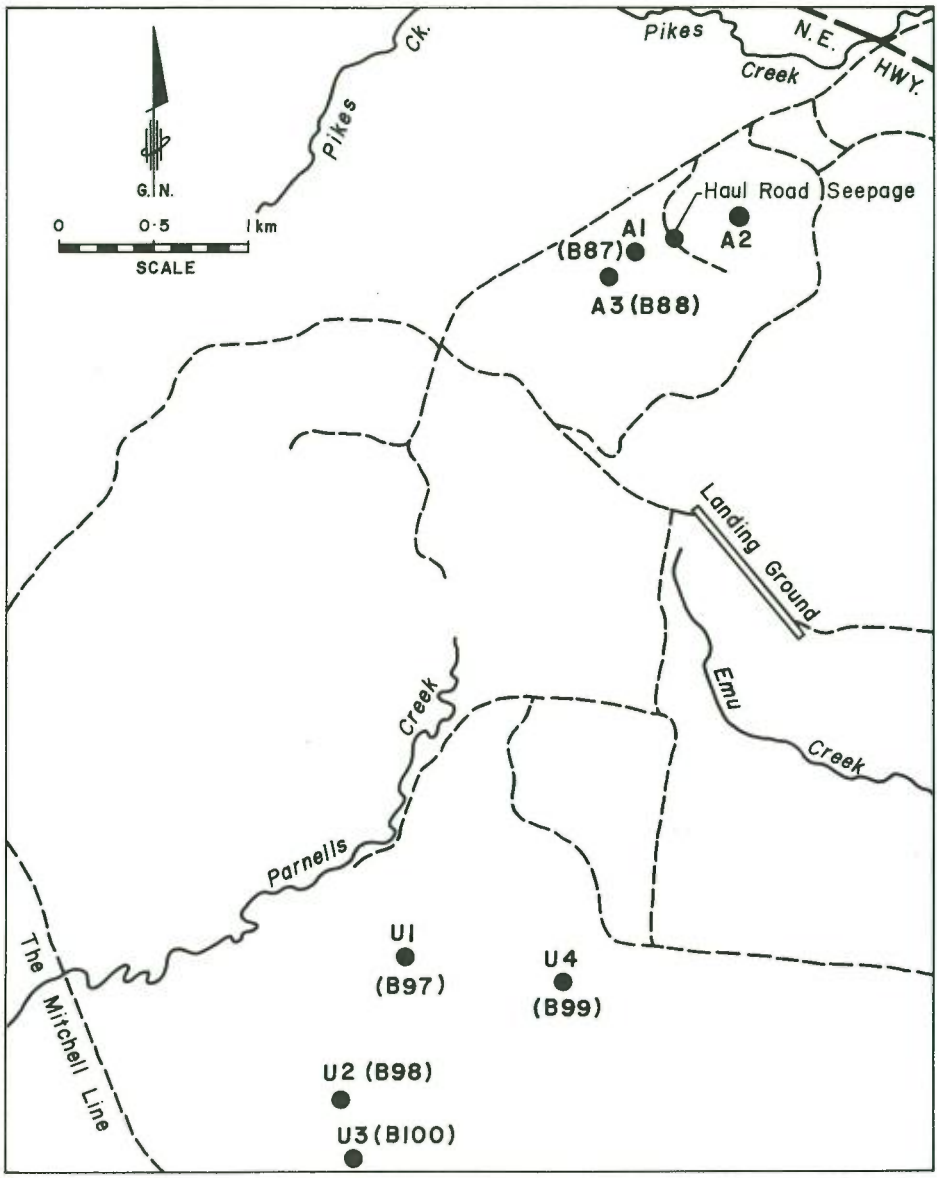
Six piezometers have been constructed in the overburden spoil to examine the hydraulic characteristics of the broken rock and to measure the changes in the water quality with time. Spoil generated by both the truck and shovel method of mining and the dragline method has been examined in the Wittingham Formation.

Initially, three bores were constructed in June 1981 at a truck and shovel operation in the Howick Colliery (Figure E.1). Drilling was performed using a cable tool rig and the piezometers were completed with 80 mm diameter PVC casing, slotted at the base. Driller logs and completion details are given in Figures E.2 to E.4.

Two piezometers (numbers B1 and B2 in Figure E.5) were constructed in February 1983, at Buchanan Open Cut Colliery also a truck and shovel operation. Drilling was performed using a air rotary drilling technique. Driller logs and completion details are given in Figures E.6 to E.7.

One piezometer (C.1 in Figures E.8) was also installed in the Costain's Ravensworth No.2 Colliery, a dragline operation, in February 1983. The drillers log and construction details are given in Figure E.9.

All of the above six piezometers were drilled through the overburden to the mined out floor of the respective open cuts. The drilling conditions were similar at all sites. During drilling it was found that chert and jasper boulders, residuals from beds of conglomerate, reduced the penetration rate considerably. The drilling rate was otherwise reasonably constant at about 3 m per hour.



(after Soil Conservation Service 1983)

A1 Piezometer in spoil (see results Tables 13 & 14)
U1 Bore in undisturbed strata
(B87) Water analysis reference number

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EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

GROUNDWATER SAMPLING SITES & PIEZOMETER LOCATIONS, HOWICK COLLIERY

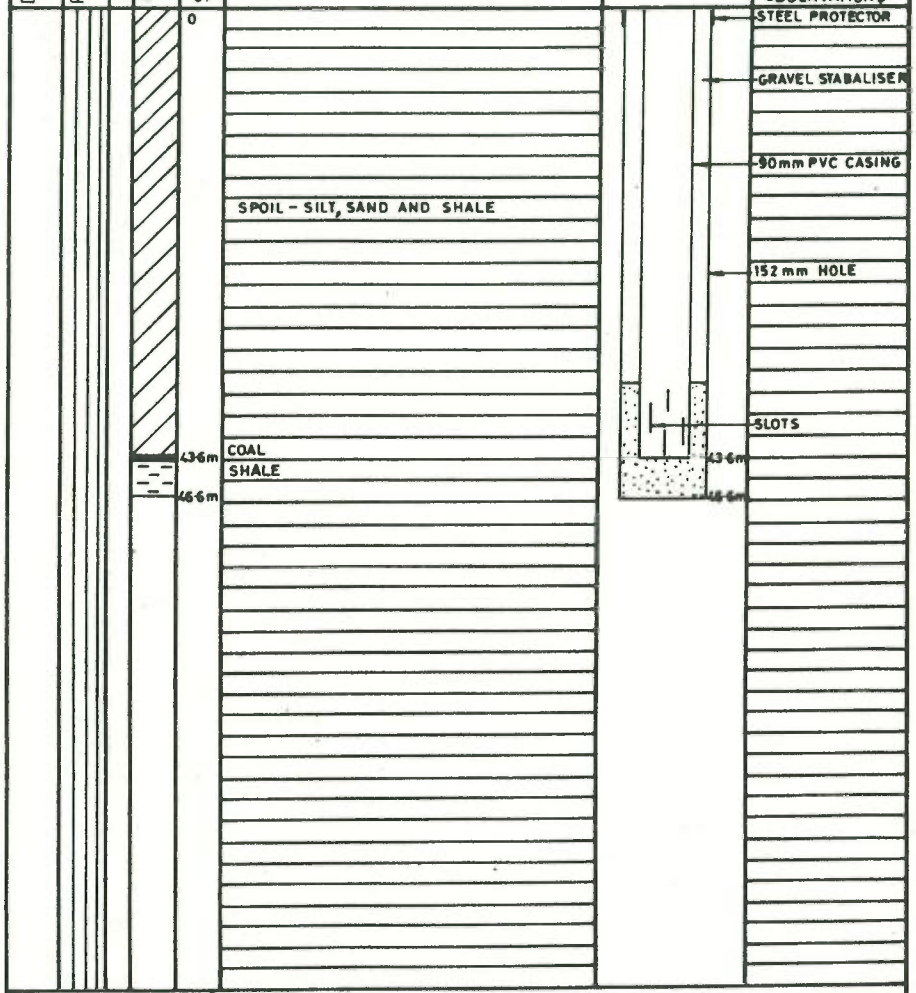
DATE	DWG. NO.	FIG. NO.
NOV '83	667	E.1

GEOLOGICAL LOG OF DRILL HOLE

PROJECT HOWICK SPOIL DRILLING CLIENT N.S.W. COAL ASSOCIATION JOB Nº 667

HOLE Nº A1 CO-ORDINATES E N R.L. GROUND

LOCATION



DRILL TYPE
FEED
DRILLER B.B. DRILLING
COMMENCED
COMPLETED
LOGGED BY
CHECKED BY

Scale : 2cm : 10m

KEY

drilling method
b - blade bit
h - hammer
r - roller bit
c - diamond coring
t - tungsten coring

penetration
no resistance ranging to refusal

water
10-1-80 water level and date
water inflow
water outflow

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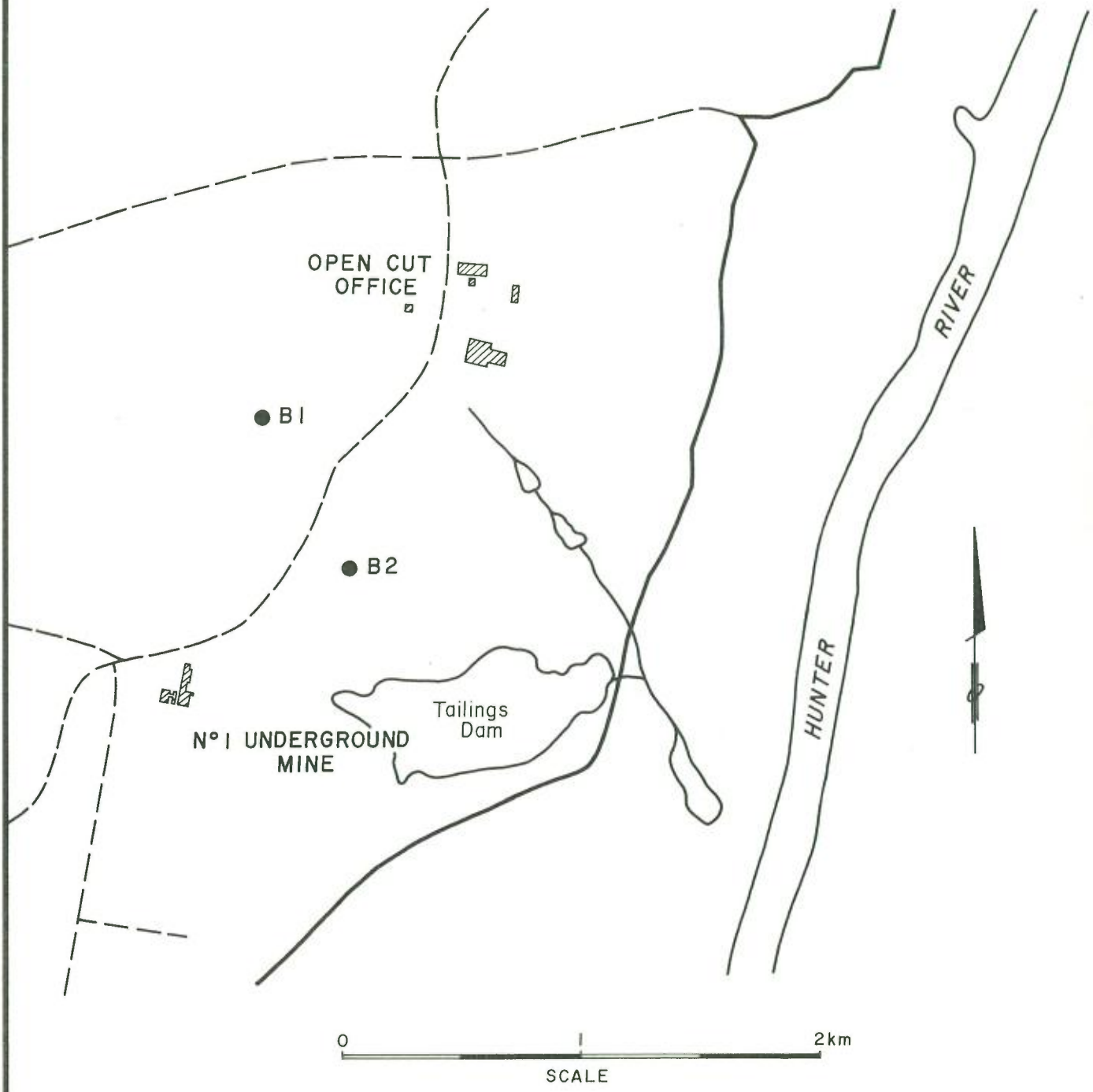
NEW SOUTH WALES COAL ASSOCIATION

EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

LOG OF BORE A1

DATE NOV '83 | DWG. Nº 667 | FIG. Nº E.2



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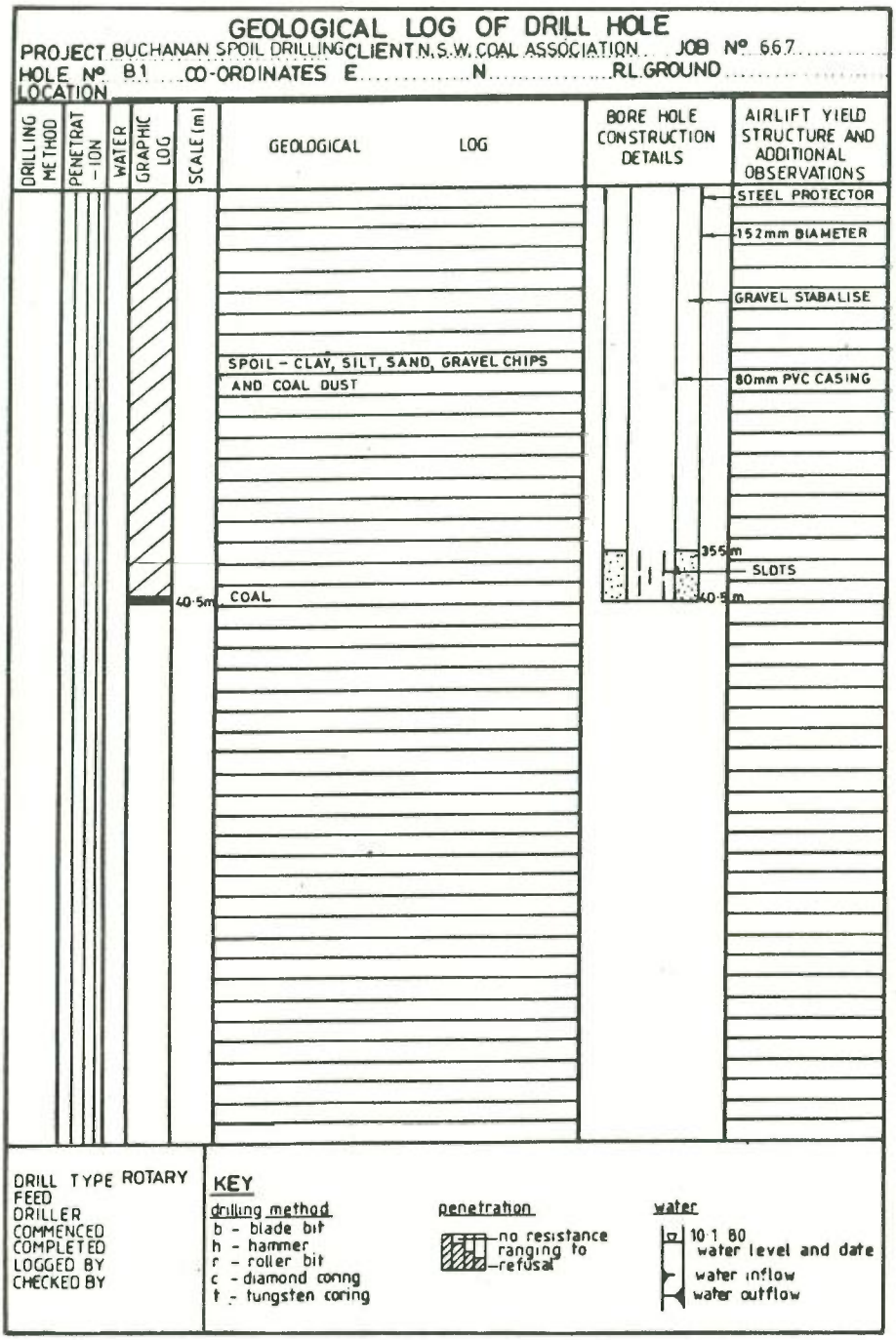
EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

PIEZOMETER LOCALITY
BUCHANAN COLLIERY

DATE	DWG. NO.	FIG. NO.
NOV '83	667	E.5



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EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

LOG OF BORE B1

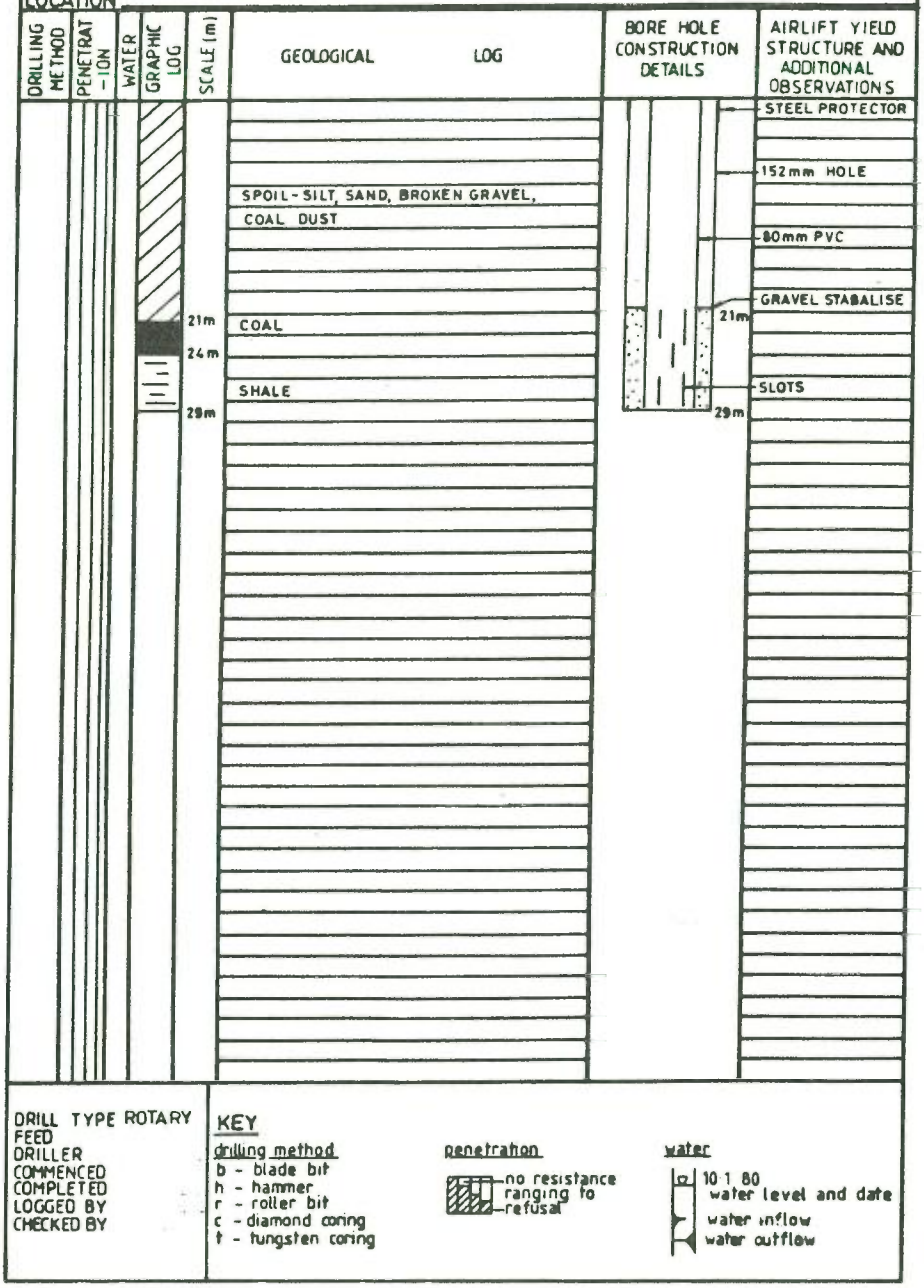
DATE	DWG. Nº	FIG. Nº
NOV '83	667	E.6

GEOLOGICAL LOG OF DRILL HOLE

PROJECT BUCHANAN SPOIL DRILLING CLIENT N.S.W COAL ASSOCIATION JOB Nº 667

HOLE Nº B2 CO-ORDINATES E N R.L.GROUND

LOCATION



DRILL TYPE ROTARY
FEED
DRILLER
COMMENCED
COMPLETED
LOGGED BY
CHECKED BY

KEY

drilling method
- b - blade bit
- h - hammer
- r - roller bit
- c - diamond coring
- t - tungsten coring

penetration
- no resistance ranging to refusal

water
- 10 1 80 water level and date
- water inflow
- water outflow

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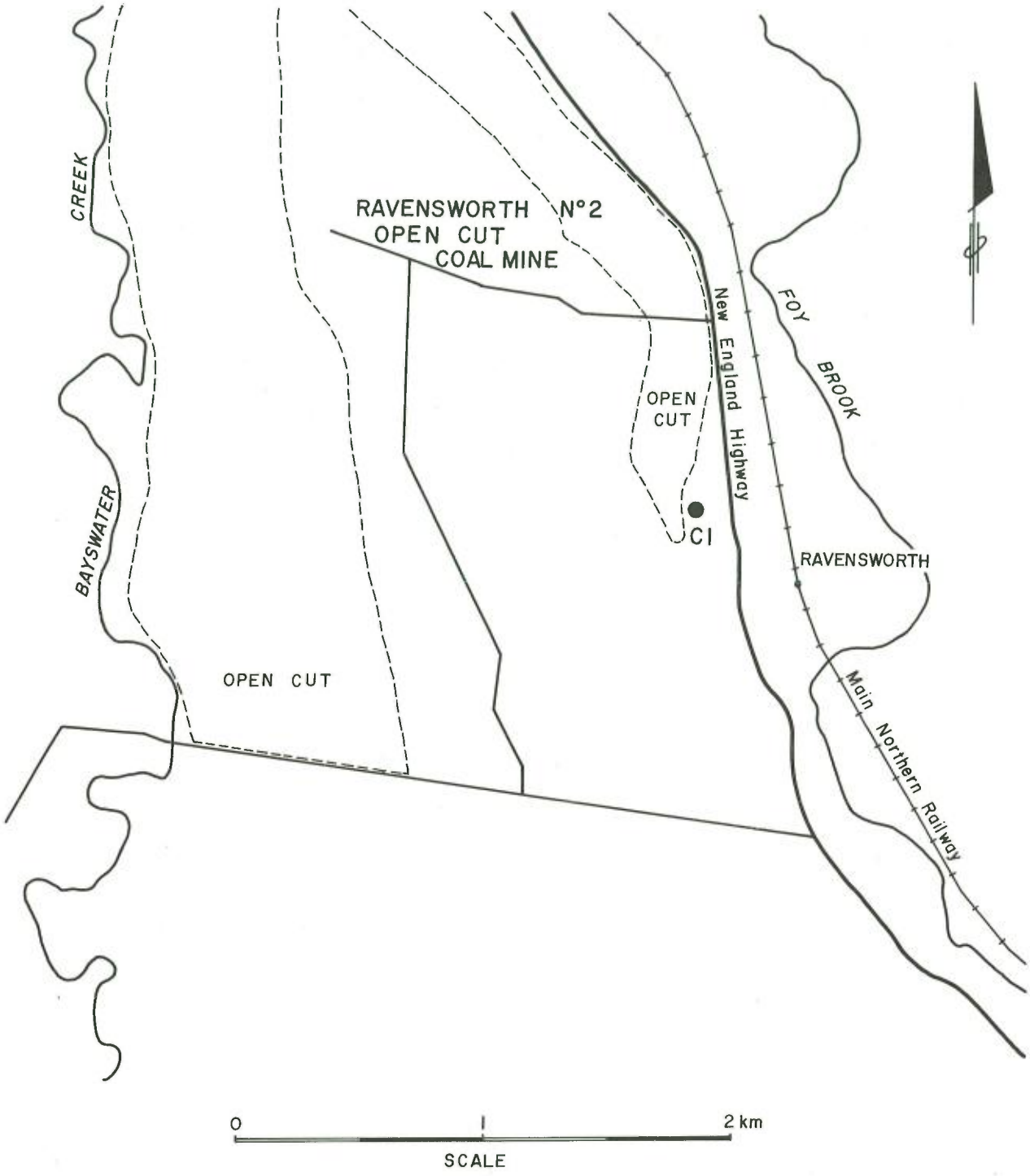
EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

LOG OF BORE B2

DATE	DWG. Nº	FIG. Nº
NOV '83	667	E.7



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NEW SOUTH WALES COAL ASSOCIATION

EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

PIEZOMETER LOCALITY
RAVENSWORTH N° 2 MINE

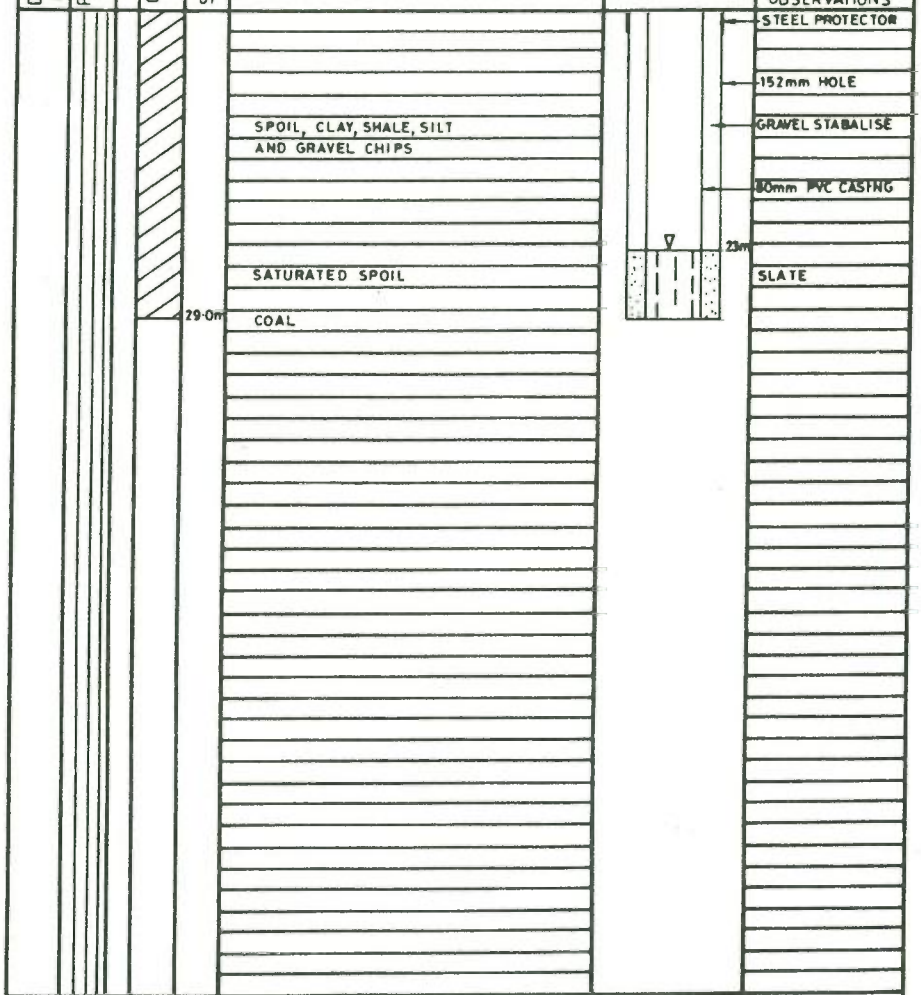
DATE	DWG. NO.	FIG. NO.
NOV '83	667	E.8

GEOLOGICAL LOG OF DRILL HOLE

PROJECT COSTAIN SPOIL DRILLING CLIENT N.S.W. COAL ASSOCIATION JOB Nº 667

HOLE Nº C1 CO-ORDINATES E ..... N ..... RL GROUND .....

LOCATION



DRILL TYPE ROTARY
FEED
DRILLER
COMMENCED
COMPLETED
LOGGED BY
CHECKED BY

KEY

drilling method
b - blade bit
h - hammer
r - roller bit
c - diamond coring
t - tungsten coring

penetration
- no resistance ranging to refusal

water
- 10 1 80 water level and date
- water inflow
- water outflow

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EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

LOG OF BORE C1

DATE NOV '83 | DWG. Nº 667 | FIG. Nº E.9

A water table was penetrated in piezometers A.1, A.3 and C.1. Piezometers A.2, B.1 and B.2 were dry at the time of drilling.

1.2 TESTING

Falling head permeability tests were carried out on all piezometers on completion of the drilling. These tests were used to determine the insitu permeability of the spoil material. The permeability of the rock mass is determined from the rate of fall of an induced excess head of water.

1.3 PROCEDURE

Water was added to the hole from a tanker truck and the rate of water level decline measured over a period of 25 to 100 minutes. The length of test sections is equal to the slotted PVC interval in each piezometer. The results of the testing have been analysed and are given in Figures E.10 to E.14. The calculated permeabilities are tabulated below.

TABLE 1

SPOIL PERMEABILITY DATA

Piezometer No.	Length of Test Section (m)	Duration of Test (min)	Permeability m/day
A1	5	40	0.16
A2	6		$\geq 10^{*}$
A3	5	25	0.01
B1	5	100	0.04
B2	5	60	0.02
C1	5	60	0.12

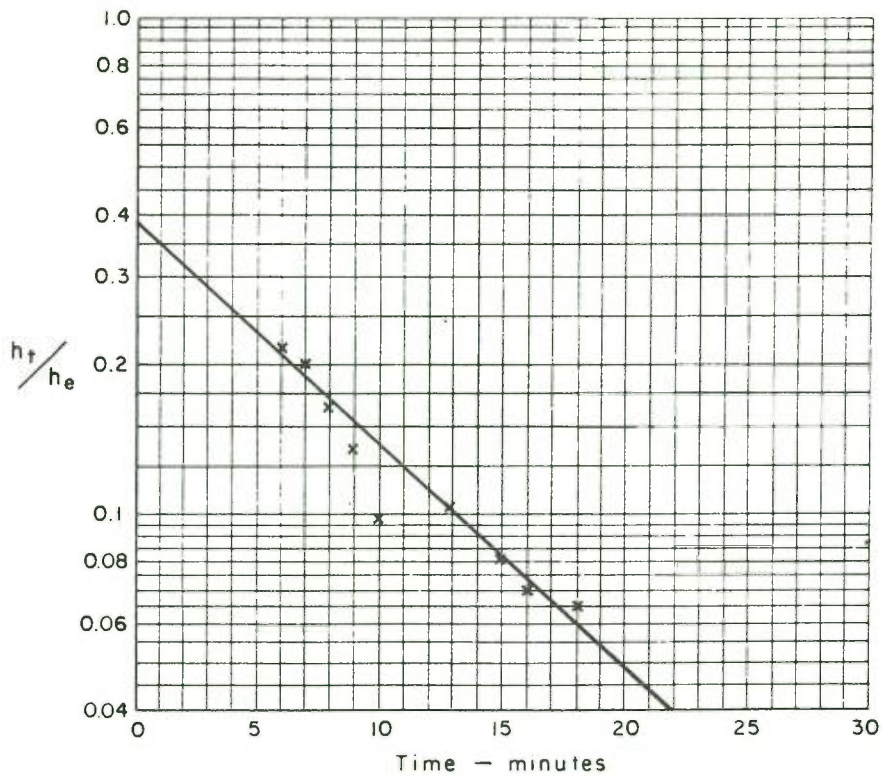
* = estimated permeability

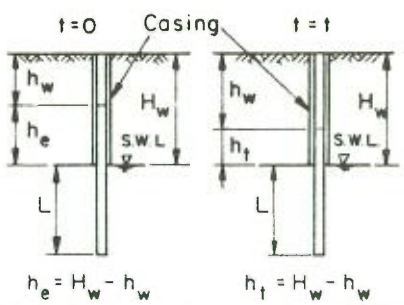
FALLING HEAD TEST	Test N°	Date	Project 667
	Engineer GATES		Borehole A1

Borehole co-ordinates	Collar elevation
Depth to top of test section 31·9 m	Length of test section, L 5 m
Depth of static water level, H_w 33·90 m	Radius of borehole, r ·076 m
Excess head, h_e 2 m	Radius of standpipe or casing, r_c ·04m

Time, T (min)	6	7	8	9	10	13	15	16	18	25	30	36	40		
Depth to water, h_w (m)	33·46	33·50	33·56	33·63	33·72	33·68	33·74	33·70	33·77	33·83	33·86	33·88	33·90		
Excess head, $h_t = H_w - h_w$ (m)	·44	·40	·34	·27	·18	·22	·16	·14	·13	·07	·04	·02	0		
h_t / h_e	·22	·20	·17	·135	·09	·11	·08	·07	·065	·035	·02	·01			

Head - time graph (slope of graph is S)





Calculations

Permeability $k = 0.133\,S\left(\frac{r_c^2}{L}\right)$ m/sec.

$K = 0{\cdot}16$ m/day

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EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

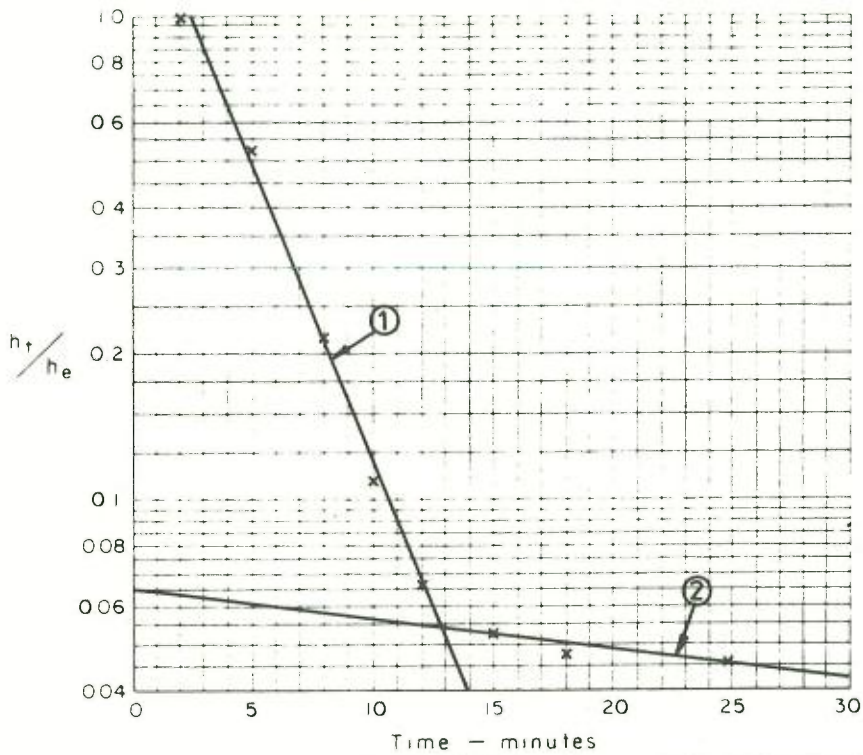
FALLING HEAD TEST Ai

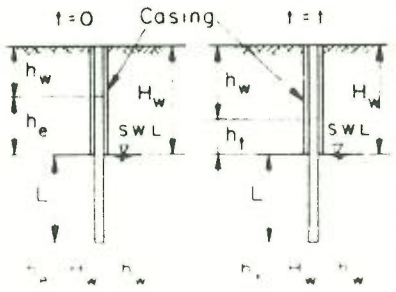
DATE NOV '83	DWG. N°. 667	FIG. N°. E.10

FALLING HEAD TEST	Test N° 1	Date	Project 667
	Engineer GATES		Borehole A3
Borehole co-ordinates		Collar elevation	
Depth to top of test section	m	Length of test section, L 10	m
Depth of static water level, H_w 34·8	m	Radius of borehole, r ·076	m
Excess head, h_e 16·3	m	Radius of standpipe or casing, r_c ·04	m

Time, T (min)	2	5	8	10	12	15	18	25							
Depth to water, h_w (m)	18·5	26·17	31·12	32·70	33·70	33·87	34·0	34·05							
Excess head, $h_t = H_w - h_w$ (m)	16·3	8·6	3·68	2·1	1·1	·93	·8	·75							
h_t / h_e	1	·53	·22	·12	·067	·057	·049	·046							

Head - time graph (slope of graph is S)





Calculations

Permeability $k = 0.133\,S\left(\frac{r_c^2}{L}\right)$ m/sec

FROM SLOPE 2

K = 0·01 m/day

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EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

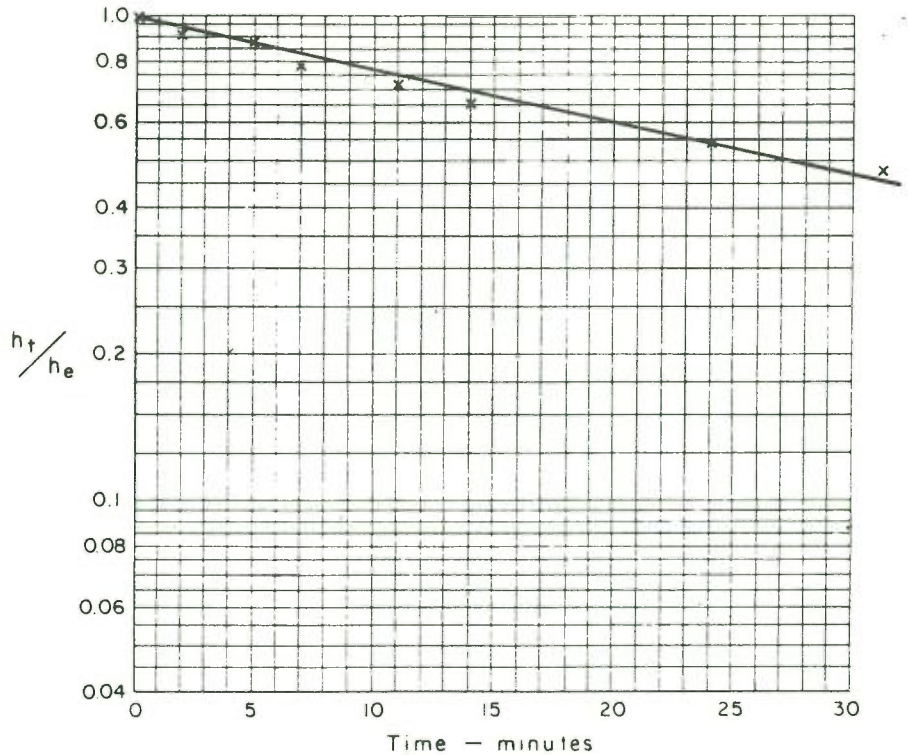
FALLING HEAD TEST A3

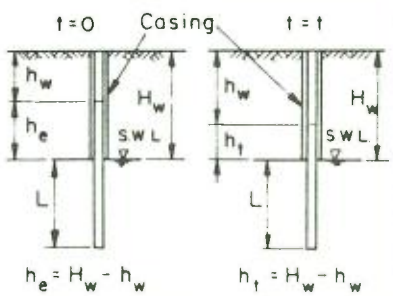
DATE NOV '83	DWG. N°. 667	FIG. N°. E.11

FALLING HEAD TEST	Test N°	Date 15/2/83	Project 667
	Engineer GATES		Borehole B1
Borehole co-ordinates		Collar elevation	
Depth to top of test section m		Length of test section, L 5 m	
Depth of static water level, H_w 40·5 m		Radius of borehole, r ·076 m	
Excess head, h_e 12·63 m		Radius of standpipe or casing, r_c ·04 m	

Time, T (min)	0	2	5	7	11	14	24	31	35	40	50	57	78	82	100
Depth to water, h_w (m)	27·87	28·72	29·27	30·43	31·42	32·22	33·56	34·40	34·79	35·11	35·80	36·20	36·97	37·22	37·60
Excess head, $h_t = H_w - h_w$ (m)	12·63	11·78	11·23	10·07	9·08	8·28	6·94	6·10	5·71	5·39	4·7	4·3	3·53	3·28	2·9
h_t / h_e	1·0	·93	·88	·79	·71	·65	·54	·48	·45	·416	·37	0·34	·279	·25	0·229

Head - time graph (slope of graph is S)





Calculations

Permeability $k = 0.133\,S\left(\frac{r_c^2}{L}\right)$ m/sec.

K = 0·04 m / day

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NEW SOUTH WALES COAL ASSOCIATION

EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

FALLING HEAD TEST BI

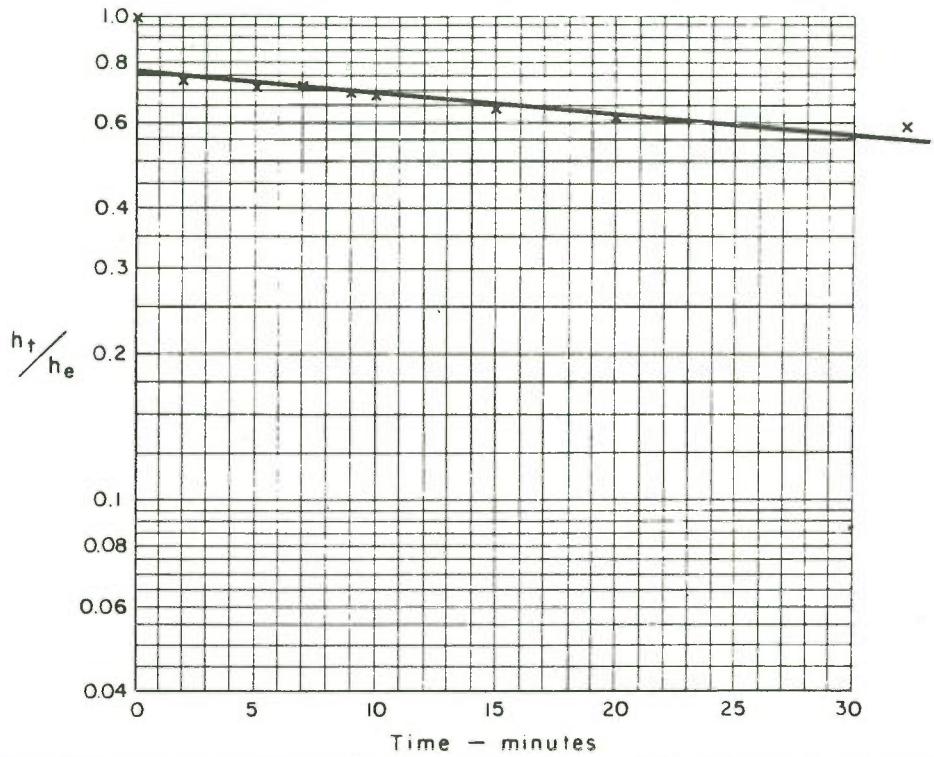
DATE NOV '83 | DWG. N° 667 | FIG. N° E.12

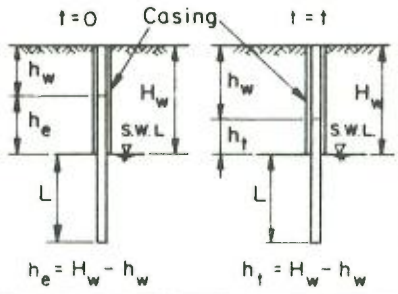
FALLING HEAD TEST	Test N° 1	Date 16/2/83	Project 667
	Engineer GATES		Borehole B2

Borehole co-ordinates	Collar elevation
Depth to top of test section m	Length of test section, L 5 m
Depth of static water level, H_w 29 m	Radius of borehole, r ·076 m
Excess head, h_e 23·1 m	Radius of standpipe or casing, r_c ·04 m

Time, T (min)	0	2	5	7	9	10	15	20	32	40	50	60			
Depth to water, h_w (m)	5·9	11·85	12·16	12·50	12·95	13·18	14·16	14·80	15·59	15·91	16·15	16·3			
Excess head, $h_t = H_w - h_w$ (m)	23·1	17·15	16·84	16·5	16·05	15·82	14·84	14·20	13·41	13·09	12·85	12·7			
h_t / h_e	1·0	·74	·73	·71	·69	·68	·64	·61	0·58	·56	·55	·54			

Head - time graph (slope of graph is S)





Calculations

Permeability $k = 0.133\,S\left(\frac{r_c^2}{L}\right)$ m/sec.

K = 0·02 m/day

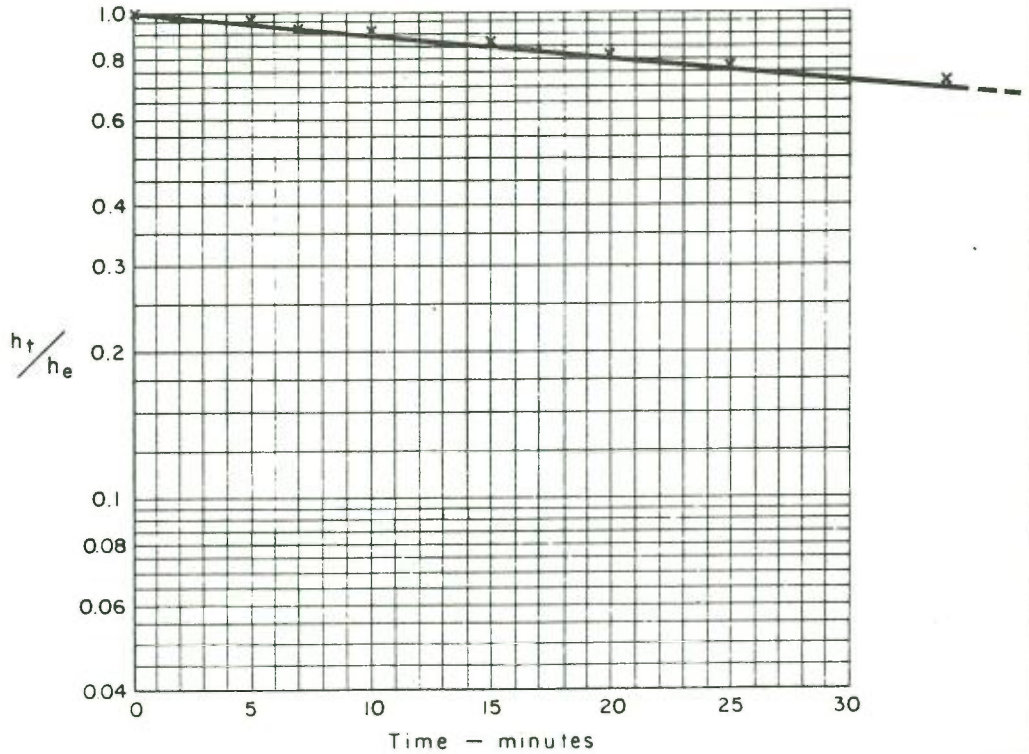
AUSTRALIAN GROUNDWATER CONSULTANTS PTY. LIMITED	NEW SOUTH WALES COAL ASSOCIATION	
	EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES	
	FALLING HEAD TEST B2	
	DATE NOV '83	DWG. N°. 667 FIG. N°. E.13

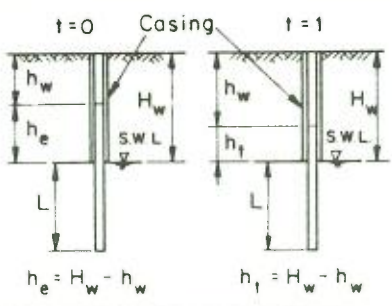
FALLING HEAD TEST	Test N°	Date 21·2·83	Project 667
	Engineer HARMAN		Borehole C1

Borehole co-ordinates	Collar elevation 0·70m
Depth to top of test section m	Length of test section, L 7·1 m
Depth of static water level, H_w 23·60 m	Radius of borehole, r 0·076 m
Excess head, h_e 2·33 m	Radius of standpipe or casing, r_c ·04 m

Time, T (min)	0	1	2	3	4	7	10	15	20	25	35	45	50	60	
Depth to water, h_w (m)	21·27	21·30	21·33	21·35	21·38	21·44	21·48	21·59	21·72	21·85	21·95	22·16	22·26	22·40	
Excess head, $h_t = H_w - h_w$ (m)	2·33	2·30	2·27	2·25	2·22	2·16	2·12	2·01	1·88	1·75	1·65	1·44	1·34	1·20	
h_t / h_e	1	·987	·974	·966	·953	·927	·910	·863	·807	·762	·720	·618	·575	·515	

Head - time graph (slope of graph is S)





Calculations

Permeability $k = 0.133\,S\left(\frac{r_c^2}{L}\right)$ m/sec.

K = 0·12 m/day

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EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

FALLING HEAD TEST C1

DATE NOV '83 | DWG. N°. 667 | FIG. N°. E.14

1.4 RESULTS

The calculated permeabilities (K) are for the most part similar to the permeabilities determined for the undisturbed coal seams which have a log mean K of 0.11 m/day. Three of the six calculated overburden permeabilities are greater than the log mean K for undisturbed strata, while the other three values are lower than the mean.

Piezometer A2, at the Howick Colliery, has an estimated K of about 100 times the mean value for undisturbed strata. During the test the water level decline was so rapid it was not possible to take accurate measurements, therefore, only an estimate of the permeability is given. The likely reason for this high permeability is that under this site there are preferred drainage paths for rapid groundwater flow provided by coarse rubble and broken rock.

From the limited number of piezometers drilled it is not possible to establish if the permeability of dragline spoil is greater than truck and shovel spoil.

APPENDIX F

INFILTRATION TESTS

APPENDIX F

F.1 INFILTRATION TESTS

Infiltration test were carried out on overburden spoil and natural surfaces of the Wittingham Formation and Greta Coal Measures. The tests were performed to establish whether the infiltration capacity of overburden material is markedly different or similar to the surrounding undisturbed strata. A significant change in infiltration capacity could alter the local groundwater flow characteristics and movement of soluble material through the overburden.

In assessing the results, it should be noted that the actual infiltration under natural rainfall conditions will be less than those obtained by the infiltrometer method. The infiltrometer method places an artificial head of water on the ground surface and does not take into account the effects of natural runoff or antecedent moisture conditions.

A total of twenty two infiltration tests were successfully completed. The tests were carried out on grassed overburden with topsoil, grassed overburden without topsoil, bare overburden and undisturbed strata.

F.2 TEST PROCEDURE

A metal cylinder of diameter 0.312 m and 0.4 m in length was driven 0.050 m into the surface material. Water was added to pre-saturate the ground. This was done over a period ranging up to 24 hours. Water was then added to the cyclinder, about 0.050 m in depth, and the rate of water level decline measured against time.

F.3 RESULTS

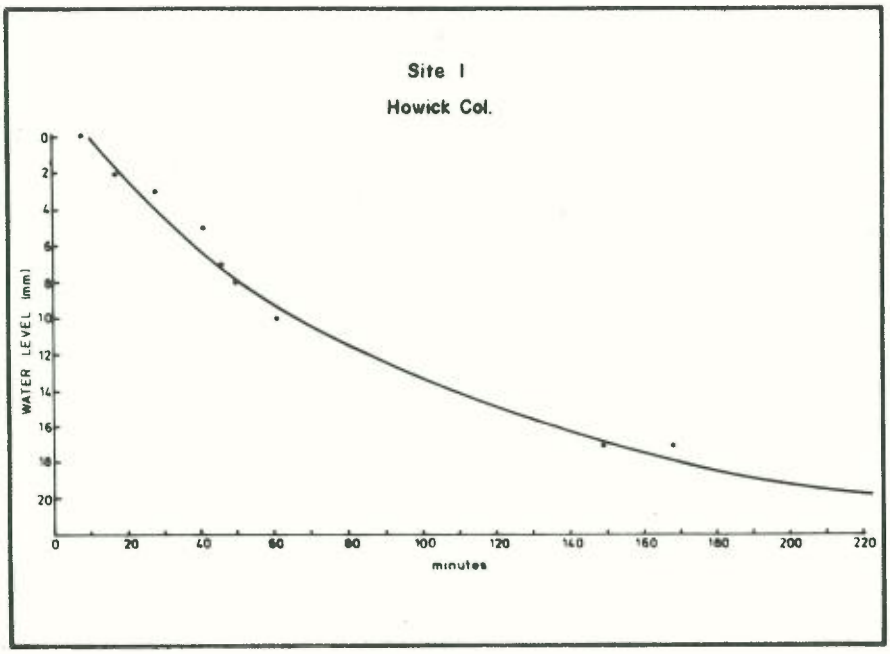
The infiltration test results are shown in Table 1. The rates tabulated are from the final part of the infiltration curves shown on Figure F.1 to F.8.

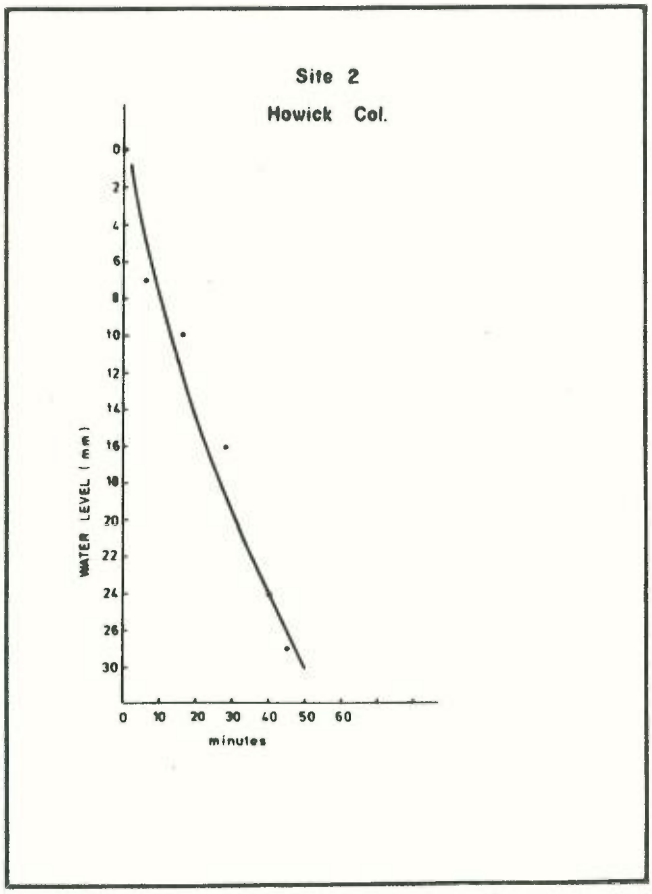
For the Wittingham Formation strata the infiltration rates range from 0.4 to 24 mm/hr for natural undisturbed strata and from 0.1 to 25 mm/hr for overburden material.

Although the sample population is somewhat restricted within the different classifications (ie. top dressed/grassed overburden, grassed overburden, bare overburden or natural surface). The tests conducted indicate that infiltration will occur at a similar rate for spoil material as for undisturbed strata in the Wittingham Formation.

It should not be concluded from the results however, that because infiltration rates are relatively high at the surface of the spoil material that the water will necessarily reach the water table. Drilling data from Wittingham Formation spoil together with studies carried out by the Soil Conservation Service (1983) indicate that there is very little penetration of water through the upper surface layers of the spoil material. An exception to this would be of course, where there are preferred flow paths.

The infiltrated water usually resides in a soil moisture zone with no flow occuring through the intermediate zone. (see Chapter 4, Sections 4.1 and Chapter 5. This water is readily removed by evaporation before follow up rain can add additional moisture to initiate flow through to the intermediate zone.





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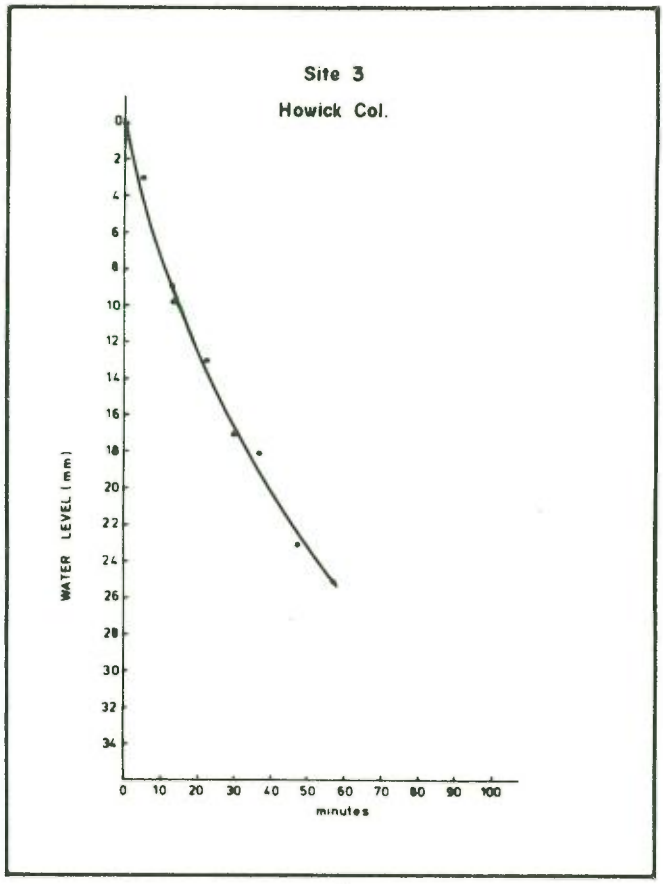
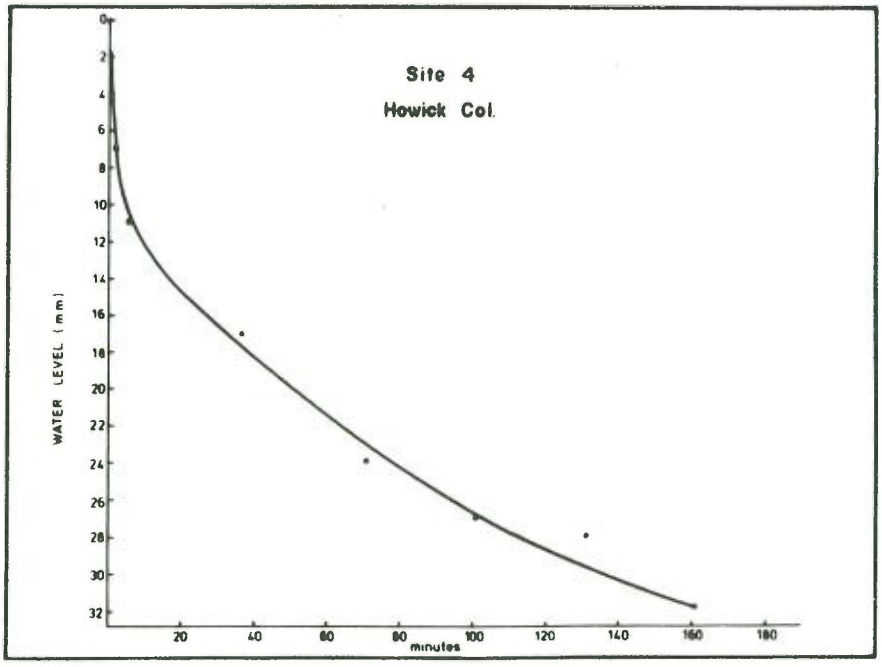
EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

INFILTRATION TESTS

WITTINGHAM FORMATION

DATE	DWG. NO.	FIG. NO.
NOV '83	667	F.1





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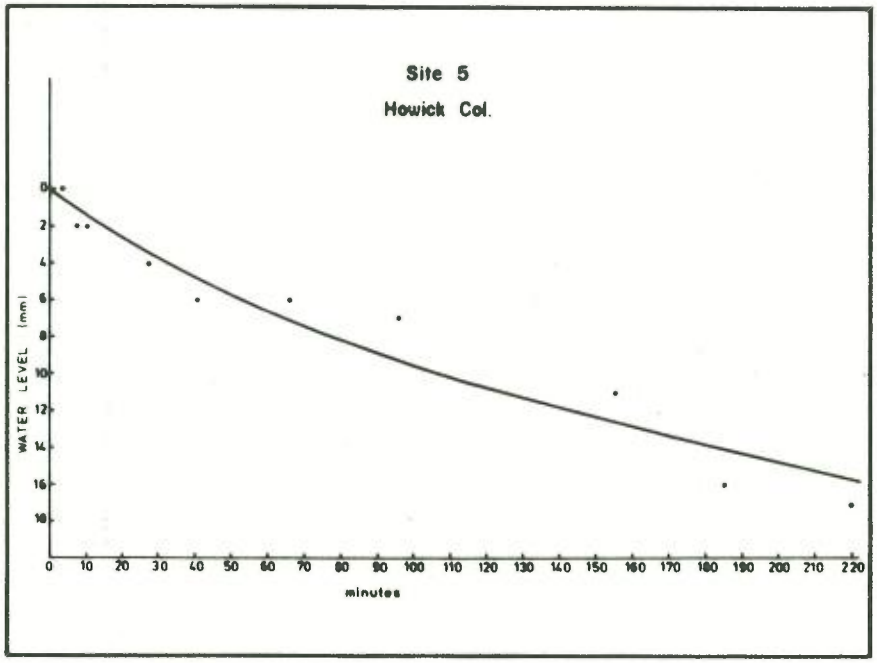
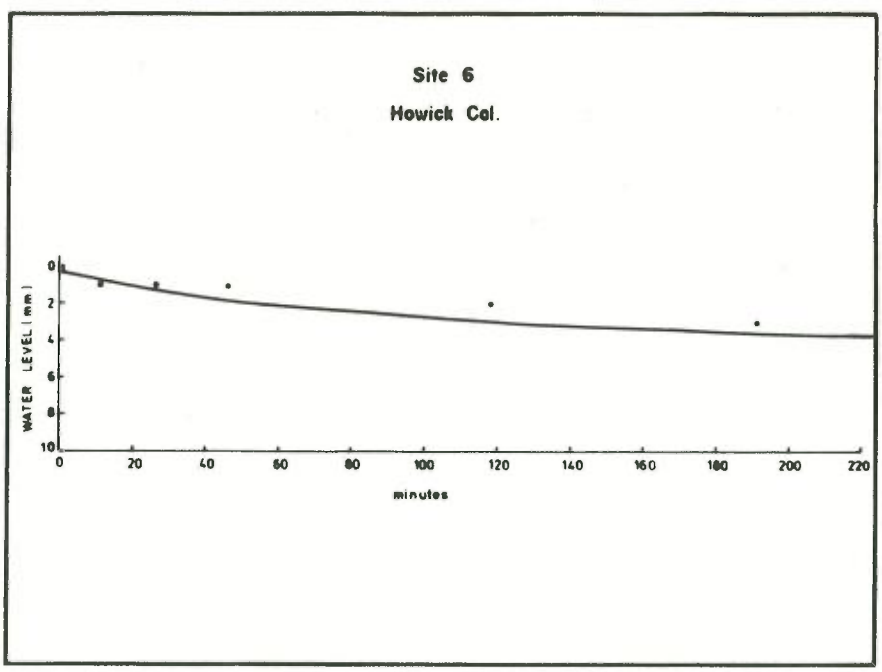
EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

INFILTRATION TESTS
WITTINGHAM FORMATION

DATE	DWG. NO.	FIG. NO.
NOV '83	667	F.2





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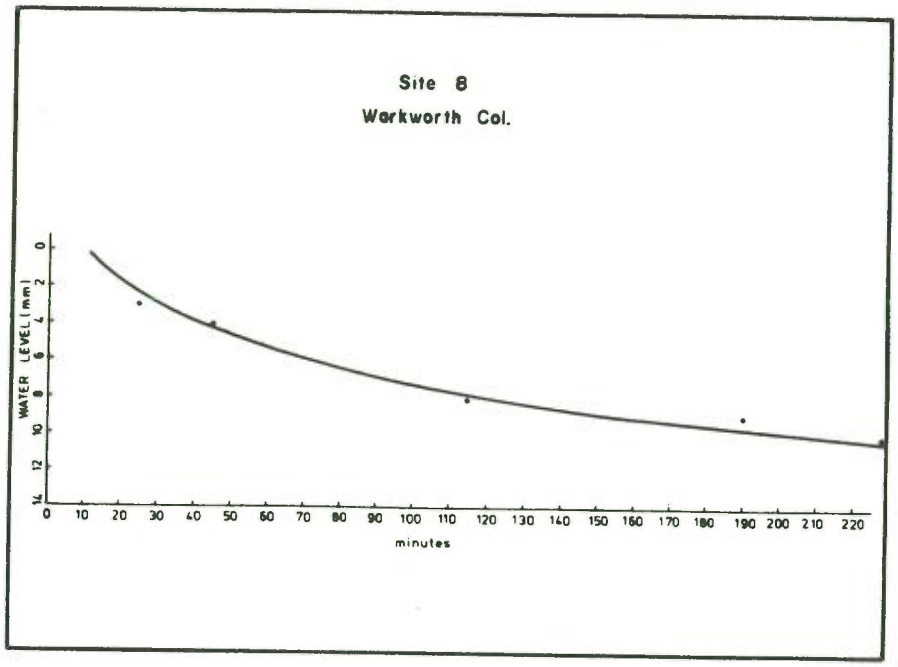
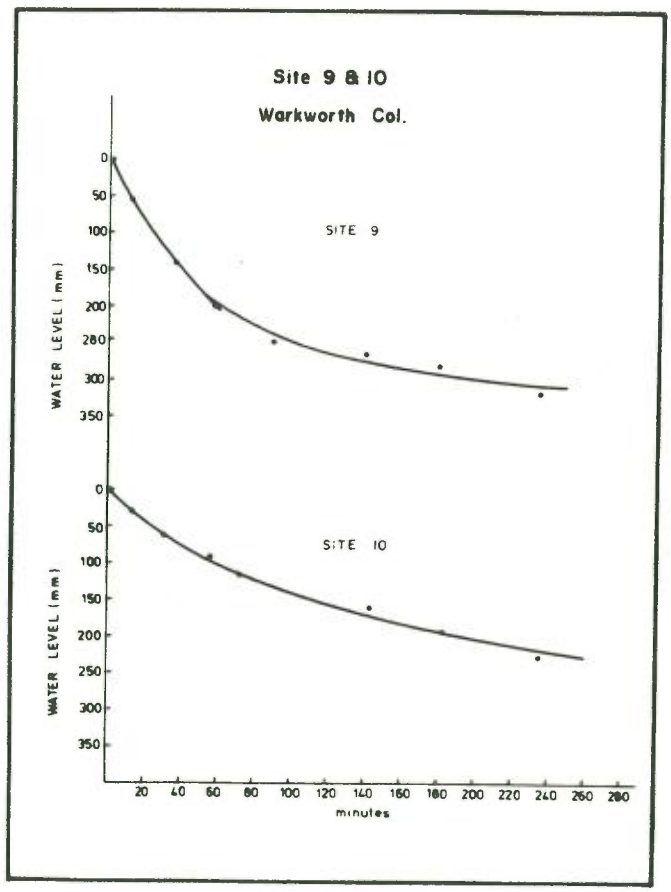
NEW SOUTH WALES COAL ASSOCIATION

EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

INFILTRATION TESTS
WITTINGHAM FORMATION

DATE	DWG. NO.	FIG. NO.
NOV '83	667	F.3





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NEW SOUTH WALES COAL ASSOCIATION

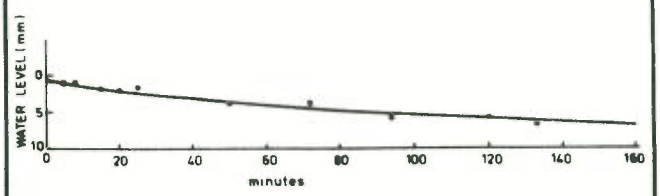
EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

INFILTRATION TESTS
WITTINGHAM FORMATION

DATE	DWG. NO.	FIG. NO.
NOV '83	667	F.4

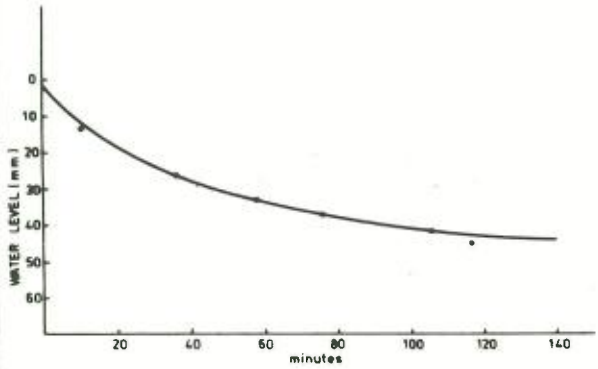
Site 11

Buchanan Col.



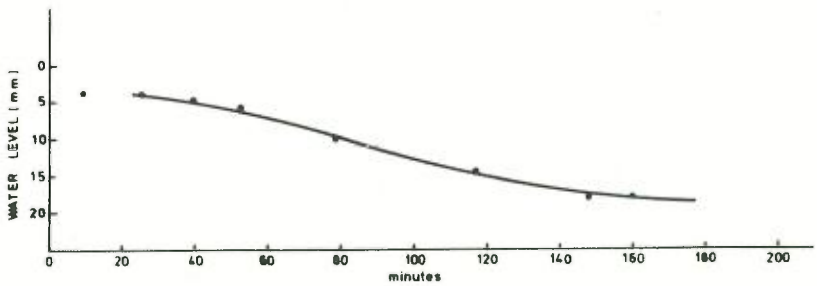
Site 13

Buchanan Col.



Site 12

Buchanan Col.



AUSTRALIAN GROUNDWATER CONSULTANTS PTY. LIMITED

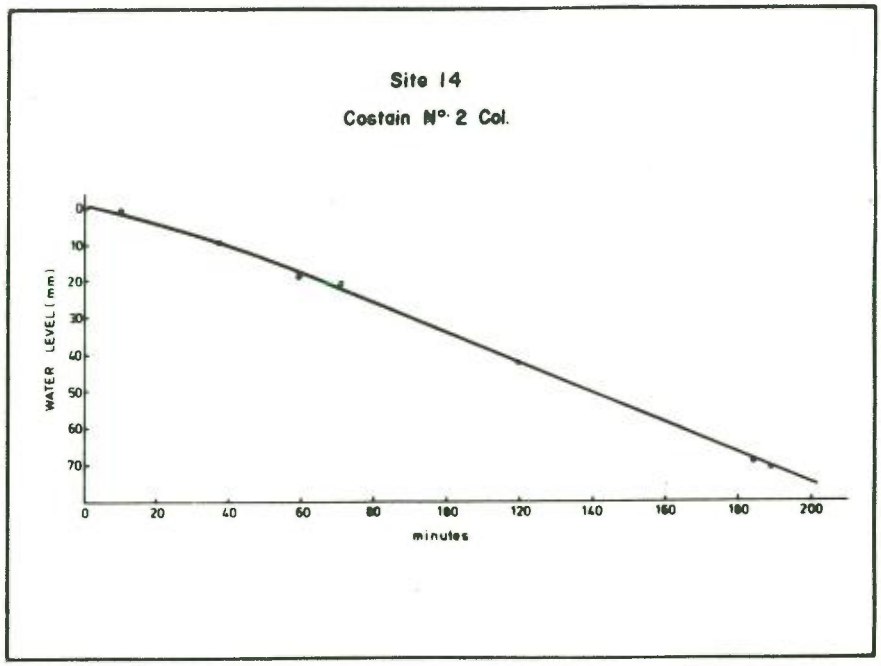
NEW SOUTH WALES COAL ASSOCIATION

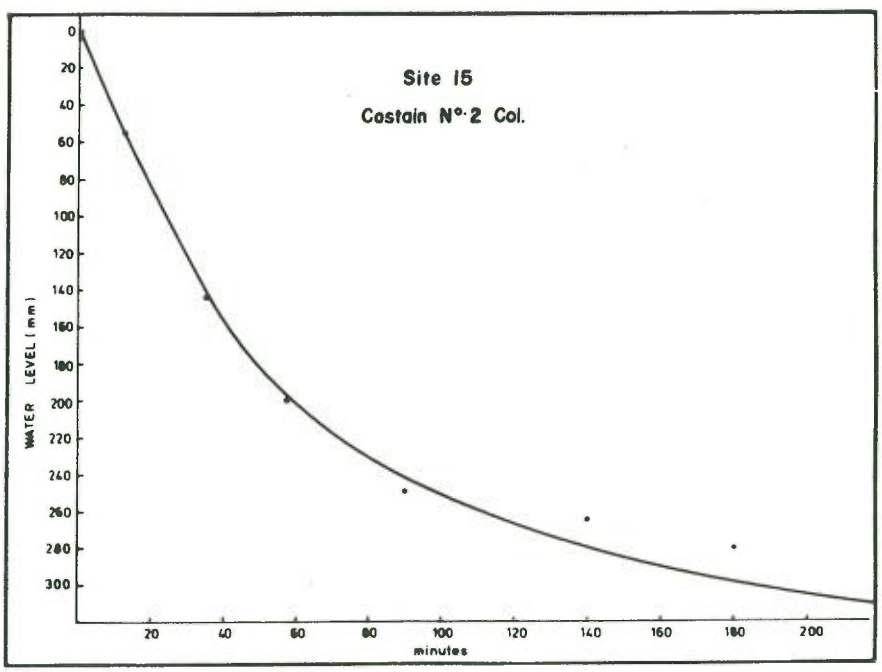
EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

INFILTRATION TESTS

WITTINGHAM FORMATION

DATE NOV '83	DWG. NO. 667	FIG. NO. F.5





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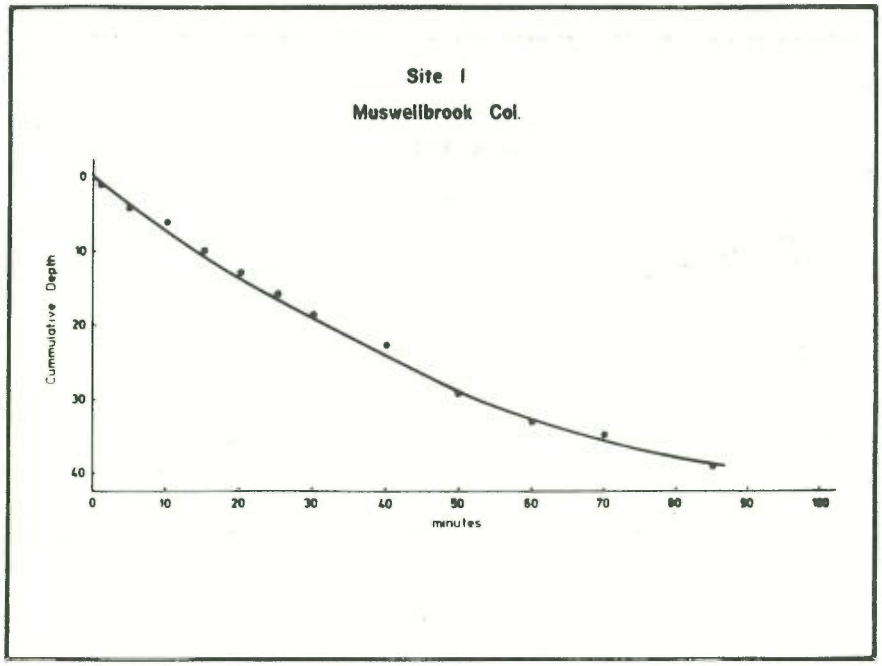
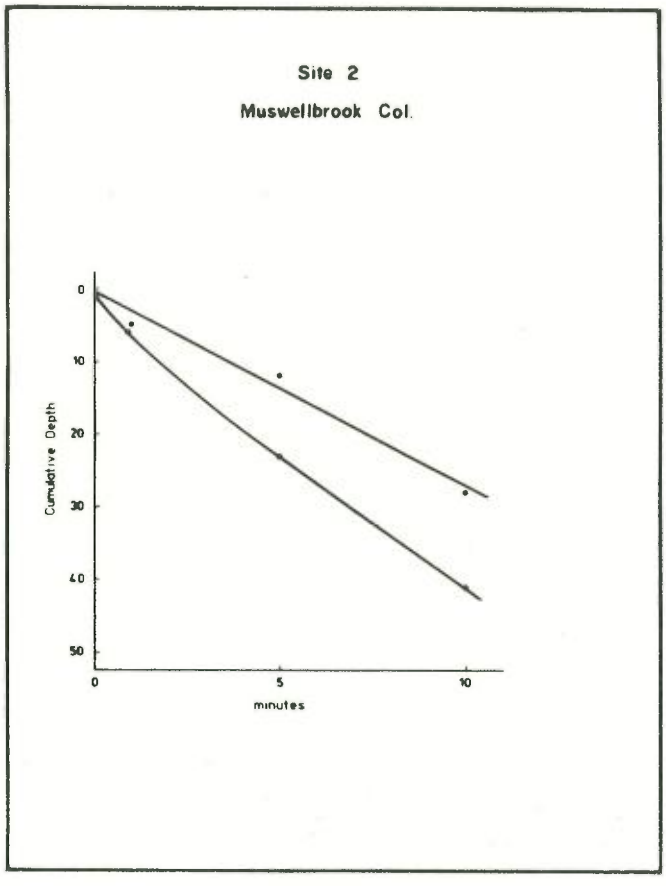
INFILTRATION TESTS

WITTINGHAM FORMATION

DATE NOV '83	DWG. N°. 667	FIG. N°. F.6





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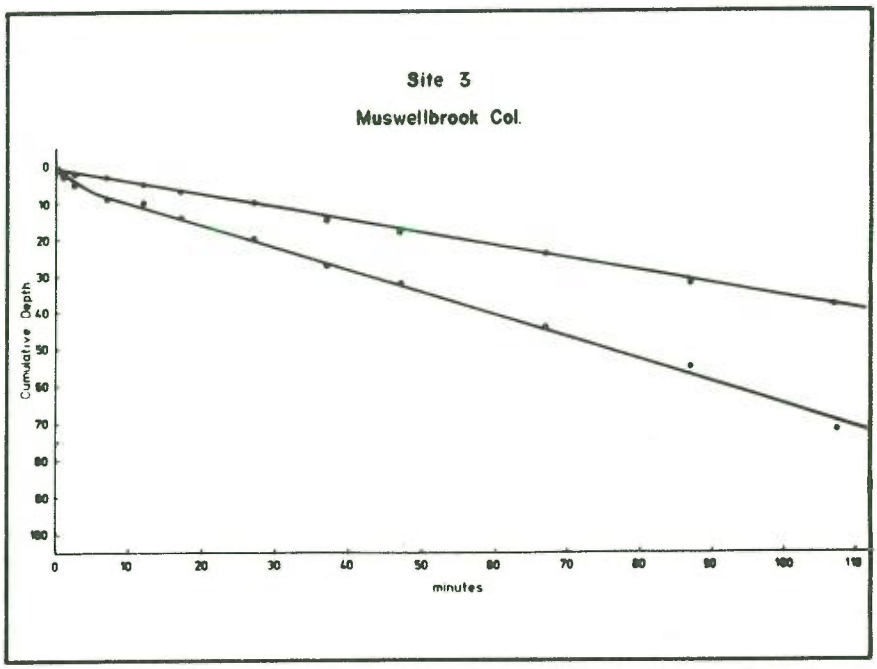
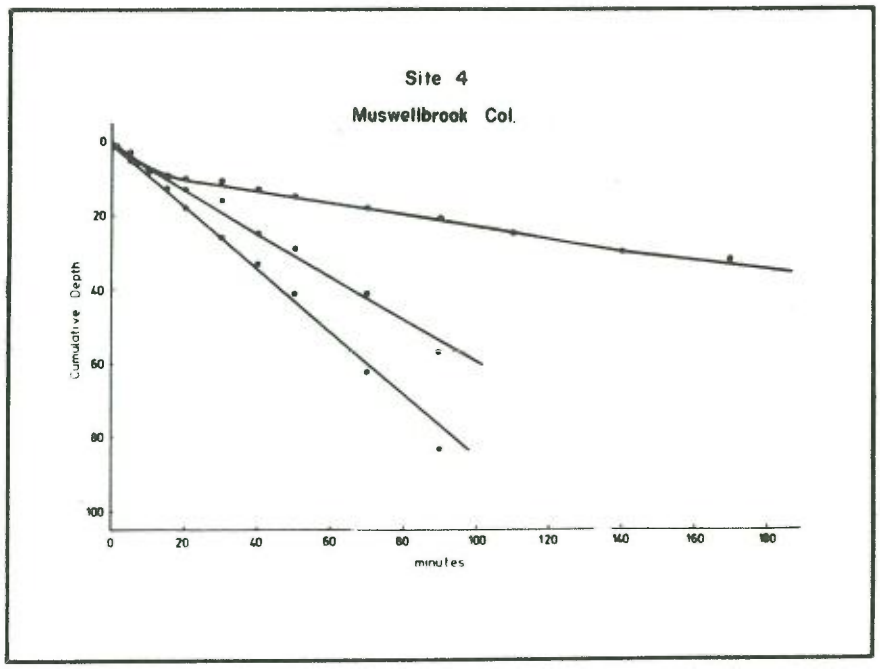
INFILTRATION TESTS

GRETA FORMATION

DATE NOV '83	DWG. NO. 667	FIG. NO. F.7





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INFILTRATION TESTS

GRETA FORMATION

DATE	DWG. NO.	FIG. NO.
NOV '83	667	F.8

The infiltration rates on the Greta Coal Measure indicates that spoil material has a higher infiltration capacity (up to 216 mm/hr recorded) than natural undisturbed strata (up to 51 mm/hr recorded). The infiltration rates on the Greta Coal Measures were generally higher than for the Wittingham Formation rocks. These results although only preliminary, indicate that the potential exists for Greta spoil to generate more leachate than Wittingham Formation spoil. More detailed studies would be required to confirm this.

TABLE F1

INFILTRATION TEST RESULTS

Site No.	Saturated Infiltration Rate (mm/hr)	Location (Colliery)	Comments
WHITTINGHAM FORMATION			
Site 1	1.7	Howick	Top dressed/grassed overburden
2	25	Howick	Top dressed/grassed overburden
3	19	Howick	Top dressed/grassed overburden
4	5.1	Howick	Top dressed/grassed overburden
5	2.7	Howick	Top dressed/grassed overburden
6	0.4	Howick	Natural surface
7	*	Howick	Leakage at cylinder
8	1	Warkworth	Natural surface
9	15	Warkworth	Natural surface
10	24	Warkworth	Natural surface
11	1.5	Buchanan	Grassed overburden
12	5	Buchanan	Grassed overburden
13	9	Buchanan	Grassed overburden
14	25	Costain No.2	Bare overburden
15	18	Costain No.2	Bare overburden
GRETA COAL MEASURES			
1	28	Muswellbrook	Bare overburden
2	192	Muswellbrook	Bare overburden
	216	Muswellbrook	Bare overburden
33	22	Muswellbrook	Bare overburden
	36	Muswellbrook	Bare overburden
4	6	Muswellbrook	Natural surface
	48	Muswellbrook	Natural surface
	51	Muswellbrook	Natural surface

APPENDIX G
WATER QUALITY ANALYSES

KEY TO WATER QUALITY ANALYSES

The location of the sampling sites are given in Plates 3 and 4.

Sample Nos 1 - 253 surface water site (Plate 4)
A1-A131 Groundwater sites (long term records) (Plate 3)
B1-B100 Groundwater sites (short to medium term records) (Plate 3)

DATE: 211179
REC: 31 Reference Record on EDP File
UNITS: Metric
TOP: 44.8 = Top of Aquifer
BOTTOM: 49.4 = Bottom of Aquifer
ANALYSIS BY: 1 = Water Resources Commission
2 = Dept. Mines
3 = Dept. Health
4 = Dept. Agriculture
5 = State Pollution Control Commission
9 = Other

CHEM UNITS: Milligrams per Litre
COMMENTS: Identification of Sample

SAMPLE NO:1 DATE:010378 REC: 549
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 12.2 SO4: 15.843 CL: 20.921 N: 3.922
F: CA: 3.005 MG: 5.958 NA: 12.88 K: 7.819
SIO2: FE: B: PH:6.5
T.D.S.=83 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:1 DATE:120578 REC: 551
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 2.44 SO4: 5.761 CL: 15.957 N: 2.942
F: CA: 3.005 MG: 3.526 NA: 11.96 K: 5.082
SIO2: FE: B: PH:6.65
T.D.S.=51 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:1 DATE:180877 REC: 545
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 62.85 SO4: 14.883 CL: 2.482 N: 2.942
F: CA: 3.987 MG: 5.958 NA: 17.02 K: 7.819
SIO2: FE: B: PH:7.4
T.D.S.=100 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:1 DATE:091177 REC: 547
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 7.932 SO4: 17.763 CL: 43.97 N: 6.024
F: CA: 4.007 MG: 5.958 NA: 23.92 K: 7.037
SIO2: FE: B: PH:6.2
T.D.S.=117 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:2 DATE:031180 REC: 543
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: 4199.96 CL: 337.969 N:
F: CA: MG: NA: K:
SIO2:24.00 FE:0.10 B: PH:7.15
T.D.S.= CONDUCT:
COMMENTS:OLD OPEN CUT

SAMPLE NO:2 DATE:120578 REC: 555
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 1595 SO4: 499.784 CL: 5009.79 N: 3.922
F: CA: 43.887 MG: 375.01 NA: 3311.54 K: 43
SIO2: FE: B: PH:8.60
T.D.S.=10880 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:2 DATE:180877 REC: 553
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 2168 SO4: 499.784 CL: 6699.81 N: 2.942
F: CA: 55.911 MG: 455.02 NA: 4452.11 K: 51.61
SIO2: FE:0.02 B: PH:8.9
T.D.S.=10500 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:3 DATE:120578 REC: 563
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 1771 SO4: 499.784 CL: 5449.85 N: .98
F: CA: 25.851 MG: 375.01 NA: 3681.84 K: 38.7
SIO2: FE: B: PH:8.7
T.D.S.=11842 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:3 DATE:010378 REC: 561
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 1802 SO4: 679.341 CL: 8849.75 N: 4.903
F: CA: 16.993 MG: 535.03 NA: 5675.71 K: 77.8
SIO2: FE: B: PH:9.1
T.D.S.=17617 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:3 DATE:180877 REC: 557
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 1898 SO4: 459.455 CL: 7299.8 N: 2.942
F: CA: 35.871 MG: 450.16 NA: 4752.26 K: 51.61
SIO2: FE:0.02 B: PH:9.20
T.D.S.=10700 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:3 DATE:091177 REC: 559
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: 1859 SO4: 1999.14 CL: 14299.6 N: 2.942
F: CA: 11.983 MG: 690.07 NA: 9554.66 K: 109.8
SIO2: FE: B: PH:9.0
T.D.S.=28524 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:4 DATE:010378 REC: 569
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 1336 SO4: 1199.29 CL: 9649.73 N: .98
F: CA: 85.971 MG: 730.08 NA: 5802.9 K: 95.79
SIO2: FE: B: PH:8.30
T.D.S.=18899 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:4 DATE:120578 REC: 571
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 1520 SO4: 664.458 CL: 4639.59 N: 1.989
F: CA: 61.923 MG: 400.06 NA: 3051.41 K: 39.09
SIO2: FE: B: PH:8.3
T.D.S.=10382 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:4 DATE:080877 REC: 565
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 1472 SO4: 759.518 CL: 6699.81 N: 2.942
F: CA: 75.951 MG: 500.14 NA: 4202.1 K: 57.86
SIO2: FE:0.02 B: PH:8.60
T.D.S.=10500 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:4 DATE:091177 REC: 567
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 67.12 SO4: 2198.86 CL: 9399.74 N: 2.942
F: CA: 75.951 MG: 680.1 NA: 5752.76 K: 91.88
SIO2: FE: B: PH:8.4
T.D.S.=18268 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:5 DATE:120578 REC: 577
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 49.42 SO4: 9.986 CL: 29.999 N: 2.942
F: CA: 2.585 MG: 5.958 NA: 31.05 K: 3.909
SIO2: FE: B: PH:7.0
T.D.S.=136 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:5 DATE:091177 REC: 575
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 118.9 SO4: 21.988 CL: 61.7 N: 8.966
F: CA: 3.005 MG: 10.943 NA: 57.04 K: 5.082
SIO2: FE: B: PH:7.4
T.D.S.=285 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:5 DATE:180877 REC: 573
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 14.03 SO4: 5.761 CL: 33.97 N: 4.987
F: 2.85 CA: MG: 4.997 NA: 23 K: 3.909
SIO2: FE: B: PH:7.4
T.D.S.=125 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:6 DATE:120578 REC: 581
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 96.41 SO4: 57.612 CL: 494.667 N: 1.989
F: CA: 23.847 MG: 50.95 NA: 260.13 K: 7.037
SIO2: FE: B: PH:7.4
T.D.S.=995 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:6 DATE:180877 REC: 579
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 197.7 SO4: 81.617 CL: 649.981 N: 2.942
F: CA: 25.851 MG: 60.921 NA: 390.08 K: 7.819
SIO2: FE:0.02 B: PH:7.8
T.D.S.=1430 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:7 DATE:010378 REC: 587
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 6.102 SO4: 23.956 CL: 137.939 N: 5.996
F: CA: 5.991 MG: 16.002 NA: 90.16 K: 10.16
SIO2: FE: B: PH:8.05
T.D.S.=296 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:7 DATE:091177 REC: 585
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 1.83 SO4: 229.871 CL: 1399.96 N: 2.942
F: CA: 45.891 MG: 135.03 NA: 693.91 K: 23.06
SIO2: FE: B: PH:7.90
T.D.S.=2549 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:7 DATE:180877 REC: 583
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 66.51 SO4: 47.961 CL: 479.773 N: 2.942
F: CA: 30.861 MG: 58.003 NA: 215.05 K: 7.037
SIO2: FE:0.02 B: PH:7.8
T.D.S.=1040 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:7 DATE:120578 REC: 589
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 78.71 SO4: 49.93 CL: 494.986 N: .98
F: CA: 21.843 MG: 51.923 NA: 235.06 K: 703.7
SIO2: FE: B: PH:7.35
T.D.S.=941 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:8 DATE:010378 REC: 595
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 4.271 SO4: 4.993 CL: 20.921 N: 5.996
F: CA: 1.983 MG: 4 NA: 14.03 K: 5.864
SIO2: FE: B: PH:7.35
T.D.S.=71 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:8 DATE:120578 REC: 597
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: 74.44 SO4: 7.969 CL: 34.999 N: .98
F: CA: 5.991 MG: 8.001 NA: 31.97 K: 3.909
SIO2: FE: B: PH:7.2
T.D.S.=168 CONDUCT:
COMMENTS: SURFACE WATER

SAMPLE NO:8 DATE:091177 REC: 593
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 1.22 SO4: 17.763 CL: 22.978 N: 2.942
F: CA: 19.839 MG: 4 NA: 14.95 K: 5.082
SIO2: FE: B: PH:7.60
T.D.S.=71 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:8 DATE:180877 REC: 591
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: SO4: 3.84 CL: 20.921 N: 2.942
F: CA: 1.983 MG: 1.945 NA: 14.95 K: 5.082
SIO2: FE: B: PH:7.1
T.D.S.=52 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:8 DATE:010378 REC: 603
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 4.881 SO4: 13.922 CL: 40.779 N: .98
F: CA: 5.991 MG: 8.001 NA: 25.99 K: 7.037
SIO2: FE: B: PH:7.0
T.D.S.=108 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:9 DATE:120578 REC: 605
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 86.64 SO4: 79.696 CL: 32.977 N: 2.942
F: CA: 4.989 MG: 6.396 NA: 24.84 K: 5.082
SIO2: FE: B: PH:6.75
T.D.S.=172 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:9 DATE:091177 REC: 601
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 18.3 SO4: 15.843 CL: 47.871 N: 2.942
F: CA: 4.989 MG: 5.958 NA: 29.9 K: 5.864
SIO2: FE: B: PH:7.1
T.D.S.=138 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:9 DATE:180877 REC: 599
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 110.4 SO4: 5.953 CL: 36.878 N: 5.996
F: CA: 3.987 MG: 3.027 NA: 23.92 K: 5.082
SIO2: FE: B: PH:6.5
T.D.S.=110 CONDUCT:
COMMENTS:SURFACE WATER

SAMPLE NO:10 DATE:260375 REC: 607
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 91.53 SO4: 14.979 CL: 164.995 N: 2.942
F: CA: 13.005 MG: 18.008 NA: 97.06 K: 5.864
SIO2: FE: B: PH:7.9
T.D.S.=409 CONDUCT:
COMMENTS:WOLLOMBI BROOK FORMERLY M22

SAMPLE NO:11 DATE:180878 REC: 541
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: 129.996 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.=500 CONDUCT:
COMMENTS:HUNTER RIVER

SAMPLE NO:12 DATE:260375 REC: 609
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 86.64 SO4: 14.979 CL: 144.995 N: 2.942
F: CA: 11.983 MG: 15.929 NA: 84.87 K: 59.82
SIO2: FE: B: PH:7.8
T.D.S.=368 CONDUCT:
COMMENTS:WOOLOMBI BROOK FORMERLY M23

SAMPLE NO:12 DATE:260375 REC: 611
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 86.03 SO4: 14.883 CL: 154.995 N: 1.961
F: CA: 12.825 MG: 15.929 NA: 93.639 K: 5.082
SIO2: FE: B: PH:7.90
T.D.S.=386 CONDUCT:
COMMENTS:WOLLOMBI CR FORMERLY M25

SAMPLE NO:13 DATE:120479 REC: 537
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 74.44 SO4: 7.777 CL: 88.33 N: .014
F: CA: 9.599 MG: 12.001 NA: 51.06 K: 4.691
SIO2: FE:0.71 B: PH:6.5
T.D.S.=219 CONDUCT:365
COMMENTS:516/1A/4

SAMPLE NO:14 DATE:270779 REC: 521
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: 20.7 HCO3: 569.9 SO4: 1019.01 CL: 3321.08 N: .014
F: .247 CA: 195.99 MG: 410.12 NA: 1640.82 K: 17.2
SIO2:10. FE:0.04 B: PH:8.4
T.D.S.=7440 CONDUCT:9830
COMMENTS:WHITES CK 533/6

SAMPLE NO:14 DATE:0779 REC: 519
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.0
T.D.S.=7925 CONDUCT:12500
COMMENTS:565/1

SAMPLE NO:14 DATE: REC: 665
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: 569.9 SO4: 1019.01 CL: 3321.08 N:
F: CA: 195.99 MG: 410.12 NA: 1640.82 K: 16.81
SIO2: FE: B: PH:8.4
T.D.S.=7440 CONDUCT:9830
COMMENTS:SAMPLE 533/6 WHITES CK DOWNSTREAM

SAMPLE NO:15 DATE: REC: 667
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: 499.7 SO4: 1210.04 CL: 3461.14 N:
F: CA: 254 MG: 399.11 NA: 1770.77 K: 18.76
SIO2: FE: B: PH:8.6
T.D.S.=8000 CONDUCT:10960
COMMENTS:SAMPLE NO. 533/5 WHITES CREEK UPST EAH.

SAMPLE NO:15 DATE:0779 REC: 525
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: 21.6 HCO3: 217.8 SO4: 1130.01 CL: 3715.36 N:
F: CA: 55.109 MG: 439.94 NA: 2049.97 K: 12.12
SIO2: FE: B: PH:8.5
T.D.S.=7632 CONDUCT:12300
COMMENTS:565/2

SAMPLE NO:15 DATE:270779 REC: 523
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: 30.31 HCO3: 500.3 SO4: 1210.04 CL: 3461.14 N: .014
F: .266 CA: 254 MG: 399.11 NA: 1771 K: 19.15
SIO2:13. FE:0.06 B: PH:8.6
T.D.S.=8000 CONDUCT:10960
COMMENTS:533/5

SAMPLE NO:16 DATE:22.04.82 REC: 113
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.= CONDUCT:7900
COMMENTS:SADDLERS CREEK (NO FLOW)

SAMPLE NO:16 DATE:280181 REC: 527
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: 11.7 HCO3: 1120 SO4: 20.02 CL: 3241.04 N: .084
F: 1.995 CA: 79.999 MG: 370.1 NA: 1700.85 K: 10.94
SIO2: FE:0.01 B: PH:8.5
T.D.S.=5990 CONDUCT:8220
COMMENTS:SADLERS CK 590/7

SAMPLE NO:17 DATE:280181 REC: 529
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 95.19 SO4: 10.37 CL: 3.51 N: .042
F: 1.235 CA: 15.991 MG: 6.104 NA: 10.81 K: 7.428
SIO2: FE:22. B: PH:7.2
T.D.S.=130 CONDUCT:170
COMMENTS:590/A

SAMPLE NO:18 DATE:120479 REC: 539
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: 11.4 HCO3: 483.2 SO4: 47.289 CL: 777.247 N: .042
F: CA: 33.005 MG: 55.011 NA: 550.39 K: 17.2
SIO2: FE:0.35 B: PH:8.7
T.D.S.=1560 CONDUCT:2600
COMMENTS:516/1A/5

SAMPLE NO:18 DATE:020281 REC: 535
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: 2.1 HCO3: 446 SO4: 13.97 CL: 35.282 N: .098
F: 1.311 CA: 57.995 MG: 56.008 NA: 20.93 K: 9.774
SIO2: FE: B: PH:8.4
T.D.S.=440 CONDUCT:600
COMMENTS:590/B-H

SAMPLE NO:18 DATE:050782 REC: 729
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.37
T.D.S.= CONDUCT:860
COMMENTS:

SAMPLE NO:20 DATE:020281 REC: 531
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 150.7 SO4: 1.488 CL: 6.794 N: .084
F: .968 CA: 25.009 MG: 11.503 NA: 10.12 K: 8.21
SIO2: FE:1.7 B: PH:7.5
T.D.S.=148 CONDUCT:232
COMMENTS:590B POOLES CKS POND

SAMPLE NO:21 DATE:020281 REC: 533
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 133.6 SO4: 1.008 CL: 106.025 N: .084
F: 1.273 CA: 16.492 MG: 12.208 NA: 71.99 K: 10.16
SIO2: FE:3.1 B: PH:7.6
T.D.S.=300 CONDUCT:417
COMMENTS:590/C POOLES CK

SAMPLE NO:22 DATE:271179 REC: 507
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: 25.2 HCO3: 707.8 SO4: 640.021 CL: 1700.56 N: .028
F: .456 CA: 115.99 MG: 345.1 NA: 835.36 K: 43
SIO2:11. FE:0.02 B: PH:8.7
T.D.S.=4250 CONDUCT:6300
COMMENTS:STREAM 537/3

SAMPLE NO:23 DATE:081079 REC: 623
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 269 SO4: 559.796 CL: 1690.02 N:
F: CA: 254.9 MG: 205.01 NA: 730.25 K: 7.819
SIO2: FE: B: PH:8.2
T.D.S.=3780 CONDUCT:6730
COMMENTS:SITE RAMROD CK

SAMPLE NO:23 DATE:150678 REC: 615
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 18.3 SO4: 24.005 CL: 34.041 N:
F: CA: 9.999 MG: 7.052 NA: 18.63 K: 5.082
SIO2: FE: B: PH:7.4
T.D.S.=148 CONDUCT:212
COMMENTS:RAMROD CK SITE

SAMPLE NO:23 DATE:170779 REC: 621
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: 599.644 CL: 1290.03 N:
F: CA: 240.07 MG: 158.07 NA: 900.45 K: 5.864
SIO2: FE: B: PH:08.1
T.D.S.=3080 CONDUCT:4390
COMMENTS:SITE RAMROD CK

SAMPLE NO:23 DATE:280878 REC: 613
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 194 SO4: 483.94 CL: 1490.03 N:
F: CA: 264.92 MG: 195.04 NA: 640.32 K: 7.819
SIO2: FE: B: PH:
T.D.S.=3320 CONDUCT:5700
COMMENTS:SITE RAMROD CREEK

SAMPLE NO:23 DATE:041278 REC: 617
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 86.03 SO4: 196.841 CL: 877.989 N:
F: CA: 120.03 MG: 107.98 NA: 380.19 K: 7.819
SIO2: FE: B: PH:8.0
T.D.S.=1900 CONDUCT:3100
COMMENTS:SITE RAMROD CK

SAMPLE NO:23 DATE:250279 REC: 619
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: 852.657 CL: 2844.96 N:
F: CA: 359.91 MG: NA: 1170.47 K: 10.94
SIO2: FE: B: PH:8.2
T.D.S.=6670 CONDUCT:8450
COMMENTS:SITE RAMROD CK

SAMPLE NO:23 DATE:031279 REC: 625
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 175.7 SO4: 670.699 CL: 2640 N:
F: CA: 320.03 MG: 300.1 NA: 1100.55 K: 8.992
SIO2: FE: B: PH:7.9
T.D.S.=5730 CONDUCT:9460
COMMENTS:SITE RAMROD CK

SAMPLE NO:24 DATE:041278 REC: 631
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 9.763 SO4: 5.761 CL: 28.013 N:
F: CA: 4.007 MG: 4.985 NA: 13.8 K: 5.864
SIO2: FE: B: PH:6.0
T.D.S.=80 CONDUCT:80
COMMENTS:SITE2 SADDLER CK CREEK INTR WEST PIT.

SAMPLE NO:24 DATE:150678 REC: 627
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 18.3 SO4: 10.082 CL: 20.921 N:
F: CA: 5.009 MG: 4.012 NA: 15.87 K: 3.909
SIO2: FE: B: PH:7.2
T.D.S.=130 CONDUCT:159
COMMENTS:site 2 saddlers ck nr insect lnes ck.

SAMPLE NO:24 DATE:081079 REC: 635
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 53.08 SO4: 9.121 CL: 28.013 N:
F: CA: 6.011 MG: 5.958 NA: 18.86 K: 5.864
SIO2: FE: B: PH:7.1
T.D.S.=120 CONDUCT:209
COMMENTS:SITE 2 SADDLER CK INTRS WEST PIT.

SAMPLE NO:24 DATE:280878 REC: 629
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 23.18 SO4: 17.763 CL: 48.934 N:
F: CA: 6.993 MG: 7.052 NA: 33.81 K: 4.691
SIO2: FE: B: PH:6.9
T.D.S.=168 CONDUCT:168
COMMENTS:SADDLER CK. INTR CREEK /WEST PIT.

SAMPLE NO:24 DATE:170779 REC: 633
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: 12.962 CL: 46.098 N:
F: CA: 9.017 MG: 7.052 NA: 23 K: 7.819
SIO2: FE: B: PH:7.2
T.D.S.=128 CONDUCT:187
COMMENTS:SITE 2 SADDLER CK INTER WEST PIT.

SAMPLE NO:25 DATE:280878 REC: 639
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 317.3 SO4: 475.779 CL: 947.845 N:
F: CA: 164 MG: 205.01 NA: 490.13 K: 9.774
SIO2: FE: B: PH:8.3
T.D.S.=2640 CONDUCT:4300
COMMENTS:S.3 SADDLERS CK ABT 1.5 KM DN.STR FROM SITE 2.

SAMPLE NO:25 DATE:250279 REC: 643
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: 820.49 CL: 2030.09 N:
F: CA: 250.09 MG: 350.08 NA: 900.45 K: 12.9
SIO2: FE: B: PH:8.4
T.D.S.=5080 CONDUCT:6650
COMMENTS:S.3 SADDLERS CK ABT 1.5KM DN.STR FROM SITE 2.

SAMPLE NO:25 DATE:031279 REC: 649
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 508.9 SO4: 693.744 CL: 2930.09 N:
F: CA: 259.91 MG: 320.05 NA: 870.319 K: 12.9
SIO2: FE: B: PH:8.4
T.D.S.=4740 CONDUCT:7900
COMMENTS:S.3 SADDLERS CK ABT 1.5KM DN.STR FROM SITE 2.

SAMPLE NO:25 DATE:150678 REC: 637
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 32.95 SO4: 27.845 CL: 46.098 N:
F: CA: 12.003 MG: 11.065 NA: 28.98 K: 4.691
SIO2: FE: B: PH:7.3
T.D.S.=212 CONDUCT:297
COMMENTS:SITE 3 SADLER CK. 1.5 KM DOWNSTR FROM SITE 2.

SAMPLE NO:25 DATE:081079 REC: 647
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 535.1 SO4: 569.878 CL: 1219.82 N:
F: CA: 191.98 MG: 230.06 NA: 585.12 K: 5.864
SIO2: FE: B: PH:8.4
T.D.S.=3210 CONDUCT:6100
COMMENTS:S.3 SADDLERS CK ABT 1.5KM DN.STR FROM SITE 2.

SAMPLE NO:25 DATE:041278 REC: 641
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 261.7 SO4: 567.958 CL: 1298.9 N:
F: CA: 174.94 MG: 235.05 NA: 640.32 K: 11.72
SIO2: FE: B: PH:8.1
T.D.S.=3300 CONDUCT:4900
COMMENTS:S.3 SADDLERS CK ABT 1.5KM DN.STR FROM SITE 2.

SAMPLE NO:25 DATE:170779 REC: 645
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: SO4: 419.607 CL: 1019.83 N:
F: CA: 170.94 MG: 200.03 NA: 490.13 K: 5.864
SIO2: FE: B: PH:8.4
T.D.S.=3020 CONDUCT:4010
COMMENTS:S.3 SADDLERS CK ABT 1.5KM DN.STR FROM SITE 2.

SAMPLE NO:26 DATE:150678 REC: 651
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 127.5 SO4: 577.56 CL: 231.908 N:
F: CA: 53.907 MG: 91.078 NA: 280.14 K: 9.774
SIO2: FE: B: PH:8.3
T.D.S.=1434 CONDUCT:2120
COMMENTS:SITE 4:A FORMER TRIBUTARY OF BAYSWATER CK.

SAMPLE NO:26 DATE:031279 REC: 663
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 619.9 SO4: 2798.98 CL: 1530.1 N:
F: CA: 150.09 MG: 450.16 NA: 1460.73 K: 25.8
SIO2: FE: B: PH:8.2
T.D.S.=7120 CONDUCT:10700
COMMENTS:S.4 FRMR TRBT B/W CK IMM UP/STR SM SP/WAY LID.ASH.DM

SAMPLE NO:26 DATE:081079 REC: 661
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 690.1 SO4: 2498.92 CL: 1130.11 N:
F: CA: 148.09 MG: 375.13 NA: 1210.49 K: 21.89
SIO2: FE: B: PH:8.7
T.D.S.=5950 CONDUCT:9600
COMMENTS:SITE 4.

SAMPLE NO:26 DATE:041278 REC: 655
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 192.2 SO4: 1417.26 CL: 736.858 N:
F: CA: 79.959 MG: 225.08 NA: 750.26 K: 20.72
SIO2: FE: B: PH:8.0
T.D.S.=3620 CONDUCT:4600
COMMENTS:S.4 FRMR TRBT B/W CK IMM UP/STR SM SP/WAY LID.ASH.DM

SAMPLE NO:26 DATE:280878 REC: 653
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 367.3 SO4: 2438.91 CL: 1036.14 N:
F: CA: 159.91 MG: 375.13 NA: 1200.6 K: 41.83
SIO2: FE: B: PH:8.4
T.D.S.=5725 CONDUCT:7500
COMMENTS:S.4 FRMR TRBT B/W CK IMM UP/STR SM SP/WAY LID.ASH.DM

SAMPLE NO:26 DATE:170779 REC: 659
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: 2538.77 CL: 1130.11 N:
F: CA: 164.92 MG: 385.1 NA: 1210.49 K: 21.89
SIO2: FE: B: PH:8.6
T.D.S.=5800 CONDUCT:6980
COMMENTS:SITE 4.

SAMPLE NO:26 DATE:250279 REC: 657
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: 2848.91 CL: 1449.96 N:
F: CA: 140.07 MG: 450.16 NA: 1460.73 K: 26.97
SIO2: FE: B: PH:8.7
T.D.S.=7150 CONDUCT:7920
COMMENTS:SITE 4

SAMPLE NO:27 DATE:020880 REC: 509
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1293 SO4: 474.962 CL: 2390 N:
F: CA: 165.99 MG: 594.98 NA: 3397.1 K:
SIO2: FE:0.80 B: PH:8.1
T.D.S.=7669 CONDUCT:
COMMENTS:2960.05

SAMPLE NO:28 DATE:020880 REC: 511
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 652.3 SO4: 457.007 CL: 2220.01 N:
F: CA: 205 MG: 446 NA: 2677.89 K:
SIO2: FE:0.05 B: PH:7.5
T.D.S.=6332 CONDUCT:
COMMENTS:2960-03

SAMPLE NO:29 DATE:020880 REC: 513
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 416.7 SO4: 1130.01 CL: 2470 N:
F: CA: 105.99 MG: 937.99 NA: 2972.98 K:
SIO2: FE:0.60 B: PH:8.8
T.D.S.=7826 CONDUCT:
COMMENTS:2960-09

SAMPLE NO:30 DATE:020880 REC: 515
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 976.1 SO4: 460.992 CL: 2170.01 N:
F: CA: 29.999 MG: 114.99 NA: 3464.03 K:
SIO2: FE:0.90 B: PH:9.1
T.D.S.=6729 CONDUCT:
COMMENTS:2960-21

SAMPLE NO:31 DATE:210681 REC: 71
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: 240 HCO3: 649.8 SO4: 130.011 CL: 1120.36 N:NT
F: .247 CA: 43.005 MG: 102.03 NA: 760.38 K: 13.68
SIO2: FE:.002 B: PH:7.5
T.D.S.=2500 CONDUCT:4320
COMMENTS:667/87/31/9

SAMPLE NO:31 DATE:020880 REC: 517
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 386.2 SO4: 1780.02 CL: 7490 N:
F: CA: 335.99 MG: 1490 NA: 7829.89 K:
SIO2: FE:1.60 B: PH:8.7
T.D.S.=19219 CONDUCT:
COMMENTS:2960-08

SAMPLE NO:32 DATE:22.04.82 REC: 109
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.6
T.D.S.=3430 CONDUCT:4900
COMMENTS:BAYSWATER CREEK (SMALL FLOW)

SAMPLE NO:39 DATE:0177 REC: 237
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:80 CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.8
T.D.S.= CONDUCT:1750
COMMENTS:

SAMPLE NO:39 DATE:0675 REC: 247
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:82 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:7
T.D.S.= CONDUCT:1700
COMMENTS:

SAMPLE NO:39 DATE:1076 REC: 239
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:24 CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.= CONDUCT:810
COMMENTS:

SAMPLE NO:39 DATE:0676 REC: 241
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:48 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.= CONDUCT:880
COMMENTS:

SAMPLE NO:39 DATE:0176 REC: 243
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:58 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.5
T.D.S.= CONDUCT:1510
COMMENTS:

SAMPLE NO:39 DATE:0673 REC: 263
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:280 SO4:89 CL:350 N:<3
F: CA:69 MG:44 NA:215 K:4
SIO2: FE: B: PH:8.25
T.D.S.= CONDUCT:1650
COMMENTS:

SAMPLE NO:39 DATE:0973 REC: 261
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:190 SO4:55 CL:250 N:6
F: CA:57 MG:31 NA:140 K:2
SIO2: FE:<0.05 B: PH:8
T.D.S.=725 CONDUCT:1160
COMMENTS:

SAMPLE NO:39 DATE:0272 REC: 265
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:175 SO4:33 CL:105 N:<3
F: CA:37 MG:17 NA:75 K:1.95
SIO2: FE: B: PH:8.1
T.D.S.= CONDUCT:680
COMMENTS:

SAMPLE NO:39 DATE:0672 REC: 269
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:220 SO4:48 CL:180 N:
F: CA:54 MG:27 NA:110 K:3
SIO2: FE:<0.05 B: PH:8.3
T.D.S.= CONDUCT:1010
COMMENTS:

SAMPLE NO:39 DATE:1172 REC: 267
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:190 SO4:24 CL:100 N:<3
F: CA:35 MG:18 NA:80 K:1.95
SIO2: FE:<.05 B: PH:7.85
T.D.S.= CONDUCT:620
COMMENTS:

SAMPLE NO:39 DATE:0079 REC: 259
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:85 SO4:14 CL:43 N:<3
F: CA:14 MG:11 NA:35 K:4
SIO2: FE:1.5 B: PH:8.25
T.D.S.=210 CONDUCT:280
COMMENTS:

SAMPLE NO:39 DATE:0173 REC: 251
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:82 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.05
T.D.S.= CONDUCT:1800
COMMENTS:

SAMPLE NO:39 DATE:0375 REC: 249
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:53 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.8
T.D.S.= CONDUCT:1200
COMMENTS:

SAMPLE NO:39 DATE:0974 REC: 253
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:225 SO4:34 CL:205 N:<3
F: CA:53 MG:29 NA:120 K:2
SIO2: FE: B: PH:8.35
T.D.S.=670 CONDUCT:1050
COMMENTS:

SAMPLE NO:39 DATE:0474 REC: 257
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:215 SO4:31 CL:170 N:<3
F: CA:50 MG:27 NA:98 K:2
SIO2: FE: B: PH:8.55
T.D.S.=590 CONDUCT:970
COMMENTS:

SAMPLE NO:39 DATE:0674 REC: 255
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:211 SO4:14 CL:106 N:
F: CA: MG: NA: K:
SIO2: FE:<.05 B: PH:7.9
T.D.S.= CONDUCT:685
COMMENTS:

SAMPLE NO:41 DATE: REC: 67
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 164.7 SO4: 1536.32 CL: 138.294 N:
F: CA: 360.71 MG: 145.91 NA: 119.6 K: 12.12
SIO2: FE: B: PH:8.1
T.D.S.=2500 CONDUCT:
COMMENTS:MUSWELLBROOK OPEN CUT.

SAMPLE NO:45 DATE:.09.74 REC: 89
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.=5430 CONDUCT:
COMMENTS:MUSWELLBROOK

SAMPLE NO:48 DATE:11.11.80 REC: 87
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: SO4: 234.768 CL: 1819.81 N:.07
F: CA: 84.969 MG: 136.92 NA: 1210.49 K: 12.9
SIO2: FE: B: PH:8.3
T.D.S.=3840 CONDUCT:6400
COMMENTS:M30 HOWICK

SAMPLE NO:48 DATE:301079 REC: 245
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:175 CL:990 N:<1
F: CA:31 MG:87 NA:610 K:11
SIO2: FE: B: PH:8.7
T.D.S.= CONDUCT:3900
COMMENTS:

SAMPLE NO:49 DATE:.09.74 REC: 91
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.=140 CONDUCT:
COMMENTS:HOWICK

SAMPLE NO:50 DATE:220482 REC: 111
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=7140 CONDUCT:10200
COMMENTS:EMU CREEK (SMALL FLOW).

SAMPLE NO:50 DATE:0974 REC: 93
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.=730 CONDUCT:
COMMENTS:HOWICK MINE

SAMPLE NO:50 DATE:0375 REC: 279
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:100 CL: N:5
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.1
T.D.S.= CONDUCT:1100
COMMENTS:

SAMPLE NO:50 DATE:0175 REC: 281
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:115 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.= CONDUCT:2100
COMMENTS:

SAMPLE NO:50 DATE:0974 REC: 283
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:145 SO4:125 CL:225 N:<3
F: CA:21 MG:36 NA:165 K:10
SIO2: FE: B: PH:9.6
T.D.S.=730 CONDUCT:1170
COMMENTS:

SAMPLE NO:50 DATE:1075 REC: 277
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:77 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.= CONDUCT:700
COMMENTS:

SAMPLE NO:50 DATE:1076 REC: 271
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:245 CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.8
T.D.S.= CONDUCT:860
COMMENTS:

SAMPLE NO:50 DATE:0178 REC: 273
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:52 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:9.7
T.D.S.= CONDUCT:1040
COMMENTS:

SAMPLE NO:50 DATE:0476 REC: 275
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:81 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.= CONDUCT:750
COMMENTS:

SAMPLE NO:50 DATE:0674 REC: 285
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:150 SO4:115 CL:175 N:
F: CA: MG: NA: K:
SIO2: FE:1.25 B: PH:7.7
T.D.S.= CONDUCT:990
COMMENTS:

SAMPLE NO:50 DATE:0074 REC: 289
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:185 SO4:160 CL:245 N:<3
F: CA:20 MG:46 NA:190 K:16
SIO2: FE:2.2 B: PH:7.1
T.D.S.=860 CONDUCT:1300
COMMENTS:

SAMPLE NO:50 DATE:0172 REC: 297
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:105 SO4:43 CL:56 N:<3
F: CA:10 MG:15 NA:57 K:9
SIO2: FE:1.25 B: PH:7.15
T.D.S.=245 CONDUCT:410
COMMENTS:

SAMPLE NO:50 DATE:0072 REC: 299
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:145 SO4:43 CL:83 N:
F: CA:14 MG:21 NA:80 K:8
SIO2: FE:.14 B: PH:8.6
T.D.S.= CONDUCT:600
COMMENTS:

SAMPLE NO:50 DATE:0673 REC: 293
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:220 SO4:58 CL:145 N:<3
F: CA:12 MG:33 NA:125 K:12
SIO2: FE: B: PH:8.8
T.D.S.=500 CONDUCT:920
COMMENTS:

SAMPLE NO:50 DATE:0973 REC: 291
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:135 SO4:50 CL:170 N:<3
F: CA:27 MG:26 NA:120 K:10
SIO2: FE:.05 B: PH:9.6
T.D.S.=560 CONDUCT:850
COMMENTS:

SAMPLE NO:50 DATE:0273 REC: 295
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:170 SO4:210 CL:290 N:<3
F: CA:24 MG:56 NA:220 K:11
SIO2: FE: B: PH:7.2
T.D.S.=900 CONDUCT:1700
COMMENTS:

SAMPLE NO:50 DATE:0474 REC: 287
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:170 SO4:120 CL:185 N:<3
F: CA:19 MG:35 NA:150 K:10
SIO2: FE: B: PH:900
T.D.S.=690 CONDUCT:1070
COMMENTS:

SAMPLE NO:51 DATE:.02.80 REC: 95
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.=10800 CONDUCT:
COMMENTS:

SAMPLE NO:52 DATE:0177 REC: 465
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:2700 CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.8
T.D.S.= CONDUCT:21000
COMMENTS:

SAMPLE NO:52 DATE:1076 REC: 467
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1140 CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.= CONDUCT:6800
COMMENTS:

SAMPLE NO:52 DATE:0176 REC: 469
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1580 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:7
T.D.S.= CONDUCT:14400
COMMENTS:

SAMPLE NO:52 DATE:0675 REC: 473
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1290 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.3
T.D.S.= CONDUCT:17000
COMMENTS:

SAMPLE NO:52 DATE:0375 REC: 475
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1520 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.55
T.D.S.= CONDUCT:20000
COMMENTS:

SAMPLE NO:52 DATE:1075 REC: 471
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1100 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.= CONDUCT:11500
COMMENTS:

SAMPLE NO:52 DATE:74 REC: 485
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:120 SO4:460 CL:530 N:<3
F: CA:60 MG:86 NA:360 K:10
SIO2: FE:1.4 B: PH:7
T.D.S.=1630 CONDUCT:2600
COMMENTS:

SAMPLE NO:52 DATE:0973 REC: 487
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:195 SO4:505 CL:1640 N:3
F: CA:155 MG:180 NA:775 K:18
SIO2: FE:.9 B: PH:7.75
T.D.S.=3450 CONDUCT:5100
COMMENTS:

SAMPLE NO:52 DATE:0474 REC: 483
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:290 SO4:580 CL:1880 N:<3
F: CA:220 MG:235 NA:890 K:10
SIO2: FE: B: PH:7.75
T.D.S.=4100 CONDUCT:6900
COMMENTS:

SAMPLE NO:52 DATE:0974 REC: 479
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:160 SO4:455 CL:1460 N:11
F: CA:130 MG:170 NA:760 K:9
SIO2: FE: B: PH:7.3
T.D.S.=3150 CONDUCT:5400
COMMENTS:

SAMPLE NO:52 DATE:0674 REC: 481
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:550 SO4:850 CL:2550 N:
F: CA: MG: NA: K:
SIO2: FE:.2 B: PH:7.7
T.D.S.= CONDUCT:9000
COMMENTS:

SAMPLE NO:52 DATE:0672 REC: 495
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:520 SO4:870 CL:3550 N:
F: CA:275 MG:415 NA:1750 K:23
SIO2: FE:0.01 B: PH:7.6
T.D.S.=7140 CONDUCT:11000
COMMENTS:LIDDELL STATE

SAMPLE NO:52 DATE:0175 REC: 477
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:2380 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.95
T.D.S.= CONDUCT:22000
COMMENTS:

SAMPLE NO:52 DATE:0672 REC: 493
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:245 SO4:240 CL:610 N:<3
F: CA:81 MG:88 NA:390 K:9
SIO2: FE:<0.05 B: PH:7.7
T.D.S.=1540 CONDUCT:2800
COMMENTS:

SAMPLE NO:52 DATE:0073 REC: 489
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:185 SO4:930 CL:2750 N:<3
F: CA:300 MG:340 NA:1330 K:20
SIO2: FE: B: PH:7.2
T.D.S.=5765 CONDUCT:7200
COMMENTS:

SAMPLE NO:52 DATE:0273 REC: 491
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:170 SO4:345 CL:820 N:<3
F: CA:88 MG:105 NA:450 K:9
SIO2: FE:<0.05 B: PH:7.5
T.D.S.=1900 CONDUCT:3150
COMMENTS:

SAMPLE NO:52 DATE:.07.74 REC: 97
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.=3150 CONDUCT:
COMMENTS:

SAMPLE NO:53 DATE:0375 REC: 445
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:2160 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.= CONDUCT:15000
COMMENTS:

SAMPLE NO:53 DATE:0674 REC: 443
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:610 SO4:1920 CL:2130 N:
F: CA: MG: NA: K:
SIO2: FE:<.05 B: PH:7.9
T.D.S.= CONDUCT:9400
COMMENTS:

SAMPLE NO:53 DATE:0974 REC: 449
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:610 SO4:1740 CL:3250 N:<3
F: CA:175 MG:420 NA:2170 K:14
SIO2: FE: B: PH:7.95
T.D.S.=8400 CONDUCT:13000
COMMENTS:

SAMPLE NO:53 DATE:0175 REC: 447
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:3350 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.85
T.D.S.= CONDUCT:16000
COMMENTS:

SAMPLE NO:53 DATE:0675 REC: 441
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1990 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.45
T.D.S.= CONDUCT:15000
COMMENTS:

SAMPLE NO:53 DATE:1076 REC: 435
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:800 CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.= CONDUCT:7000
COMMENTS:

SAMPLE NO:53 DATE:0177 REC: 433
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:3550 SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.= CONDUCT:20500
COMMENTS:

SAMPLE NO:53 DATE:1075 REC: 439
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:2020 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.= CONDUCT:11500
COMMENTS:

SAMPLE NO:53 DATE:0176 REC: 437
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:2600 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.= CONDUCT:16000
COMMENTS:

SAMPLE NO:53 DATE:0474 REC: 451
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:415 SO4:1410 CL:2400 N:<3
F: CA:200 MG:330 NA:1500 K:18
SIO2: FE: B: PH:8
T.D.S.=6350 CONDUCT:9400
COMMENTS:

SAMPLE NO:53 DATE:0.72 REC: 461
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:340 SO4:1130 CL:1200 N:<3
F: CA:140 MG:195 NA:1010 K:0.3
SIO2: FE:<0.05 B: PH:7.75
T.D.S.=3860 CONDUCT:6000
COMMENTS:

SAMPLE NO:53 DATE:0172 REC: 463
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:710 SO4:1830 CL: N:
F: CA:225 MG:445 NA:2240 K:14
SIO2: FE:<.05 B: PH:7.8
T.D.S.= CONDUCT:12000
COMMENTS:

SAMPLE NO:53 DATE:0974 REC: 99
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.=8400 CONDUCT:
COMMENTS:

SAMPLE NO:53 DATE:0273 REC: 459
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:490 SO4:2220 CL:2290 N:<3
F: CA:245 MG:395 NA:1790 K:23
SIO2: FE:<0.05 B: PH:8.25
T.D.S.=7210 CONDUCT:10300
COMMENTS:

SAMPLE NO:53 DATE:0074 REC: 453
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:155 SO4:720 CL:520 N:<3
F: CA:97 MG:110 NA:396 K:12
SIO2: FE:1 B: PH:7.4
T.D.S.=2010 CONDUCT:2900
COMMENTS:

SAMPLE NO:53 DATE:0973 REC: 455
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:580 SO4:2510 CL:2750 N:6
F: CA:205 MG:365 NA:2300 K:27
SIO2: FE:5.9 B: PH:7.8
T.D.S.=8750 CONDUCT:10200
COMMENTS:

SAMPLE NO:53 DATE:0673 REC: 457
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:580 SO4:2750 CL:3210 N:<3
F: CA:270 MG:515 NA:2480 K:22
SIO2: FE: B: PH:7.95
T.D.S.=9540 CONDUCT:10200
COMMENTS:

SAMPLE NO:75 DATE:300470 REC: 229
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:4530 CL:6070 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.= CONDUCT:19000
COMMENTS:SAMPLE PIT 1 YORK CK ABOVE MINE

SAMPLE NO:75 DATE:091069 REC: 155
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:590 CL:1600 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.3
T.D.S.= CONDUCT:5560
COMMENTS:SAMPLING PIT 1 YORK CK ABOVE MINE

SAMPLE NO:75 DATE:051169 REC: 169
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:75 CL:290 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.6
T.D.S.= CONDUCT:1100
COMMENTS:SAMPLE PIT 1 YORK CK ABOVE MINE

SAMPLE NO:75 DATE:140170 REC: 193
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:410 CL:1250 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.2
T.D.S.= CONDUCT:4250
COMMENTS:SAMPLE PIT 1 YORK CK ABOVE MINE

SAMPLE NO:75 DATE:200270 REC: 205
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:720 CL:910 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.3
T.D.S.= CONDUCT:3350
COMMENTS:SAMPLE PIT 1 YORK CK ABOVE MINE

SAMPLE NO:75 DATE:040969 REC: 141
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:223 CL:540 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.8
T.D.S.= CONDUCT:2400
COMMENTS:SAMPLE PT 1 YORK CK ABOVE MINE

SAMPLE NO:75 DATE:031269 REC: 181
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:300 CL:900 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.= CONDUCT:3350
COMMENTS:SAMPLE 1 YORK CK ABOVE MINE

SAMPLE NO:76 DATE:251180 REC: 673
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: 1700.03 CL: 885.968 N:
F: CA: MG: NA: K:
SIO2: FE:7 B: PH:2.6
T.D.S.=7276 CONDUCT:6500
COMMENTS:1A GREAT GRETA.

SAMPLE NO:77 DATE:251180 REC: 675
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: 2100 CL: 727.993 N:
F: CA: MG: NA: K:
SIO2: FE:10 B: PH:2.7
T.D.S.=10347 CONDUCT:
COMMENTS:NO1, EUI CREEK.

SAMPLE NO:74 DATE:051169 REC: 179
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:640 CL:1800 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.= CONDUCT:7600
COMMENTS:SAMPLE PIT 6 BAYSWATER CK BELOW MINE

SAMPLE NO:74 DATE:300770 REC: 69
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:620 CL:3700 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.= CONDUCT:11840
COMMENTS:SAMPLE PIT 10 PIT EFFLUENT SETTLING POND

SAMPLE NO:74 DATE:280570 REC: 27
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:745 CL:3260 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.= CONDUCT:12000
COMMENTS:SAMPLE PIT 10 PIT EFFLUENT SETTLING POND

SAMPLE NO:74 DATE:300670 REC: 47
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:640 CL:3590 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.= CONDUCT:12400
COMMENTS:SAMPLE PIT 10 PIT EFFLUENT SETTLING POND

SAMPLE NO:75 DATE:250370 REC: 217
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:2010 CL:3250 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.3
T.D.S.= CONDUCT:9850
COMMENTS:SAMPLE PIT 1 YORK CK BELOW MINE

SAMPLE NO:75 DATE:250669 REC: 121
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:95 CL:568 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.= CONDUCT:1450
COMMENTS:SAMPLE 1 YORK CK ABOVE MINE

SAMPLE NO:75 DATE:310769 REC: 129
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:164 CL:461 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.= CONDUCT:1600
COMMENTS:SAMPLE PT 1 YORK CK ABOVE MINE

SAMPLE NO:75 DATE:280570 REC: 9
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:2500 CL:6320 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.= CONDUCT:20000
COMMENTS:SAMPLE PIT 1 YORK CK. ABOVE MINE

SAMPLE NO:75 DATE:300670 REC: 29
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:2500 CL:7040 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.= CONDUCT:22000
COMMENTS:SAMPLE PIT 1 YORK CK. ABOVE MINE

SAMPLE NO:73 DATE:040969 REC: 145
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:54 CL:176 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.= CONDUCT:1180
COMMENTS:SAMPLE PT3 SWAMP CK ABOVE MINE

SAMPLE NO:73 DATE:031269 REC: 185
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:40 CL:210 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.= CONDUCT:1050
COMMENTS:SAMPLE 3 SWAMP CK ABOVE MINE

SAMPLE NO:73 DATE:300770 REC: 53
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:43 CL:352 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.= CONDUCT:1620
COMMENTS:SAMPLE PIT 3 SWAMP CK. ABOVE MINE

SAMPLE NO:73 DATE:250370 REC: 221
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:28 CL:305 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.= CONDUCT:1200
COMMENTS:SAMPLE PIT 3 SWAMP CK BELOW MINE

SAMPLE NO:73 DATE:300670 REC: 33
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:95 CL:390 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.= CONDUCT:1650
COMMENTS:SAMPLE PIT 3 SWAMP CK. ABOVE MINE

SAMPLE NO:73 DATE:300470 REC: 233
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:40 CL:330 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.8
T.D.S.= CONDUCT:1420
COMMENTS:SAMPLE PIT 3 SWAMP CK ABOVE MINE

SAMPLE NO:73 DATE:140170 REC: 197
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:30 CL:305 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.= CONDUCT:1200
COMMENTS:SAMPLE PIT 3 ABOVE MINE SWAMP CK

SAMPLE NO:73 DATE:200270 REC: 209
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:57 CL:225 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.= CONDUCT:1200
COMMENTS:SAMPLE PIT 3 SWAMP CK ABOVE MINE

SAMPLE NO:74 DATE:310769 REC: 139
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:811 CL:1469 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.= CONDUCT:5000
COMMENTS:SAMPLE PIT 6 BAYSWATER CK BELOW MINE

SAMPLE NO:72 DATE:280570 REC: 21
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:745 CL:3190 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7
T.D.S.= CONDUCT:
COMMENTS:SAMPLE PIT 7 OPEN CUT PIT EFFLUENT

SAMPLE NO:72 DATE:300470 REC: 7
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1170 CL:3450 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7
T.D.S.= CONDUCT:
COMMENTS:SAMPLE PIT 7 OPEN CUT PIT EFFLUENT

SAMPLE NO:72 DATE:300770 REC: 61
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:630 CL:3340 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.= CONDUCT:
COMMENTS:SAMPLE PIT 7 OPEN CUT PIT EFFLUENT

SAMPLE NO:72 DATE:300670 REC: 41
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:640 CL:4610 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.= CONDUCT:
COMMENTS:SAMPLE PIT 7 OPEN CUT PIT EFFLUENT

SAMPLE NO:73 DATE:280570 REC: 13
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:40 CL:410 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.= CONDUCT:1400
COMMENTS:SAMPLE PIT 3 SWAMP CK. ABOVE MINE

SAMPLE NO:73 DATE:310769 REC: 133
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:59 CL:202 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.= CONDUCT:930
COMMENTS:SAMPLE PIT3 SWAMP CK ABOVE MINE

SAMPLE NO:73 DATE:260669 REC: 125
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:46 CL:446 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.95
T.D.S.= CONDUCT:1000
COMMENTS:SAMPLE 3 SWAMP CK ABOVE MINE

SAMPLE NO:73 DATE: REC: 173
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:50 CL:270 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.6
T.D.S.= CONDUCT:1340
COMMENTS:SAMPLE PIT 3 SWAMP CK ABOVE MINE

SAMPLE NO:73 DATE:091069 REC: 159
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:54 CL:280 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.8
T.D.S.= CONDUCT:1400
COMMENTS:SAMPLE PIT 3 SWAMP CK ABOVE MINE

SAMPLE NO:71 DATE:300670 REC: 31
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:810 CL:3930 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.= CONDUCT:14000
COMMENTS:SAMPLE PIT 2 YORK CK BELOW MINE

SAMPLE NO:71 DATE:040969 REC: 143
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:264 CL:904 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.= CONDUCT:3360
COMMENTS:SAMPLE PIT 2 YORK CK BLW MINE

SAMPLE NO:71 DATE:031269 REC: 183
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:250 CL:1190 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.= CONDUCT:4500
COMMENTS:SAMPLE PIT 2 YORK CK BELOW MINE

SAMPLE NO:71 DATE:140170 REC: 195
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:235 CL:1140 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.= CONDUCT:4000
COMMENTS:SAMPLE PIT 2 YORK CK BELOW MINE

SAMPLE NO:71 DATE:200270 REC: 207
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1010 CL:930 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.= CONDUCT:6300
COMMENTS:SAMPLE PIT 2 YORK CK BELOW MINE

SAMPLE NO:71 DATE:250370 REC: 219
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:970 CL:2650 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.8
T.D.S.= CONDUCT:9700
COMMENTS:SAMPLE PIT 2 YORK CK BELOW MINE

SAMPLE NO:71 DATE:300470 REC: 231
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:910 CL:3155 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.= CONDUCT:10000
COMMENTS:SAMPLE PIT 2 YORK CK ABOVE MINE

SAMPLE NO:71 DATE:051169 REC: 171
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:95 CL:530 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7
T.D.S.= CONDUCT:1800
COMMENTS:SAMPLE PIT 2 YORK CK BNELOW MINE

SAMPLE NO:71 DATE:280570 REC: 11
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:880 CL:3630 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.= CONDUCT:13000
COMMENTS:SAMPLE PIT 2 YORK CK, BELOW MINE

SAMPLE NO:71 DATE:250669 REC: 123
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:142 CL:1214 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.95
T.D.S.= CONDUCT:2350
COMMENTS:SAMPLE 2 YORK CK BELOW MINE

SAMPLE NO:70 DATE:091069 REC: 161
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:245 CL:1465 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.6
T.D.S.= CONDUCT:5300
COMMENTS:SAMPLE PIT 4 SWAMP CK BELOW MINE

SAMPLE NO:70 DATE:310769 REC: 135
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:118 CL:510 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.= CONDUCT:1700
COMMENTS:SAMPLE PIT 4 SWAMP CK BELOW MINE

SAMPLE NO:70 DATE:280570 REC: 15
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:515 CL:3190 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.= CONDUCT:11300
COMMENTS:SAMPLE 4 SWAMP CK. BELOW MINE

SAMPLE NO:70 DATE:031269 REC: 187
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:130 CL:870 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.= CONDUCT:3400
COMMENTS:SAMPLE 4 SWAMP CK BELOW MINE

SAMPLE NO:70 DATE:300470 REC: 235
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1300 CL:3570 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.= CONDUCT:12300
COMMENTS:SAMPLE PIT 4 SWAMP CK BELOW MINE

SAMPLE NO:70 DATE:040969 REC: 147
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:101 CL:486 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.8
T.D.S.= CONDUCT:2150
COMMENTS:SAMPLE PIT 4 SWAMP CK BELOW MINE

SAMPLE NO:71 DATE:310769 REC: 131
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:107 CL:728 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.= CONDUCT:2100
COMMENTS:SAMPLE 2 YORK CK BELOW MINE

SAMPLE NO:71 DATE:091069 REC: 157
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:270 CL:1120 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.= CONDUCT:4400
COMMENTS:SAMPLE PIT2 YORK CK BELOW MINE

SAMPLE NO:71 DATE:300770 REC: 51
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:860 CL:4580 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.= CONDUCT:15400
COMMENTS:SAMPLE 2 YORK CK ABOVE MINE

SAMPLE NO:69 DATE:300770 REC: 65
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:55 CL:490 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.= CONDUCT:1440
COMMENTS:SAMPLE PT 9 BOWMANS CK BELOW YORK CK JUNCTION

SAMPLE NO:69 DATE:280570 REC: 23
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:68 CL:290 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.= CONDUCT:1250
COMMENTS:SAMPLE PT 8 BOWMANS CK, ABOVE YORK CK JUNCTION

SAMPLE NO:69 DATE:300670 REC: 43
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:50 CL:380 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.= CONDUCT:1800
COMMENTS:SAMPLE 8 BOWMANS CK ABOVE YORK CK JUNCTION

SAMPLE NO:70 DATE:250370 REC: 223
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:710 CL:2090 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.= CONDUCT:7000
COMMENTS:SAMPLE 4 SWAMP CK BELOW MINE

SAMPLE NO:70 DATE:140170 REC: 199
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:340 CL:2220 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.= CONDUCT:6550
COMMENTS:SAMPLE PIT 4 SWAMP CK BELOW MINE

SAMPLE NO:70 DATE:300670 REC: 35
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:680 CL:3060 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.= CONDUCT:14000
COMMENTS:SAMPLE PIT 4 SWAMP CK BELOW MINE

SAMPLE NO:70 DATE: REC: 211
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:450 CL:1340 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.= CONDUCT:4400
COMMENTS:SAMPLE PIT 4 SWAMP CK BELOW MINE

SAMPLE NO:70 DATE:300770 REC: 55
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:880 CL:4780 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.= CONDUCT:15200
COMMENTS:SAMPLE PT 4 SWAMP CK BELOW MINE

SAMPLE NO:70 DATE: REC: 175
UNITS: METRIC TOP: BOTT: ANALYSIS BY:5 CHEM UNITS: MG/L
CO3: HCO3: SO4:95 CL:580 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.= CONDUCT:2360
COMMENTS:SAMPLE PIT 4 SWAMP CK BELOW MINE

SAMPLE NO:67 DATE:300470 REC: 3
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1680 CL:1530 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.= CONDUCT:6500
COMMENTS:SAMPLE PIT 5 BAYSWATER CREEK ABOVE MINE

SAMPLE NO:67 DATE:091069 REC: 163
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4:90 CL:1420 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.= CONDUCT:6300
COMMENTS:SAMPLE PIT 5 BAYSWATER CK ABOVE MINE

SAMPLE NO:67 DATE:200270 REC: 213
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:2180 CL:1410 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.6
T.D.S.= CONDUCT:5400
COMMENTS:SAMPLE PIT 5 BAYSWATER CK ABOVE MINE

SAMPLE NO:68 DATE:280570 REC: 25
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:52 CL:265 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.= CONDUCT:1250
COMMENTS:SAMPLE 9 BOWMANS CK BELOW YORK CK JUNCTION

SAMPLE NO:68 DATE:300670 REC: 45
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:50 CL:330 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.= CONDUCT:1350
COMMENTS:SAMPLE PIT 9 BOWMANS CK BELOW YORK CK JUNCTION

SAMPLE NO:69 DATE:040969 REC: 153
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL:161 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.= CONDUCT:800
COMMENTS:SAMPLE PIT 8 BOWMANS CK ABOVE YORK CK

SAMPLE NO:69 DATE:300770 REC: 63
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:75 CL:490 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.= CONDUCT:1640
COMMENTS:SAMPLE PIT 8 BOWMANS CK. ABOVE YORK CK JUNCTION

SAMPLE NO:69 DATE:091069 REC: 167
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.= CONDUCT:715
COMMENTS:SAMPLE PIT 8 BOWMANS CK ABOVE YORK CK JUN

SAMPLE NO:67 DATE:031269 REC: 189
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:810 CL:1600 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.= CONDUCT:7000
COMMENTS:SAMPLE 5 BAYSWATER CK ABOVE MINE

SAMPLE NO:67 DATE:310769 REC: 137
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:879 CL:1456 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.= CONDUCT:4900
COMMENTS:SAMPLE 5 BAYSWATER CK ABOVE MINE

SAMPLE NO:67 DATE:260669 REC: 127
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:754 CL:2136 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.= CONDUCT:6000
COMMENTS:SAMPLE 5 BAYSWATER CK ABOVE MINE

SAMPLE NO:67 DATE:250370 REC: 225
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1550 CL:1550 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.= CONDUCT:6350
COMMENTS:SAMPLE 5 BAYSWATER CK ABOVE MINE

SAMPLE NO:67 DATE:300670 REC: 37
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1000 CL:1370 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.= CONDUCT:6500
COMMENTS:SAMPLE PIT 5 BAYSWATER CK ABOVE MINE

SAMPLE NO:67 DATE:300770 REC: 57
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1120 CL:1460 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.= CONDUCT:6900
COMMENTS:SAMPLE PT 5 BAYSWATER CK ABOVE MINE

SAMPLE NO:67 DATE:280570 REC: 17
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:945 CL:750 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.= CONDUCT:6700
COMMENTS:SAMPLE 5 BAYSWATER CK. ABOVE MINE

SAMPLE NO:67 DATE:140170 REC: 201
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1040 CL:1700 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.= CONDUCT:6360
COMMENTS:SAMPLE PIT 5 BAYSWATER ABOVE MINE

SAMPLE NO:67 DATE:040969 REC: 149
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:919 CL:1214 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.= CONDUCT:5900
COMMENTS:SAMPLE PIT 5 BWAYSWATER CK ABOVE MINE

SAMPLE NO:67 DATE:051169 REC: 177
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:850 CL:1670 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.= CONDUCT:7000
COMMENTS:SAMPLE PIT 5 BAYSWATER CK ABOVE MINE

SAMPLE NO:66 DATE:300470 REC: 5
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.= CONDUCT:6600
COMMENTS:SAMPLE PIT 6 BAYSWATER CREEK BELOW MINE

SAMPLE NO:66 DATE:250370 REC: 227
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1360 CL:1530 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.= CONDUCT:6420
COMMENTS:SAMPLE PIT 6 BAYSWATER CK BELOW MINE

SAMPLE NO:66 DATE:300770 REC: 59
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1020 CL:1650 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.= CONDUCT:7600
COMMENTS:SAMPLE PIT 6 BAYSWATER CK. BELOW MINE

SAMPLE NO:66 DATE:300670 REC: 39
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:980 CL:1690 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.= CONDUCT:7300
COMMENTS:SAMPLE PIT 6 BAYSWATER CK BELOW MINE

SAMPLE NO:66 DATE:091069 REC: 165
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:810 CL:1700 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.= CONDUCT:6800
COMMENTS:SAMPLE PIT 6 BAYSWATER CK BELOW MINE

SAMPLE NO:66 DATE:040969 REC: 151
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:784 CL:1335 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.6
T.D.S.= CONDUCT:6100
COMMENTS:SAMPLE PIT 6 BAYSWATER CK BELOW MINE

SAMPLE NO:66 DATE:140170 REC: 203
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:930 CL:2060 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.= CONDUCT:7140
COMMENTS:SAMPLE PIT6 BAYSWATER CK BELOW MINE

SAMPLE NO:66 DATE:031269 REC: 191
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:730 CL:2100 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.= CONDUCT:7690
COMMENTS:SAMPLE 6 BAYSWATER CK BELOW MINE

SAMPLE NO:66 DATE:200270 REC: 215
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1940 CL:1630 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.= CONDUCT:5700
COMMENTS:SAMPLE PIT 6 BAYSWATER CK BELOW MINE

SAMPLE NO:60 DATE:1075 REC: 301
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:12 CL: N:<3
F: CA:60 MG:25 NA:0073 K:2
SIO2: FE: B:5 PH:1
T.D.S.= CONDUCT:336
COMMENTS:4250 8400 <3

SAMPLE NO:61 DATE:29.10.79 REC: 81
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: SO4: 839.214 CL: 6347.34 N:.07
F: CA: 35.871 MG: 405.04 NA: 4302.15 K: 56.69
SIO2: FE: B: PH:8.4
T.D.S.=10800 CONDUCT:18000
COMMENTS:T19

SAMPLE NO:61 DATE:23.04.82 REC: 119
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.3
T.D.S.=4130 CONDUCT:5900
COMMENTS:LODERS CREEK (SMALL FLOW) 667/82/4/18

SAMPLE NO:62 DATE:22.04.82 REC: 117
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.8
T.D.S.=5600 CONDUCT:8000
COMMENTS:

SAMPLE NO:62 DATE:201079 REC: 77
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 331.9 SO4: 2948.29 CL: 3189.63 N: .98
F: CA: 231.86 MG: 534.06 NA: 2321.16 K: 17.98
SIO2: FE: B: PH:7.8
T.D.S.=7300 CONDUCT:12200
COMMENTS:T16

SAMPLE NO:63 DATE:29.10.79 REC: 79
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 765.8 SO4: 1728.36 CL: 4999.86 N:.07
F: CA: 126.85 MG: 484.08 NA: 3281.64 K: 31.67
SIO2: FE: B: PH:7.9
T.D.S.=9300 CONDUCT:15500
COMMENTS:T15

SAMPLE NO:64 DATE:24 .09.7 REC: 73
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 559.5 SO4: 174.756 CL: 70.92 N: 2.942
F: CA: 27.855 MG: 65.907 NA: 620.31 K: 12.12
SIO2: FE: B: PH:7.3
T.D.S.=2170 CONDUCT:3500
COMMENTS:T10 HUNTER VALLEY

SAMPLE NO:66 DATE:280579 REC: 19
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:945 CL:875 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.= CONDUCT:7000
COMMENTS:SAMPLE PIT 6 BAYSWATER CK, BELOW MINE

SAMPLE NO:60 DATE:111180 REC: 75
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 1905 SO4: 579.48 CL: 4368.67 N: .98
F: CA: 74.949 MG: 320.05 NA: 3111.9 K: 48.87
SIO2: FE: B: PH:8.2
T.D.S.=8400 CONDUCT:14000
COMMENTS:T15 SWAMP LODERS

SAMPLE NO:60 DATE:0674 REC: 505
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:61 SO4:3 CL:16 N:
F: CA: MG: NA: K:
SIO2: FE:1.7 B: PH:7.8
T.D.S.= CONDUCT:135
COMMENTS:

SAMPLE NO:60 DATE:0272 REC: 311
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:290 SO4:1330 CL:2030 N:<3
F: CA:135 MG:290 NA:1280 K:15
SIO2: FE:<0.05 B: PH:8.4
T.D.S.=5230 CONDUCT:8400
COMMENTS:

SAMPLE NO:60 DATE:0974 REC: 503
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:65 SO4:<2 CL:14 N:<3
F: CA:16 MG:6 NA:8 K:10
SIO2: FE: B: PH:8
T.D.S.=140 CONDUCT:250
COMMENTS:

SAMPLE NO:60 DATE:0375 REC: 499
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:10 CL: N:5
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.6
T.D.S.= CONDUCT:270
COMMENTS:

SAMPLE NO:60 DATE:0973 REC: 307
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:88 SO4:<2 CL:23 N:3
F: CA:12 MG:7 NA:18 K:8
SIO2: FE:.05 B: PH:8.1
T.D.S.=155 CONDUCT:310
COMMENTS:

SAMPLE NO:60 DATE:0175 REC: 501
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:5 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.55
T.D.S.= CONDUCT:260
COMMENTS:

SAMPLE NO:60 DATE:0079 REC: 305
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:70 SO4:5 CL:12 N:<3
F: CA:8 MG:10 NA:9 K:8
SIO2: FE:4.7 B: PH:7
T.D.S.=125 CONDUCT:170
COMMENTS:

SAMPLE NO:60 DATE:0675 REC: 497
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:12 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.= CONDUCT:26
COMMENTS:

SAMPLE NO:60 DATE:0073 REC: 309
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:336 SO4:4250 CL:8400 N:<3
F: CA:230 MG:1270 NA:4900 K:47
SIO2: FE: B: PH:8.4
T.D.S.= CONDUCT:20200
COMMENTS:

SAMPLE NO:60 DATE:0172 REC: 313
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:73 SO4:62 CL:21 N:<3
F: CA:19 MG:12 NA:23 K:9
SIO2: FE:135 B: PH:7.5
T.D.S.=222 CONDUCT:310
COMMENTS:

SAMPLE NO:57 DATE:0973 REC: 363
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:680 SO4:2090 CL:1940 N:<3
F: CA:210 MG:375 NA:1520 K:16
SIO2: FE:.1 B: PH:7.25
T.D.S.=6800 CONDUCT:9700
COMMENTS:

SAMPLE NO:57 DATE:74 REC: 361
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:425 SO4:2270 CL:1930 N:<3
F: CA:230 MG:415 NA:1680 K:14
SIO2: FE:23 B: PH:7.45
T.D.S.=7000 CONDUCT:9500
COMMENTS:

SAMPLE NO:57 DATE:0474 REC: 359
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:850 SO4:1850 CL:1710 N:3
F: CA:185 MG:325 NA:1430 K:14
SIO2: FE: B: PH:7.4
T.D.S.=6350 CONDUCT:9000
COMMENTS:

SAMPLE NO:57 DATE:0974 REC: 355
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:755 SO4:1680 CL:1030 N:<3
F: CA:1160 MG:165 NA:1000 K:6
SIO2: FE: B: PH:7.7
T.D.S.=4800 CONDUCT:5800
COMMENTS:

SAMPLE NO:57 DATE:300770 REC: 49
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:3100 CL:7350 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.= CONDUCT:25000
COMMENTS:SAMPLE 1 YORK CK ABOVE MINE

SAMPLE NO:57 DATE:0674 REC: 357
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:744 SO4:1370 CL:1240 N:
F: CA: MG: NA: K:
SIO2: FE:<0.05 B: PH:7.1
T.D.S.= CONDUCT:6700
COMMENTS:

SAMPLE NO:57 DATE:.09.74 REC: 107
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.=4800 CONDUCT:
COMMENTS:

SAMPLE NO:57 DATE:0673 REC: 365
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:450 SO4:1620 CL:1100 N:<3
F: CA:165 MG:225 NA:980 K:16
SIO2: FE: B: PH:7.65
T.D.S.=4330 CONDUCT:4800
COMMENTS:

SAMPLE NO:57 DATE:1075 REC: 351
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1540 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.6
T.D.S.= CONDUCT:5700
COMMENTS:

SAMPLE NO:57 DATE:1076 REC: 349
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL:295 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.= CONDUCT:920
COMMENTS:

SAMPLE NO:56 DATE:0175 REC: 383
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:505 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.= CONDUCT:3400
COMMENTS:

SAMPLE NO:56 DATE:1075 REC: 377
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:443 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.= CONDUCT:2900
COMMENTS:

SAMPLE NO:56 DATE:0974 REC: 385
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:330 SO4:445 CL:470 N:<3
F: CA:67 MG:90 NA:405 K:7
SIO2: FE: B: PH:8.05
T.D.S.=1820 CONDUCT:2700
COMMENTS:

SAMPLE NO:56 DATE:0474 REC: 387
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:165 SO4:214 CL:149 N:
F: CA: MG: NA: K:
SIO2: FE:.1 B: PH:8.4
T.D.S.= CONDUCT:1080
COMMENTS:

SAMPLE NO:56 DATE:0675 REC: 379
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:440 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.= CONDUCT:3000
COMMENTS:

SAMPLE NO:56 DATE:0973 REC: 393
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:405 SO4:390 CL:535 N:<3
F: CA:68 MG:93 NA:425 K:8
SIO2: FE:.05 B: PH:7.8
T.D.S.=1920 CONDUCT:2850
COMMENTS:

SAMPLE NO:56 DATE:1076 REC: 373
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:425 CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.8
T.D.S.= CONDUCT:2900
COMMENTS:

SAMPLE NO:56 DATE:0174 REC: 391
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:290 SO4:405 CL:345 N:<3
F: CA:60 MG:79 NA:300 K:8
SIO2: FE:1.2 B: PH:7.6
T.D.S.=1490 CONDUCT:2200
COMMENTS:

SAMPLE NO:56 DATE:1076 REC: 375
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:210 CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.= CONDUCT:1420
COMMENTS:

SAMPLE NO:56 DATE:0474 REC: 389
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:390 SO4:425 CL:545 N:<3
F: CA:68 MG:100 NA:440 K:8
SIO2: FE: B: PH:8
T.D.S.=1980 CONDUCT:3000
COMMENTS:

SAMPLE NO:55 DATE:0175 REC: 329
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1070 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.= CONDUCT:6500
COMMENTS:

SAMPLE NO:55 DATE:0375 REC: 327
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1230 CL: N:14
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.55
T.D.S.= CONDUCT:6300
COMMENTS:

SAMPLE NO:55 DATE:0675 REC: 325
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:500 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.= CONDUCT:6600
COMMENTS:

SAMPLE NO:56 DATE:0273 REC: 397
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:445 SO4:485 CL:670 N:<3
F: CA:76 MG:110 NA:540 K:7
SIO2: FE:<0.05 B: PH:8.2
T.D.S.=2120 CONDUCT:3700
COMMENTS:

SAMPLE NO:56 DATE:067 REC: 395
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:425 SO4:500 CL:570 N:<3
F: CA:70 MG:100 NA:495 K:6
SIO2: FE: B: PH:8.2
T.D.S.=1960 CONDUCT:3100
COMMENTS:

SAMPLE NO:56 DATE:1172 REC: 399
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:210 SO4:230 CL:205 N:<3
F: CA:52 MG:48 NA:185 K:5
SIO2: FE:<0.05 B: PH:7.65
T.D.S.=833 CONDUCT:1400
COMMENTS:

SAMPLE NO:56 DATE:.09.74 REC: 105
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.=1820 CONDUCT:
COMMENTS:

SAMPLE NO:56 DATE:0672 REC: 401
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:415 SO4:305 CL:430 N:
F: CA:68 MG:755 NA:390 K:12
SIO2: FE: B: PH:8.0
T.D.S.=2170 CONDUCT:2580
COMMENTS:

SAMPLE NO:56 DATE:0375 REC: 381
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1230 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.85
T.D.S.= CONDUCT:3400
COMMENTS:

SAMPLE NO:55 DATE:0974 REC: 331
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:680 SO4:1040 CL:1150 N:<3
F: CA:110 MG:190 NA:1020 K:12
SIO2: FE: B: PH:6.7
T.D.S.=4200 CONDUCT:6000
COMMENTS:

SAMPLE NO:55 DATE:0474 REC: 333
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:560 SO4:1090 CL:945 N:<3
F: CA:110 MG:180 NA:860 K:14
SIO2: FE: B: PH:7.8
T.D.S.=3750 CONDUCT:5500
COMMENTS:

SAMPLE NO:55 DATE:0172 REC: 343
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:190 SO4:290 CL:180 N:<3
F: CA:53 MG:49 NA:170 K:5
SIO2: FE:0.75 B: PH:7.7
T.D.S.=845 CONDUCT:1420
COMMENTS:

SAMPLE NO:55 DATE:0072 REC: 345
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:690 SO4:1370 CL:1260 N:
F: CA:130 MG:200 NA:1040 K:12
SIO2: FE:<0.05 B: PH:8.0
T.D.S.=4360 CONDUCT:7300
COMMENTS:

SAMPLE NO:55 DATE:0073 REC: 339
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:760 SO4:1320 CL:1320 N:<3
F: CA:130 MG:210 NA:1200 K:14
SIO2: FE: B: PH:8.1
T.D.S.=4200 CONDUCT:5200
COMMENTS:

SAMPLE NO:55 DATE:0273 REC: 341
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:680 SO4:1310 CL:1190 N:<3
F: CA:120 MG:210 NA:1040 K:11
SIO2: FE:0.1 B: PH:8.2
T.D.S.=4225 CONDUCT:6500
COMMENTS:

SAMPLE NO:55 DATE:0176 REC: 321
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:900 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.0
T.D.S.= CONDUCT:5000
COMMENTS:

SAMPLE NO:55 DATE:1076 REC: 319
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:520 CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.8
T.D.S.= CONDUCT:3300
COMMENTS:

SAMPLE NO:55 DATE:0177 REC: 317
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:980 CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.8
T.D.S.= CONDUCT:5900
COMMENTS:

SAMPLE NO:55 DATE:1075 REC: 323
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1100 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.= CONDUCT:6300
COMMENTS:

SAMPLE NO:54 DATE:1172 REC: 431
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:225 SO4:720 CL:630 N:9
F: CA:86 MG:115 NA:515 K:11
SIO2: FE:<0.05 B: PH:
T.D.S.= CONDUCT:
COMMENTS:

SAMPLE NO:54 DATE:.09.74 REC: 101
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.=650 CONDUCT:
COMMENTS:

SAMPLE NO:54 DATE:0673 REC: 427
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:390 SO4:1050 CL:970 N:<3
F: CA:81 MG:165 NA:845 K:12
SIO2: FE: B: PH:8.6
T.D.S.=3320 CONDUCT:3850
COMMENTS:

SAMPLE NO:54 DATE:0474 REC: 421
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:215 SO4:350 CL:175 N:<3
F: CA:66 MG:54 NA:180 K:6
SIO2: FE: B: PH:8
T.D.S.=1050 CONDUCT:1600
COMMENTS:

SAMPLE NO:54 DATE:0174 REC: 423
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:79 SO4:360 CL:145 N:6
F: CA:59 MG:43 NA:145 K:6
SIO2: FE:44 B: PH:7.5
T.D.S.=880 CONDUCT:1270
COMMENTS:

SAMPLE NO:54 DATE:0973 REC: 425
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:355 SO4:1015 CL:895 N:9
F: CA:92 MG:150 NA:750 K:16
SIO2: FE:2.2 B: PH:8.05
T.D.S.=3250 CONDUCT:4200
COMMENTS:

SAMPLE NO:55 DATE:.09.74 REC: 103
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.=4200 CONDUCT:
COMMENTS:

SAMPLE NO:55 DATE:0074 REC: 335
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:230 SO4:445 CL:330 N:<3
F: CA:72 MG:74 NA:295 K:8
SIO2: FE:<1 B: PH:7.9
T.D.S.=1450 CONDUCT:2200
COMMENTS:

SAMPLE NO:55 DATE:0973 REC: 337
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:590 SO4:1310 CL:1310 N:<3
F: CA:120 MG:210 NA:1150 K:12
SIO2: FE:<0.05 B: PH:7.85
T.D.S.=4700 CONDUCT:7000
COMMENTS:

SAMPLE NO:54 DATE:0675 REC: 411
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:890 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.6
T.D.S.= CONDUCT:4200
COMMENTS:

SAMPLE NO:54 DATE:0375 REC: 413
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1220 CL: N:4
F: CA: MG: NA: K:
SIO2: FE: B: PH:810
T.D.S.= CONDUCT:4800
COMMENTS:

SAMPLE NO:54 DATE:0974 REC: 417
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:49 SO4:265 CL:125 N:<3
F: CA:41 MG:24 NA:135 K:8
SIO2: FE: B: PH:8.2
T.D.S.=650 CONDUCT:1150
COMMENTS:

SAMPLE NO:54 DATE:0175 REC: 415
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1030 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.15
T.D.S.= CONDUCT:5000
COMMENTS:

SAMPLE NO:54 DATE:0177 REC: 403
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1600 CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.= CONDUCT:5000
COMMENTS:

SAMPLE NO:54 DATE:1076 REC: 405
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:235 CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.= CONDUCT:690
COMMENTS:

SAMPLE NO:54 DATE:1075 REC: 409
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:1060 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.= CONDUCT:4900
COMMENTS:

SAMPLE NO:54 DATE:0676 REC: 407
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:700 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.= CONDUCT:4200
COMMENTS:

SAMPLE NO:54 DATE:0674 REC: 419
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:330 SO4:880 CL:610 N:
F: CA: MG: NA: K:
SIO2: FE:.1 B: PH:7.6
T.D.S.= CONDUCT:3600
COMMENTS:

SAMPLE NO:54 DATE:0273 REC: 429
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:298 SO4:609 CL:742 N:9
F: CA:93 MG:144 NA:530 K:11
SIO2: FE:0.05 B: PH:8.7
T.D.S.=2290 CONDUCT:4050
COMMENTS:

SAMPLE NO:78 DATE:251180 REC: 677
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: 1450 CL: 931.995 N:
F: CA: MG: NA: K:
SIO2: FE:17.3 B: PH:2.9
T.D.S.=7135 CONDUCT:
COMMENTS:NO2. EUI CREEK.

SAMPLE NO:79 DATE:251180 REC: 679
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: 3039.99 CL: 567.998 N:
F: CA: MG: NA: K:
SIO2: FE:13 B: PH:2.7
T.D.S.=12420 CONDUCT:
COMMENTS:NO3. EUI CREEK SEEPAGE.

SAMPLE NO:80 DATE:251180 REC: 681
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: 100.004 CL: 89.997 N:
F: CA: MG: NA: K:
SIO2: FE:11 B: PH:5.8
T.D.S.=970 CONDUCT:
COMMENTS:POLLUTION CONTROL DAM.

SAMPLE NO:81 DATE:25110 REC: 683
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: 2400.5 CL: 636.01 N:
F: CA: MG: NA: K:
SIO2: FE:14 B: PH:3.3
T.D.S.=562 CONDUCT:
COMMENTS:POND OPEN-CUT.

SAMPLE NO:82 DATE:251180 REC: 685
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: 500.024 CL: 544.984 N:
F: CA: MG: NA: K:
SIO2: FE:7.2 B: PH:3.2
T.D.S.=3590 CONDUCT:
COMMENTS:SUPPLY DAM

SAMPLE NO:83 DATE:251180 REC: 687
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: 699.985 CL: 691.966 N:
F: CA: MG: NA: K:
SIO2: FE:3.3 B: PH:5.5
T.D.S.=4416 CONDUCT:
COMMENTS:EFFLUENT POND.

SAMPLE NO:84 DATE:231080 REC: 689
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: 16.899 CL: 45.105 N:
F: CA: MG: NA: 80.96 K: 12.9
SIO2: FE: B: PH:9.5
T.D.S.=352 CONDUCT:620
COMMENTS:W1

SAMPLE NO:84 DATE:290978 REC: 671
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: SO4: 419.799 CL: 4571.5 N:
F: CA: MG: NA: 3041.52 K:
SIO2: FE:.1 B: PH:8.6
T.D.S.=8520 CONDUCT:14200
COMMENTS:T20

SAMPLE NO:84 DATE:050479 REC: 669
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: SO4: 671.707 CL: 6242.02 N:
F: CA: MG: NA: 4072.15 K:
SIO2: FE: B: PH:
T.D.S.=12000 CONDUCT:20000
COMMENTS:T20

SAMPLE NO:85 DATE:231080 REC: 691
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: 28.95 CL: 78.402 N:
F: CA: MG: NA: 143.06 K: 14.85
SIO2: FE: B: PH:8.9
T.D.S.=570 CONDUCT:930
COMMENTS:W4

SAMPLE NO:86 DATE:22.04.82 REC: 115
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.=1120 CONDUCT:1600
COMMENTS:POOL IN SAMUELKS CREEK

SAMPLE NO:86 DATE:231080 REC: 693
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:9
T.D.S.= CONDUCT:1860
COMMENTS:W5

SAMPLE NO:87 DATE:231080 REC: 695
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: 27.605 CL: 33.296 N:
F: CA: MG: NA: 60.95 K: 10.94
SIO2: FE: B: PH:9
T.D.S.=309 CONDUCT:440
COMMENTS:W6

SAMPLE NO:88 DATE:231080 REC: 697
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: 39.512 CL: 58.863 N:
F: CA: MG: NA: 42.09 K: 1.954
SIO2: FE: B: PH:8.5
T.D.S.=329 CONDUCT:540
COMMENTS:W11.

SAMPLE NO:89 DATE:231180 REC: 699
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: 35.815 CL: 58.792 N:
F: CA: MG: NA: 43.47 K: 3.127
SIO2: FE: B: PH:8.7
T.D.S.=330 CONDUCT:580
COMMENTS:W12

SAMPLE NO:90 DATE:231080 REC: 701
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: 27.989 CL: 44.112 N:
F: CA: MG: NA: 34.04 K: 1.954
SIO2: FE: B: PH:8.6
T.D.S.=272 CONDUCT:460
COMMENTS:W14

SAMPLE NO:91 DATE:231080 REC: 703
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: 148.062 CL: 2204.62 N:
F: CA: MG: NA: 1239.93 K: 10.94
SIO2: FE: B: PH:8.3
T.D.S.=4353 CONDUCT:7490
COMMENTS:W16

SAMPLE NO:92 DATE: REC: 705
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 230 SO4: 259.734 CL: 670.194 N:
F: .38 CA: 79.959 MG: 89.983 NA: 383.18 K: 3.909
SIO2: FE:.5 B: PH:7.7
T.D.S.=1700 CONDUCT:2510
COMMENTS:HEBDEN SWAMP CK FO4: 0.114 MG/L NI: 0.8 MG/L

SAMPLE NO:93 DATE: REC: 707
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: 6.002 HCO3: 879.9 SO4: 240.05 CL: 1000.33 N:
F: 1.71 CA: 12.424 MG: 18.483 NA: 1030.63 K: 10.55
SIO2: FE:0.35 B: PH:8.5
T.D.S.=2880 CONDUCT:4200
COMMENTS:WAMBO COAL RUNOFF FO4: 0.065 MG/L NI: 1.2 UG/L

SAMPLE NO:94 DATE:230581 REC: 709
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 25.01 SO4: 11.186 CL: 21.205 N:
F: .228 CA: 3.506 MG: 3.198 NA: 15.64 K: 5.473
SIO2: FE:9.95 B: PH:7.4
T.D.S.=75 CONDUCT:139
COMMENTS:LOIDERS CK FO4: 0.08 MG/L NI: 1.2 UG/L

SAMPLE NO:95 DATE:250581 REC: 711
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 162.3 SO4: 46.089 CL: 410.272 N:
F: .19 CA: 9.017 MG: 31.007 NA: 278.07 K: 10.16
SIO2: FE:9.3 B: PH:7.4
T.D.S.=970 CONDUCT:1430
COMMENTS:LOIDRES CK FO4: 0.06 MG/L NI: 1.2 UG/L

SAMPLE NO:96 DATE:270581 REC: 713
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 599.8 SO4: 200.201 CL: 1400.32 N:
F: .38 CA: 62.925 MG: 132.05 NA: 920.46 K: 12.9
SIO2: FE:1.78 B: PH:7.9
T.D.S.=2980 CONDUCT:4680
COMMENTS:LOIDERS CK FO4: 0.171 MG/L NI: 0.9 UG/L

SAMPLE NO:97 DATE:300581 REC: 715
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 929.9 SO4: 96.02 CL: 2180.79 N:
F: .38 CA: 27.053 MG: 142.02 NA: 1460.73 K: 25.02
SIO2: FE:2.33 B: PH:8.1
T.D.S.=4600 CONDUCT:6980
COMMENTS:LOIDERS CK FO4: 0.098 MG/L NI: 1.2 UG/L

SAMPLE NO:98 DATE:021182 REC: 723
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.1
T.D.S.= CONDUCT:3000
COMMENTS:BUCHANAN-LEIGHTON STOCK DAM BELOW COAL PILE.

SAMPLE NO:98 DATE: REC: 717
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: 1.2 HCO3: 344.1 SO4: 219.885 CL: 770.191 N:
F: .57 CA: 25.45 MG: 80.012 NA: 545.33 K: 13.68
SIO2: FE:.68 B: PH:8.3
T.D.S.=2064 CONDUCT:3100
COMMENTS:STREAM PO4: 0.049 MG/L NI: 3.1 UG/L

SAMPLE NO:99 DATE: REC: 725
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.2
T.D.S.= CONDUCT:5000
COMMENTS:COAL SEEPAGE REDBANK CREEK

SAMPLE NO:99 DATE: REC: 719
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 209.9 SO4: 90.258 CL: 1100.32 N:
F: .247 CA: 56.913 MG: 92.051 NA: 590.41 K: 10.16
SIO2: FE:.58 B: PH:7.5
T.D.S.=2260 CONDUCT:3380
COMMENTS:REDBANK CK PO4: 0.057 MG/L NI: 1.6 UG/L

SAMPLE NO:100 DATE: REC: 721
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 97.02 SO4: 168.035 CL: 399.988 N:
F: .19 CA: 43.085 MG: 40.979 NA: 242.19 K: 5.864
SIO2: FE:7.23 B: PH:7.3
T.D.S.=1050 CONDUCT:1540
COMMENTS:MINIMBAH CK PO4: 0.06 MG/L NI: 1.8 UG/L

SAMPLE NO:101 DATE: REC: 277
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 39.66 SO4: 11.81 CL: 27.694 N:
F: .19 CA: 6.392 MG: 4.097 NA: 19.09 K: 8.601
SIO2: FE:19.0 B: PH:6.4
T.D.S.=100 CONDUCT:180
COMMENTS:667/81/19/S PO4: 0.1 MG/L NI: 1.2 UG/L

SAMPLE NO:102 DATE: REC: 279
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 20.13 SO4: 7.393 CL: 29.183 N:
F: .19 CA: 2.805 MG: 2.103 NA: 17.94 K: 7.428
SIO2: FE:13.8 B: PH:6.2
T.D.S.=80 CONDUCT:135
COMMENTS:667/81/20/S PO4: 0.05 MG/L NI: 1.3 UG/L

SAMPLE NO:103 DATE: REC: 281
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 29.89 SO4: 17.667 CL: 43.509 N:
F: .228 CA: 5.39 MG: 5.107 NA: 27.6 K: 6.646
SIO2: FE:8.35 B: PH:6.8
T.D.S.=126 CONDUCT:215
COMMENTS:EMIGRANT CK PO4: 0.05 MG/L NI: 1.2 UG/L

SAMPLE NO:104 DATE: REC: 283
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 439.9 SO4: 699.985 CL: 1770.52 N:
F: .38 CA: 97.995 MG: 183 NA: 1150.69 K: 14.07
SIO2: FE:.98 B: PH:8.0
T.D.S.=4130 CONDUCT:5850
COMMENTS:LODERS CK PO4: 0.057 MG/L NI: 1.4 UG/L

SAMPLE NO:105 DATE: REC: 45
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3:650 SO4:130 CL:1120 N:
F:.24 CA:43 MG:102 NA:760 K:13.5
SIO2: FE:.03 B: PH:7.5
T.D.S.=2500 CONDUCT:4320
COMMENTS:105 MAP 3

SAMPLE NO:106 DATE: REC: 47
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:10.8 HCO3:710 SO4:756 CL:680 N:
F:.66 CA:59.5 MG:140 NA:710 K:23
SIO2: FE:<.01 B: PH:8.5
T.D.S.=2800 CONDUCT:4200
COMMENTS:SAMPLE NO 106/S PIKES CK JERRYS PLAIN

SAMPLE NO:106 DATE: REC: 287
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: 10.8 HCO3: 710 SO4: 756.013 CL: 680.229 N:
F: .664 CA: 59.498 MG: 140.03 NA: 710.355 K: 22.99
SIO2: FE:<.001 B: PH:8.5
T.D.S.=2800 CONDUCT:4200
COMMENTS:667/81/32/S

SAMPLE NO:106 DATE:210681 REC: 95
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: 10.8 HCO3: 710.2 SO4: 753.757 CL: 680.122 N:
F: .57 CA: 59.318 MG: 139.96 NA: 710.47 K: 23.06
SIO2: FE: B: PH:8.5
T.D.S.=2800 CONDUCT:4200
COMMENTS:667/81/32

SAMPLE NO:107 DATE:210681 REC: 97
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 73.22 SO4: 33.607 CL: 71.983 N:
F: .228 CA: 11.402 MG: 10.007 NA: 54.97 K: 5.473
SIO2: FE:.338 B: PH:6.9
T.D.S.=274 CONDUCT:390
COMMENTS:

SAMPLE NO:107 DATE: REC: 289
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 72.97 SO4: 33.991 CL: 72.019 N:
F: .228 CA: 11.402 MG: 10.007 NA: 55.039 K: 5.317
SIO2: FE:6.3 B: PH:6.9
T.D.S.=274 CONDUCT:390
COMMENTS:667/81/33/S

SAMPLE NO:107 DATE: REC: 49
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3:73 SO4:34 CL:72 N:
F:.22 CA:11.4 MG:10 NA:55 K:5.3
SIO2: FE:6.3 B: PH:6.9
T.D.S.=274 CONDUCT:390
COMMENTS:107/S LIDDELL PIPELINE JERRYS PLAIN

SAMPLE NO:109 DATE: REC: 51
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3:247 SO4: CL:179 N:
F:.34 CA: MG:41.5 NA: K:5.1
SIO2: FE:1.2 B: PH:7.4
T.D.S.= CONDUCT:
COMMENTS:109/S LODERS CK Ni 1.1Ug/L PO4 .065

SAMPLE NO:109 DATE:080681 REC: 119
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:NT HCO3: 247.1 SO4:NT CL: 179.073 N:NT
F: .342 CA:NT MG: 41.514 NA:NT K: 5.082
SIO2: FE: B: PH:7.4
T.D.S.=710 CONDUCT:1080
COMMENTS:Ni 1.1XE-3Mg/l PO4 .065 667/81/22/5 WAMBO

SAMPLE NO:110 DATE:080681 REC: 121
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: 18 HCO3: 1400 SO4:NT CL: 6030.97 N:NT
F: .209 CA:NT MG: 402.11 NA:NT K: 41.83
SIO2: FE: B: PH:8.5
T.D.S.=11460 CONDUCT:16600
COMMENTS:667/81/23/S WAMBO SALT PLAIN FIELD

SAMPLE NO:110 DATE: REC: 53
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:18 HCO3:1400 SO4: CL:6029 N:
F:.21 CA: MG:402 NA: K:42
SIO2: FE:.08 B: PH:8.5
T.D.S.=11460 CONDUCT:16600
COMMENTS:110/S SALTPAN FLAT Ni 1.6Ug/L PO4 .22

SAMPLE NO:111 DATE: REC: 55
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3:54 SO4: CL:130 N:
F: CA: MG:16.8 NA: K:5
SIO2: FE:1.1 B: PH:7
T.D.S.=384 CONDUCT:617
COMMENTS:111/S STH WAMBO Ni .9Ug/L PO4 .073

SAMPLE NO:111 DATE:050782 REC: 713
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.49
T.D.S.= CONDUCT:1250
COMMENTS:WAMBO SOUTH

SAMPLE NO:111 DATE:080681 REC: 123
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3: 54.3 SO4:NT CL: 130.031 N:NT
F: .171 CA:NT MG: 16.805 NA:NT K: 5.082
SIO2: FE: B: PH:7
T.D.S.=384 CONDUCT:617
COMMENTS:PO4 .002 667/81/245 WAMBO

SAMPLE NO:112 DATE: REC: 61
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3:560 SO4: CL:1400 N:
F:.44 CA: MG:184 NA: K:7
SIO2: FE:.02 B: PH:8
T.D.S.=3600 CONDUCT:5200
COMMENTS:112/S SALTWATER CK. Ni 2.8Us/L PO4 .081

SAMPLE NO:112 DATE:080681 REC: 125
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3: 560.1 SO4:NT CL: 1400.67 N:NT
F: .437 CA:NT MG: 1.836 NA:NT K: 7.037
SIO2: FE: B: PH:8
T.D.S.=3600 CONDUCT:5200
COMMENTS:667/81/25/S SALTWATER CK WAMBO

SAMPLE NO:112 DATE: REC: 57
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3:560 SO4: CL:1400 N:
F:.44 CA: MG:184 NA: K:7
SIO2: FE:.2 B: PH:8
T.D.S.=3600 CONDUCT:5200
COMMENTS:112/S SALTWATER CK JERRYS PLAINS Ni 2.8 PO4 .081

SAMPLE NO:113 DATE:080681 REC: 127
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3: 550.4 SO4:NT CL: 900.293 N:NT
F: .361 CA:NT MG: 730.65 NA:NT K: 12.51
SIO2: FE: B: PH:7.9
T.D.S.=1900 CONDUCT:3000
COMMENTS:667/81/26/S NTH WAMBO

SAMPLE NO:113 DATE: REC: 63
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3:550 SO4: CL:900 N:
F:.36 CA: MG:74 NA: K:12.5
SIO2: FE:1.4 B: PH:7.9
T.D.S.=1900 CONDUCT:3000
COMMENTS:113/S NTH. WAMBO Ni 2.1Us/L PO4 .081

SAMPLE NO:113 DATE: REC: 59
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3:550 SO4: CL:900 N:
F:0.36 CA: MG:74 NA: K:12.5
SIO2: FE:1.4 B: PH:7.9
T.D.S.=1900 CONDUCT:3000
COMMENTS:113/S NTH WAMBO NI:2.1 UG/L PO4:0.106 UG/L.

SAMPLE NO:114 DATE: REC: 15
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3:174 SO4: CL:387 N:
F: CA: MG:57.2 NA: K:6.4
SIO2: FE:.35 B: PH:7.8
T.D.S.=1200 CONDUCT:1800
COMMENTS:114/S SALTWATER CK.JERRYS PLAIN Ni 1Us/L PO4 .081

SAMPLE NO:114 DATE: REC: 65
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3:174 SO4: CL:387 N:
F: CA: MG:57.2 NA: K:6.4
SIO2: FE:.35 B: PH:7.8
T.D.S.=1200 CONDUCT:1800
COMMENTS:SALTWATER CK. 114/S Ni 1Us/L PO4 .081Ms/L

SAMPLE NO:114 DATE:080681 REC: 129
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:NT HCO3: 173.9 SO4:NT CL: 387.116 N:NT
F:0 CA:NT MG: 57.212 NA:NT K: 6.646
SIO2: FE: B: PH:7.8
T.D.S.=1200 CONDUCT:1800
COMMENTS:667/81/27/S SALTWATER CK WAMBO

SAMPLE NO:115 DATE: REC: 67
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3:242 SO4: CL:303 N:
F: CA: MG:39.3 NA: K:4.5
SIO2: FE:1.4 B: PH:7.8
T.D.S.=720 CONDUCT:1180
COMMENTS:McDONALD RD. CAMBERWELL Ni .5 PO4 .065

SAMPLE NO:115 DATE:080681 REC: 131
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0. HCO3: 242.2 SO4: CL: 303.112 N:
F: CA: MG: 39.313 NA: K: 4.691
SIO2: FE: B: PH:7.8
T.D.S.=720 CONDUCT:1180
COMMENTS:

SAMPLE NO:116 DATE:080680 REC: 133
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3: 51.25 SO4:NT CL: 53.012 N:NT
F:NT CA:NT MG: 6.906 NA:NT K: 3.909
SIO2: FE: B: PH:6.8
T.D.S.=190 CONDUCT:270
COMMENTS:

SAMPLE NO:116 DATE: REC: 69
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3:51.4 SO4: CL:53 N:
F: CA: MG:6.9 NA: K:4
SIO2: FE:10.9 B: PH:6.8
T.D.S.=190 CONDUCT:270
COMMENTS:McDONALD RD CAMBERWELL Ni .6 PO4 .05

SAMPLE NO:117 DATE:230681 REC: 101
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 219 SO4: 39.992 CL: 150.066 N:NT
F: .38 CA: 47.154 MG: 41.416 NA: 51.29 K: 19.15
SIO2: FE: B:0.09 PH:7.3
T.D.S.=560 CONDUCT:861
COMMENTS:667/81/35 LINEAL FARM

SAMPLE NO:117 DATE: REC: 77
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 218.4 SO4: 39.848 CL: 149.995 N:
F: .38 CA: 47.093 MG: 41.343 NA: 51.29 K: 18.76
SIO2: FE: B: PH:7.3
T.D.S.=560 CONDUCT:861
COMMENTS:LINEAL FARM

SAMPLE NO:117 DATE: REC: 21
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3:219 SO4:40 CL:150 N:
F:0.38 CA:47.1 MG:41.4 NA:51.3 K:19.1
SIO2: FE: B:0.034 PH:7.3
T.D.S.=560 CONDUCT:861
COMMENTS:LINEAL FARM 117/6

SAMPLE NO:117 DATE: REC: 1
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.= CONDUCT:720
COMMENTS:LIN-FM POOL BOTTLED AT SURFACE 35

SAMPLE NO:118 DATE: REC: 3
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.8
T.D.S.= CONDUCT:4000
COMMENTS:SANDY CREEK 36

SAMPLE NO:118 DATE:210681 REC: 99
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3: 705.3 SO4: 126.986 CL: 1400.46 N:NT
F: .551 CA: 92.604 MG: 189.05 NA: 744.28 K: 5.082
SIO2: FE: B:.04 PH:7.5
T.D.S.=2850 CONDUCT:4590
COMMENTS:667/81/36 SUNNY CREEK

SAMPLE NO:118 DATE: REC: 23
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3:705 SO4:127 CL:1400 N:
F:.56 CA:92.6 MG:189 NA:74.4 K:5.2
SIO2: FE: B:.15 PH:7.5
T.D.S.=2850 CONDUCT:4590
COMMENTS:SANDY CK. MUS NO 118/6

SAMPLE NO:118 DATE: REC: 79
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 704.7 SO4: 126.746 CL: 1400.32 N:
F: .551 CA: 92.183 MG: 188.96 NA: 742.9 K: 5.082
SIO2: FE: B: PH:7.5
T.D.S.=2850 CONDUCT:4590
COMMENTS:SANDY CREEK

SAMPLE NO:119 DATE: REC: 25
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3:57.5 SO4:27 CL:60 N:
F:.26 CA:7 MG:3.75 NA:53.5 K:6.4
SIO2: FE: B:.36 PH:6.9
T.D.S.=190 CONDUCT:285
COMMENTS:COOLABAH RD MUS NO 119/6

SAMPLE NO:119 DATE:230681 REC: 103
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3: 57.35 SO4: 26.981 CL: 60.033 N:NT
F: .266 CA: 6.993 MG: 3.745 NA: 53.59 K: 6.255
SIO2: FE: B:.01 PH:6.9
T.D.S.=190 CONDUCT:285
COMMENTS: 661/81/37 COOLABAR RD

SAMPLE NO:119 DATE: REC: 5
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.2
T.D.S.= CONDUCT:250
COMMENTS:COOLABAH RD 37

SAMPLE NO:119 DATE: REC: 81
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 57.35 SO4: 26.885 CL: 59.927 N:
F: .266 CA: 6.813 MG: 3.745 NA: 53.36 K: 6.255
SIO2: FE: B: PH:6.9
T.D.S.=190 CONDUCT:285
COMMENTS:COOLABAH ROAD

SAMPLE NO:120 DATE: REC: 27
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3:80 SO4:2 CL:21 N:
F:.27 CA:10.1 MG:6.2 NA:16 K:7.8
SIO2: FE: B:.029 PH:6.8
T.D.S.=130 CONDUCT:190
COMMENTS:MAP 9033-1-6 NO 120/5

SAMPLE NO:120 DATE: REC: 83
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 79.93 SO4:.042 CL: 20.992 N:
F: .266 CA: 10.1 MG: 6.201 NA: 15.41 K: 7.819
SIO2: FE: B:.008 PH:6.8
T.D.S.=130 CONDUCT:190
COMMENTS:

SAMPLE NO:120 DATE: REC: 7
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.1
T.D.S.= CONDUCT:125
COMMENTS:POOL SAMPLED BY BOTTLE 38

SAMPLE NO:120 DATE:230681 REC: 105
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3: 79.93 SO4: 2.016 CL: 20.992 N:NT
F: .266 CA: 10.1 MG: 6.201 NA: 16.1 K: 7.819
SIO2: FE: B:.008 PH:6.8
T.D.S.=130 CONDUCT:190
COMMENTS:667/81/38

SAMPLE NO:120 DATE:.04.82 ? REC: 75
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=14700 CONDUCT:21000
COMMENTS:WORKWORTH MINE- VAUX? SEAM SEEPGE 667/82/4/9

SAMPLE NO:121 DATE: REC: 85
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:206.8 SO4:6.001 CL:24.006 N:
F:.361 CA:19.098 MG:20.209 NA:32.66 K:4.691
SIO2: FE: B:0.008 PH:7.3
T.D.S.=250 CONDUCT:368
COMMENTS: MITCHELL LINE ROAD - POOL.

SAMPLE NO:121 DATE:240681 REC: 107
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3: 206.8 SO4: 6.001 CL: 24.006 N:NT
F: .361 CA: 19.098 MG: 20.209 NA: 32.87 K: 4.691
SIO2: FE: B:.008 PH:7.3
T.D.S.=250 CONDUCT:368
COMMENTS:667/81/39 MITCHELL LINE RD POOL

SAMPLE NO:121 DATE: REC: 31
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3:207 SO4:6 CL:24 N:
F:.36 CA:19.1 MG:20.2 NA:32.9 K:4.6
SIO2: FE: B:.028 PH:7.3
T.D.S.=250 CONDUCT:368
COMMENTS:121/S MITCHELL LINE RD JERRYS PLAIN

SAMPLE NO:122 DATE: REC: 13
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.7
T.D.S.= CONDUCT:8900
COMMENTS:EMU CK, BOTTLED AT THE SURFACE Q=8-1000 , 40

SAMPLE NO:122 DATE: REC: 33
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:7.2 HCO3:954 SO4:790 CL:3800 N:
F:.46 CA:87 MG:425 NA:2170 K:16
SIO2: FE: B:.088 PH:8.4
T.D.S.=8000 CONDUCT:11400
COMMENTS:121/S EMU CK POOL CAMBERWELL

SAMPLE NO:122 DATE:240681 REC: 109
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: 7.202 HCO3: 954.3 SO4: 790.052 CL: 3801.24 N:NT
F: .456 CA: 86.993 MG: 425.12 NA: 2171.2 K: 16.03
SIO2: FE: B:.088 PH:8.4
T.D.S.=8000 CONDUCT:11400
COMMENTS:667/81/40 EMU CK POOL

SAMPLE NO:123 DATE:240681 REC: 111
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3: 137.2 SO4: 235.008 CL: 285.062 N:NT
F: .531 CA: 32.104 MG: 52.215 NA: 204.01 K: 6.255
SIO2: FE: B:.017 PH:7.4
T.D.S.=954 CONDUCT:1430
COMMENTS:667/81/41 FARRELLS CK

SAMPLE NO:123 DATE: REC: 89
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 137.2 SO4: 235.008 CL: 283.68 N:
F: .531 CA: 32.104 MG: 52.215 NA: 204.01 K: 6.255
SIO2: FE: B:.017 PH:7.4
T.D.S.=954 CONDUCT:1430
COMMENTS:FARRELLS CREEK

SAMPLE NO:123 DATE: REC: 17
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.7
T.D.S.= CONDUCT:1230
COMMENTS:FARRELLS CK BOTTLED AT SURFACE 41

SAMPLE NO:123 DATE: REC: 35
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3:137 SO4:235 CL:285 N:
F:.54 CA:32.1 MG:52.2 NA:204 K:6.4
SIO2: FE: B:.06 PH:7.4
T.D.S.=954 CONDUCT:1430
COMMENTS:123/S FARRELLS CK CAMBERWELL

SAMPLE NO:124 DATE:240681 REC: 113
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3: 109.8 SO4: 9.986 CL: 14.006 N:NT
F: .266 CA: 13.005 MG: 7.806 NA: 20.93 K: 6.646
SIO2: FE: B:.013 PH:7.3
T.D.S.=149 CONDUCT:223
COMMENTS:667/81/42 LEMINGTON CK

SAMPLE NO:124 DATE: REC: 91
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 109.8 SO4: 9.602 CL: 14.006 N:
F: .266 CA: 13.005 MG: 7.806 NA: 20.93 K: 6.646
SIO2: FE: B:.013 PH:7.3
T.D.S.=149 CONDUCT:223
COMMENTS:LEMINGTON CREEK

SAMPLE NO:124 DATE: REC: 37
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3:0 SO4:110 CL:10 N:
F:.26 CA:13 MG:7.8 NA:21 K:6.7
SIO2: FE: B: PH:7.3
T.D.S.=149 CONDUCT:223
COMMENTS:124/S LEMINGTON CK JERRYS PLAINS

SAMPLE NO:124 DATE: REC: 19
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7
T.D.S.= CONDUCT:180
COMMENTS:LAMRINGTON POOL BOTTLED AT SURFACE 42

SAMPLE NO:125 DATE: REC: 39
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3:54 SO4:54 CL:300 N:
F:.28 CA:9.6 MG:25.4 NA:126 K:3.9
SIO2: FE: B:.033 PH:7.2
T.D.S.=630 CONDUCT:991
COMMENTS:125/S BAYSWATER CREEK CAMBERWELL

SAMPLE NO:124 DATE:22.04.82 REC: 73
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.6
T.D.S.=280 CONDUCT:400
COMMENTS:POOL IN CREEK FARRELLS CK????

SAMPLE NO:125 DATE: REC: 93
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 54.3 SO4: 54.011 CL: 300.097 N:
F: .265 CA: 9.599 MG: 25.402 NA: 176.18 K: 3.909
SIO2: FE: B:.009 PH:7.2
T.D.S.=630 CONDUCT:991
COMMENTS:BAYSWATER CREEK

SAMPLE NO:125 DATE: REC: 29
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:890
COMMENTS:BAYSWATER CK.POOL BOTTLED AT THE SURFACE 43

SAMPLE NO:126 DATE: REC: 9
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:530
COMMENTS:GLENNIS CK POOL BY BOTTLE AT SURFACE

SAMPLE NO:126 DATE: REC: 41
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3:51 SO4:66 CL:140 N:
F:.24 CA:10.7 MG:18 NA:89.9 K:3.2
SIO2: FE: B:.033 PH:6.9
T.D.S.=426 CONDUCT:641
COMMENTS:126/S GLENNLES CREEK CAMBERWELL

SAMPLE NO:126 DATE: REC: 117
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3:0 HCO3: 51.25 SO4: 66.013 CL: 140.031 N:NT
F: .247 CA: 10.701 MG: 18.008 NA: 89.93 K: 3.127
SIO2: FE: B:.009 PH:6.9
T.D.S.=426 CONDUCT:641
COMMENTS:667/81/44 GLENNIES CK CAMBERWELL

SAMPLE NO:127 DATE:180680 REC: 181
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:55 CL:89 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.=402 CONDUCT:650
COMMENTS:

SAMPLE NO:127 DATE:150181 REC: 639
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:39 CL:75 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=310 CONDUCT:500
COMMENTS:

SAMPLE NO:127 DATE:140781 REC: 567
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=270 CONDUCT:284
COMMENTS:

SAMPLE NO:127 DATE:150480 REC: 709
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:53 CL:98 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.8
T.D.S.= CONDUCT:630
COMMENTS:

SAMPLE NO:127 DATE:100881 REC: 597
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.=320 CONDUCT:270
COMMENTS:

SAMPLE NO:127 DATE:190981 REC: 623
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=160 CONDUCT:322
COMMENTS:

SAMPLE NO:127 DATE:091280 REC: 393
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=476 CONDUCT:720
COMMENTS:

SAMPLE NO:127 DATE:150680 REC: 205
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.9
T.D.S.=442 CONDUCT:540
COMMENTS:

SAMPLE NO:127 DATE:170281 REC: 451
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.8
T.D.S.=445 CONDUCT:660
COMMENTS:

SAMPLE NO:127 DATE:160381 REC: 483
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.8
T.D.S.=258 CONDUCT:367
COMMENTS:

SAMPLE NO:127 DATE:130181 REC: 423
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.6
T.D.S.=394 CONDUCT:518
COMMENTS:

SAMPLE NO:127 DATE:240579 REC: 343
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.6
T.D.S.=166 CONDUCT:200
COMMENTS:NEAR NEW ACCESS ROAD

SAMPLE NO:127 DATE:110380 REC: 685
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:59 CL:84 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=346 CONDUCT:520
COMMENTS:

SAMPLE NO:127 DATE:150980 REC: 255
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.8
T.D.S.=415 CONDUCT:680
COMMENTS:

SAMPLE NO:127 DATE:130580 REC: 159
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:72 CL:97 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.8
T.D.S.=855 CONDUCT:590
COMMENTS:

SAMPLE NO:127 DATE:141080 REC: 275
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=355 CONDUCT:740
COMMENTS:

SAMPLE NO:127 DATE:150681 REC: 533
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.=234 CONDUCT:340
COMMENTS:

SAMPLE NO:127 DATE:111181 REC: 371
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=384 CONDUCT:620
COMMENTS:

SAMPLE NO:127 DATE:120880 REC: 231
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=380 CONDUCT:700
COMMENTS:

SAMPLE NO:127 DATE:180581 REC: 509
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=358 CONDUCT:604
COMMENTS:

SAMPLE NO:127 DATE:110280 REC: 661
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:46 CL:76 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.6
T.D.S.=250 CONDUCT:510
COMMENTS:

SAMPLE NO:128 DATE:240579 REC: 345
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=393 CONDUCT:600
COMMENTS:PLASTIC LINED DAM WATER

SAMPLE NO:129 DATE: REC: 11
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.7
T.D.S.= CONDUCT:280
COMMENTS:MITCHELL LINE RD BOTTLED AT SURFACE 39

SAMPLE NO:129 DATE:240579 REC: 347
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=393 CONDUCT:600
COMMENTS:PLASTIC LINED DAM NEAR GREEN TANKS

SAMPLE NO:130 DATE:340579 REC: 349
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=313 CONDUCT:400
COMMENTS:UNLINED DAM WEST OF OFFICE

SAMPLE NO:131 DATE:110280 REC: 663
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:30 CL:61 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=350 CONDUCT:430
COMMENTS:

SAMPLE NO:132 DATE:120880 REC: 233
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=440 CONDUCT:500
COMMENTS:

SAMPLE NO:132 DATE:130580 REC: 161
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:48 CL:54 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=310 CONDUCT:390
COMMENTS:

SAMPLE NO:132 DATE:240579 REC: 351
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=174 CONDUCT:200
COMMENTS:UNLINED DAM NEAR ON THE HAULAGE ROAD

SAMPLE NO:132 DATE:170281 REC: 453
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.63
T.D.S.=200 CONDUCT:275
COMMENTS:

SAMPLE NO:132 DATE:160381 REC: 485
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=355 CONDUCT:421
COMMENTS:

SAMPLE NO:132 DATE:150980 REC: 257
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=730 CONDUCT:590
COMMENTS:

SAMPLE NO:132 DATE:130181 REC: 425
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.8
T.D.S.=155 CONDUCT:295
COMMENTS:

SAMPLE NO:132 DATE:110280 REC: 665
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:35 CL:37 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.8
T.D.S.=80 CONDUCT:320
COMMENTS:

SAMPLE NO:132 DATE:100881 REC: 599
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.2
T.D.S.=180 CONDUCT:324
COMMENTS:

SAMPLE NO:132 DATE:1410? REC: 353
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.=445 CONDUCT:370
COMMENTS:

SAMPLE NO:132 DATE:150480 REC: 711
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:50 CL:55 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.9
T.D.S.=352 CONDUCT:470
COMMENTS:

SAMPLE NO:132 DATE:091280 REC: 395
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.=370 CONDUCT:389
COMMENTS:

SAMPLE NO:132 DATE:110380 REC: 687
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:43 CL:40 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.0
T.D.S.=240 CONDUCT:270
COMMENTS:

SAMPLE NO:132 DATE:150680 REC: 207
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.3
T.D.S.=280 CONDUCT:410
COMMENTS:

SAMPLE NO:132 DATE:180680 REC: 183
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:20 CL:42 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=240 CONDUCT:300
COMMENTS:

SAMPLE NO:132 DATE:22.04.82 REC: 71
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.9
T.D.S.=2520 CONDUCT:3600
COMMENTS:FARRELLS CREEK (NO FLOW)

SAMPLE NO:132 DATE:150681 REC: 535
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.6
T.D.S.=500 CONDUCT:298
COMMENTS:

SAMPLE NO:132 DATE:111181 REC: 373
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.9
T.D.S.=245 CONDUCT:430
COMMENTS:

SAMPLE NO:132 DATE:150180 REC: 641
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:43 CL:65 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.=370 CONDUCT:500
COMMENTS:

SAMPLE NO:132 DATE:140781 REC: 569
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=290 CONDUCT:386
COMMENTS:

SAMPLE NO:132 DATE:140781 REC: 725
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=290 CONDUCT:386
COMMENTS:

SAMPLE NO:133 DATE:141080 REC: 355
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7
T.D.S.=383 CONDUCT:290
COMMENTS:

SAMPLE NO:133 DATE:? REC: 441
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.=60 CONDUCT:156
COMMENTS:

SAMPLE NO:133 DATE:150980 REC: 259
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.=190 CONDUCT:180
COMMENTS:

SAMPLE NO:133 DATE:190981 REC: 625
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.=300 CONDUCT:276
COMMENTS:

SAMPLE NO:133 DATE:180680 REC: 185
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:35 CL:15 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=120 CONDUCT:120
COMMENTS:

SAMPLE NO:133 DATE:100881 REC: 601
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:9.7
T.D.S.=110 CONDUCT:109
COMMENTS:

SAMPLE NO:133 DATE:150680 REC: 209
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.=40 CONDUCT:410
COMMENTS:

SAMPLE NO:133 DATE:140781 REC: 571
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=180 CONDUCT:160
COMMENTS:

SAMPLE NO:133 DATE:150480 REC: 143
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:144 CL:19 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=195 CONDUCT:220
COMMENTS:

SAMPLE NO:133 DATE:110380 REC: 689
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:43 CL:15 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.=160 CONDUCT:150
COMMENTS:

SAMPLE NO:133 DATE:110280 REC: 667
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:44 CL:12 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.6
T.D.S.=120 CONDUCT:190
COMMENTS:

SAMPLE NO:133 DATE:150180 REC: 643
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:29 CL:21 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7
T.D.S.=175 CONDUCT:
COMMENTS:

SAMPLE NO:133 DATE:130580 REC: 163
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:59 CL:18 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.3
T.D.S.=190 CONDUCT:140
COMMENTS:

SAMPLE NO:133 DATE:150681 REC: 537
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.=330 CONDUCT:298
COMMENTS:

SAMPLE NO:133 DATE:180581 REC: 511
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.6
T.D.S.=175 CONDUCT:442
COMMENTS:

SAMPLE NO:133 DATE:160381 REC: 487
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.=133 CONDUCT:140
COMMENTS:

SAMPLE NO:133 DATE:120880 REC: 235
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.3
T.D.S.=80 CONDUCT:100
COMMENTS:

SAMPLE NO:133 DATE:170281 REC: 455
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.7
T.D.S.=25 CONDUCT:104
COMMENTS:

SAMPLE NO:134 DATE:130181 REC: 427
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:9
T.D.S.=788 CONDUCT:1200
COMMENTS:

SAMPLE NO:134 DATE:150180 REC: 645
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:23 CL:53 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.8
T.D.S.=160 CONDUCT:310
COMMENTS:

SAMPLE NO:134 DATE:170260 REC: 457
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=430 CONDUCT:770
COMMENTS:

SAMPLE NO:134 DATE:110380 REC: 691
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:49 CL:76 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.=280 CONDUCT:350
COMMENTS:

SAMPLE NO:134 DATE:110280 REC: 669
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:65 CL:52 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=175 CONDUCT:410
COMMENTS:

SAMPLE NO:134 DATE:150480 REC: 145
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:85 CL:282 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=815 CONDUCT:1180
COMMENTS:

SAMPLE NO:134 DATE:180680 REC: 187
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:85 CL:223 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.=690 CONDUCT:910
COMMENTS:

SAMPLE NO:134 DATE:150680 REC: 211
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.2
T.D.S.=582 CONDUCT:850
COMMENTS:

SAMPLE NO:134 DATE:120880 REC: 237
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:9.2
T.D.S.=548 CONDUCT:900
COMMENTS:

SAMPLE NO:135 DATE:091280 REC: 403
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=2330 CONDUCT:2990
COMMENTS:

SAMPLE NO:135 DATE:150180 REC: 647
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:67 CL:153 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.=555 CONDUCT:820
COMMENTS:

SAMPLE NO:136 DATE:150681 REC: 539
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7
T.D.S.=664 CONDUCT:1335
COMMENTS:

SAMPLE NO:136 DATE:160381 REC: 489
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.=1298 CONDUCT:1925
COMMENTS:

SAMPLE NO:136 DATE:110380 REC: 693
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:88 CL:239 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.=632 CONDUCT:800
COMMENTS:

SAMPLE NO:136 DATE:111181 REC: 377
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.2
T.D.S.=230 CONDUCT:440
COMMENTS:

SAMPLE NO:136 DATE:130580 REC: 165
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:75 CL:108 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.1
T.D.S.=310 CONDUCT:420
COMMENTS:

SAMPLE NO:136 DATE:170981 REC: 627
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.=270 CONDUCT:660
COMMENTS:

SAMPLE NO:136 DATE:180680 REC: 189
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:32 CL:76 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.6
T.D.S.=370 CONDUCT:390
COMMENTS:

SAMPLE NO:136 DATE:170281 REC: 459
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.2
T.D.S.=905 CONDUCT:1232
COMMENTS:

SAMPLE NO:136 DATE:150680 REC: 213
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.=400 CONDUCT:490
COMMENTS:

SAMPLE NO:136 DATE:110280 REC: 671
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:55 CL:186 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.=410 CONDUCT:790
COMMENTS:

SAMPLE NO:136 DATE:120880 REC: 239
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.=400 CONDUCT:600
COMMENTS:

SAMPLE NO:136 DATE:100881 REC: 603
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.9
T.D.S.=13340 CONDUCT:17940
COMMENTS:

SAMPLE NO:137 DATE:140781 REC: 573
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=800 CONDUCT:1238
COMMENTS:

SAMPLE NO:137 DATE:111181 REC: 375
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.=220 CONDUCT:230
COMMENTS:

SAMPLE NO:137 DATE:130580 REC: 167
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:77 CL:301 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=870 CONDUCT:1850
COMMENTS:

SAMPLE NO:137 DATE:120880 REC: 241
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.=880 CONDUCT:1400
COMMENTS:

SAMPLE NO:137 DATE:100881 REC: 605
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=1250 CONDUCT:1776
COMMENTS:

SAMPLE NO:137 DATE:180680 REC: 191
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:88 CL:323 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.=980 CONDUCT:1300
COMMENTS:

SAMPLE NO:137 DATE:190981 REC: 629
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.7
T.D.S.=1368 CONDUCT:2160
COMMENTS:

SAMPLE NO:137 DATE:160381 REC: 491
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.=914 CONDUCT:1320
COMMENTS:

SAMPLE NO:137 DATE:150680 REC: 215
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.1
T.D.S.=1320 CONDUCT:1240
COMMENTS:

SAMPLE NO:137 DATE:091280 REC: 401
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.2
T.D.S.=910 CONDUCT:1150
COMMENTS:

SAMPLE NO:137 DATE:130181 REC: 431
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:5
T.D.S.= CONDUCT:898
COMMENTS:

SAMPLE NO:137 DATE:110380 REC: 695
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:45 CL:234 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.=672 CONDUCT:1040
COMMENTS:

SAMPLE NO:137 DATE:150681 REC: 541
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.1
T.D.S.=786 CONDUCT:1178
COMMENTS:

SAMPLE NO:137 DATE:170281 REC: 461
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.3
T.D.S.=575 CONDUCT:840
COMMENTS:

SAMPLE NO:137 DATE:150180 REC: 649
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:131 CL:410 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.8
T.D.S.=1130 CONDUCT:1840
COMMENTS:

SAMPLE NO:137 DATE:110280 REC: 673
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:91 CL:178 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.=530 CONDUCT:990
COMMENTS:

SAMPLE NO:137 DATE:150980 REC: 261
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.=1190 CONDUCT:1800
COMMENTS:

SAMPLE NO:137 DATE:111181 REC: 379
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.9
T.D.S.=800 CONDUCT:1080
COMMENTS:

SAMPLE NO:138 DATE:150180 REC: 651
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:38 CL:15 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.=425 CONDUCT:610
COMMENTS:

SAMPLE NO:138 DATE:110280 REC: 675
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:9.1
T.D.S.=370 CONDUCT:710
COMMENTS:

SAMPLE NO:138 DATE:130181 REC: 433
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6
T.D.S.=240 CONDUCT:581
COMMENTS:

SAMPLE NO:138 DATE:170280 REC: 465
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:5.6
T.D.S.=570 CONDUCT:806
COMMENTS:

SAMPLE NO:139 DATE:180581 REC: 513
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=1780 CONDUCT:1950
COMMENTS:

SAMPLE NO:139 DATE:150680 REC: 217
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.7
T.D.S.=1340 CONDUCT:1520
COMMENTS:

SAMPLE NO:139 DATE:120880 REC: 243
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:5
T.D.S.=1150 CONDUCT:1600
COMMENTS:

SAMPLE NO:139 DATE:150980 REC: 263
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.=1480 CONDUCT:2130
COMMENTS:

SAMPLE NO:139 DATE:170280 REC: 463
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.=3880 CONDUCT:4816
COMMENTS:

SAMPLE NO:139 DATE:160381 REC: 493
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=3112 CONDUCT:4480
COMMENTS:

SAMPLE NO:139 DATE:130181 REC: 435
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=2732 CONDUCT:3840
COMMENTS:

SAMPLE NO:139 DATE:110380 REC: 697
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:115 CL:419 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.0
T.D.S.=1040 CONDUCT:1450
COMMENTS:

SAMPLE NO:139 DATE:140781 REC: 575
UNITS: METRIC TOP: BOTT:9 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=1100 CONDUCT:1485
COMMENTS:

SAMPLE NO:139 DATE:150480 REC: 147
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:41 CL:391 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.=1100 CONDUCT:1140
COMMENTS:

SAMPLE NO:139. DATE:190981 REC: 631
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=2296 CONDUCT:3300
COMMENTS:

SAMPLE NO:139 DATE:141080 REC: 357
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.6
T.D.S.=1780 CONDUCT:2410
COMMENTS:

SAMPLE NO:139 DATE:? REC: 381
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.=1770 CONDUCT:2650
COMMENTS:

SAMPLE NO:139 DATE:180680 REC: 137
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:91 CL:291 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.4
T.D.S.=1000 CONDUCT:1100
COMMENTS:

SAMPLE NO:139 DATE:150681 REC: 543
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.3
T.D.S.=472 CONDUCT:1256
COMMENTS:

SAMPLE NO:139 DATE:130580 REC: 139
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:138 CL:411 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=1150 CONDUCT:1480
COMMENTS:

SAMPLE NO:139 DATE:110280 REC: 141
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:99 CL:153 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.3
T.D.S.=160 CONDUCT:880
COMMENTS:

SAMPLE NO:140 DATE:130580 REC: 149
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:45 CL:119 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=515 CONDUCT:720
COMMENTS:

SAMPLE NO:140 DATE:120880 REC: 245
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=320 CONDUCT:600
COMMENTS:

SAMPLE NO:140 DATE:130181 REC: 437
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:9.4
T.D.S.=440 CONDUCT:729
COMMENTS:

SAMPLE NO:140 DATE:180680 REC: 135
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:17 CL:71 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.1
T.D.S.=290 CONDUCT:440
COMMENTS:

SAMPLE NO:140 DATE:110380 REC: 699
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:44 CL:87 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.1
T.D.S.=508 CONDUCT:490
COMMENTS:

SAMPLE NO:140 DATE:160381 REC: 495
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=250 CONDUCT:473
COMMENTS:

SAMPLE NO:140 DATE:150681 REC: 545
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.2
T.D.S.=196 CONDUCT:283
COMMENTS:

SAMPLE NO:140 DATE:150680 REC: 219
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.8
T.D.S.=280 CONDUCT:550
COMMENTS:

SAMPLE NO:140 DATE:170281 REC: 467
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=195 CONDUCT:700
COMMENTS:

SAMPLE NO:140 DATE:190981 REC: 633
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:9.3
T.D.S.=422 CONDUCT:696
COMMENTS:

SAMPLE NO:140 DATE:140781 REC: 577
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=230 CONDUCT:437
COMMENTS:

SAMPLE NO:140 DATE:100881 REC: 607
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3:1 HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=400 CONDUCT:416
COMMENTS:

SAMPLE NO:140 DATE:141080 REC: 359
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.8
T.D.S.=655 CONDUCT:730
COMMENTS:

SAMPLE NO:140 DATE:111181 REC: 383
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.7
T.D.S.=480 CONDUCT:730
COMMENTS:

SAMPLE NO:140 DATE:091280 REC: 405
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.7
T.D.S.=566 CONDUCT:805
COMMENTS:

SAMPLE NO:140 DATE:150980 REC: 265
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.=500 CONDUCT:730
COMMENTS:

SAMPLE NO:141 DATE:160381 REC: 497
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.=175 CONDUCT:127
COMMENTS:

SAMPLE NO:141 DATE:180581 REC: 515
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=148 CONDUCT:326
COMMENTS:

SAMPLE NO:141 DATE:170281 REC: 469
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.2
T.D.S.=116 CONDUCT:187
COMMENTS:

SAMPLE NO:141 DATE:091280 REC: 407
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=270 CONDUCT:224
COMMENTS:

SAMPLE NO:141 DATE:100881 REC: 609
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.=260 CONDUCT:111
COMMENTS:

SAMPLE NO:141 DATE:180581 REC: 715
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=148 CONDUCT:326
COMMENTS:

SAMPLE NO:141 DATE:140781 REC: 579
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.=60 CONDUCT:97
COMMENTS:

SAMPLE NO:141 DATE:150681 REC: 547
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.3
T.D.S.=288 CONDUCT:228
COMMENTS:

SAMPLE NO:141 DATE:190981 REC: 635
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:9
T.D.S.=145 CONDUCT:110
COMMENTS:

SAMPLE NO:141 DATE:130181 REC: 439
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=60 CONDUCT:109
COMMENTS:

SAMPLE NO:142 DATE:140781 REC: 581
UNITS: METRIC TOP: BOTT:9 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=3034 CONDUCT:4293
COMMENTS:

SAMPLE NO:142 DATE:100881 REC: 611
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.=1040 CONDUCT:1668
COMMENTS:

SAMPLE NO:142 DATE:190981 REC: 637
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=1890 CONDUCT:2820
COMMENTS:

SAMPLE NO:142 DATE:150681 REC: 549
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.1
T.D.S.=665 CONDUCT:1178
COMMENTS:

SAMPLE NO:142 DATE:160381 REC: 499
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.=3278 CONDUCT:4536
COMMENTS:

SAMPLE NO:143 DATE:150681 REC: 551
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.=1204 CONDUCT:2041
COMMENTS:

SAMPLE NO:143 DATE:180581 REC: 717
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=2380 CONDUCT:3690
COMMENTS:

SAMPLE NO:143 DATE:180581 REC: 517
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=2380 CONDUCT:3690
COMMENTS:

SAMPLE NO:143 DATE:100881 REC: 613
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.=1190 CONDUCT:1702
COMMENTS:

SAMPLE NO:144 DATE:130279 REC: 291
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.= CONDUCT:600
COMMENTS:LOW FLOW

SAMPLE NO:144 DATE:091280 REC: 385
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:37.45 CL:80.34 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.3
T.D.S.=420 CONDUCT:696
COMMENTS:

SAMPLE NO:144 DATE:111181 REC: 361
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:23.9 CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.7
T.D.S.=424 CONDUCT:620
COMMENTS:

SAMPLE NO:144 DATE:110280 REC: 653
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:35 CL:58 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=312 CONDUCT:640
COMMENTS:

SAMPLE NO:144 DATE:120880 REC: 221
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:59.3 CL:154 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=625 CONDUCT:1000
COMMENTS:

SAMPLE NO:144 DATE:141080 REC: 267
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:31.3 CL:46.9 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.1
T.D.S.=323 CONDUCT:460
COMMENTS:

SAMPLE NO:144 DATE:190379 REC: 305
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=<1000 CONDUCT:682
COMMENTS:SLIGHTLY TURBID MINOR FLOW

SAMPLE NO:144 DATE:150480 REC: 701
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:61 CL:55 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=338 CONDUCT:490
COMMENTS:

SAMPLE NO:144 DATE:150681 REC: 519
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:23 CL:75.6 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.=312 CONDUCT:551
COMMENTS:

SAMPLE NO:144 DATE:180680 REC: 169
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:40 CL:116 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=555 CONDUCT:780
COMMENTS:

SAMPLE NO:144 DATE:140781 REC: 553
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:45.3 CL:134.2 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=558 CONDUCT:770
COMMENTS:

SAMPLE NO:144 DATE:190981 REC: 615
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:58 CL:181.8 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=680 CONDUCT:1181
COMMENTS:

SAMPLE NO:144 DATE:170281 REC: 443
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:41.15 CL:261.6 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.1
T.D.S.=410 CONDUCT:518
COMMENTS:

SAMPLE NO:144 DATE:240579 REC: 329
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL:125 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=489 CONDUCT:800
COMMENTS:SLIGHTLY TURBID MUD FLOW HUNTER RIVER

SAMPLE NO:144 DATE:130181 REC: 409
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:33.74 CL:59.94 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=394 CONDUCT:540
COMMENTS:

SAMPLE NO:144 DATE:150680 REC: 193
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:42.4 CL:171.5 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=668 CONDUCT:990
COMMENTS:

SAMPLE NO:144 DATE:100881 REC: 583
UNITS: METRIC TOP: BOTT:9 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4:61.7 CL:99 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=450 CONDUCT:635
COMMENTS:

SAMPLE NO:144 DATE:160381 REC: 471
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:44.4 CL:138.6 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=652 CONDUCT:927
COMMENTS:

SAMPLE NO:144 DATE:110380 REC: 677
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:23 CL:47 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=329 CONDUCT:460
COMMENTS:

SAMPLE NO:144 DATE:180479 REC: 319
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=<1000 CONDUCT:869
COMMENTS:SLIGHTLY TURBID MINOR FLOW

SAMPLE NO:144 DATE:130580 REC: 151
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:36 CL:62 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=339 CONDUCT:520
COMMENTS:

SAMPLE NO:144 DATE:180581 REC: 501
UNITS: METRIC TOP: BOTT:9 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4:51.8 CL:170.4 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=676 CONDUCT:1107
COMMENTS:

SAMPLE NO:144 DATE:150980 REC: 247
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:37.5 CL:67.8 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=388 CONDUCT:590
COMMENTS:

SAMPLE NO:144 DATE:150681 REC: 719
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:23 CL:75.6 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.=312 CONDUCT:551
COMMENTS:

SAMPLE NO:145 DATE:150680 REC: 195
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:47.3 CL:175.4 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=731 CONDUCT:990
COMMENTS:

SAMPLE NO:145 DATE:091280 REC: 387
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:34.57 CL:112.67 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.=494 CONDUCT:780
COMMENTS:

SAMPLE NO:145 DATE:100881 REC: 585
UNITS: METRIC TOP: BOTT:9 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4:42.8 CL:99.5 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=444 CONDUCT:538
COMMENTS:

SAMPLE NO:145 DATE:141080 REC: 269
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:35.8 CL:53.7 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.3
T.D.S.=354 CONDUCT:490
COMMENTS:

SAMPLE NO:145 DATE:190981 REC: 617
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:64.2 CL:202.8 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=692 CONDUCT:1080
COMMENTS:

SAMPLE NO:145 DATE:140781 REC: 555
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:50.2 CL:138.2 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=562 CONDUCT:889
COMMENTS:

SAMPLE NO:145 DATE:170260 REC: 445
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:37.66 CL:71.4 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.1
T.D.S.=405 CONDUCT:605
COMMENTS:

SAMPLE NO:145 DATE:111181 REC: 363
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:24.28 CL:89.2 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=446 CONDUCT:680
COMMENTS:

SAMPLE NO:145 DATE:150980 REC: 249
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:42 CL:71.5 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=398 CONDUCT:620
COMMENTS:

SAMPLE NO:145 DATE:130181 REC: 411
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:34.98 CL:71.36 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=422 CONDUCT:624
COMMENTS:

SAMPLE NO:145 DATE:180581 REC: 503
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:54.3 CL:219.7 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=788 CONDUCT:1276
COMMENTS:

SAMPLE NO:145 DATE:130580 REC: 153
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:44 CL:75 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=392 CONDUCT:510
COMMENTS:

SAMPLE NO:145 DATE:110379 REC: 679
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:28 CL:52 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=351 CONDUCT:480
COMMENTS:

SAMPLE NO:145 DATE:160381 REC: 473
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:40.7 CL:151.2 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=672 CONDUCT:990
COMMENTS:

SAMPLE NO:145 DATE:150480 REC: 703
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:55 CL:66 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=386 CONDUCT:550
COMMENTS:

SAMPLE NO:145 DATE:180479 REC: 321
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=<1000 CONDUCT:869
COMMENTS:SLIGHTLY TURBID MODERATE FLOW HUNTER RIVER

SAMPLE NO:145 DATE:240579 REC: 331
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=509 CONDUCT:800
COMMENTS:SLIGHTLY TURBID MUD FLOW HUNTER RIVER

SAMPLE NO:145 DATE:120880 REC: 223
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:73.3 CL:176.2 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=686 CONDUCT:1100
COMMENTS:

SAMPLE NO:145 DATE:150681 REC: 521
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:23 CL:83.7 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.6
T.D.S.=344 CONDUCT:616
COMMENTS:

SAMPLE NO:145 DATE:180680 REC: 171
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:40 CL:129 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=593 CONDUCT:780
COMMENTS:

SAMPLE NO:145 DATE:190379 REC: 307
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.= CONDUCT:735
COMMENTS:slightly turbid moderate flow hunter river

SAMPLE NO:145 DATE:130279 REC: 293
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.6
T.D.S.= CONDUCT:760
COMMENTS:

SAMPLE NO:145 DATE:110280 REC: 655
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:24 CL:63 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=340 CONDUCT:530
COMMENTS:

SAMPLE NO:146 DATE:150680 REC: 197
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:40.5 CL:172.4 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=722 CONDUCT:990
COMMENTS:

SAMPLE NO:146 DATE:111179 REC: 365
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:23.46 CL:94.1 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.7
T.D.S.=456 CONDUCT:680
COMMENTS:

SAMPLE NO:146 DATE:240579 REC: 333
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.=649 CONDUCT:1000
COMMENTS:SLIGHTLY TURBID MUD FLOW HUNTER RIVER

SAMPLE NO:146 DATE:180479 REC: 323
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=<1000 CONDUCT:825
COMMENTS:

SAMPLE NO:146 DATE:110380 REC: 681
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:30 CL:56 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=360 CONDUCT:490
COMMENTS:

SAMPLE NO:146 DATE:190179 REC: 309
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=500 CONDUCT:700
COMMENTS:HUNTER RIVER SLIGHTLY TURBID FLOW.

SAMPLE NO:146 DATE:180680 REC: 173
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:52 CL:128 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=589 CONDUCT:780
COMMENTS:

SAMPLE NO:146 DATE:190981 REC: 619
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:35.4 CL:196 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=666 CONDUCT:1035
COMMENTS:

SAMPLE NO:146 DATE:130580 REC: 155
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:28 CL:70 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=365 CONDUCT:510
COMMENTS:

SAMPLE NO:146 DATE:110280 REC: 657
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:31 CL:66 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=332 CONDUCT:690
COMMENTS:

SAMPLE NO:146 DATE:130181 REC: 413
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:34.57 CL:81.35 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.=480 CONDUCT:720
COMMENTS:

SAMPLE NO:146 DATE:150681 REC: 523
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:20.6 CL:95.8 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.3
T.D.S.=354 CONDUCT:644
COMMENTS:

SAMPLE NO:146 DATE:120880 REC: 225
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:94.7 CL:173.2 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.6
T.D.S.=661 CONDUCT:1100
COMMENTS:

SAMPLE NO:146 DATE:170281 REC: 447
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:33.7 CL:72.5 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.9
T.D.S.=450 CONDUCT:605
COMMENTS:

SAMPLE NO:146 DATE:140781 REC: 557
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:50.2 CL:138.2 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=578 CONDUCT:855
COMMENTS:

SAMPLE NO:146 DATE:130279 REC: 295
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.6
T.D.S.= CONDUCT:585
COMMENTS:

SAMPLE NO:146 DATE:160381 REC: 475
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:67.9 CL:150 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=702 CONDUCT:921
COMMENTS:

SAMPLE NO:146 DATE:150480 REC: 705
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:30 CL:65 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=340 CONDUCT:560
COMMENTS:

SAMPLE NO:146 DATE:091280 REC: 389
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:37.45 CL:104.84 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=458 CONDUCT:790
COMMENTS:

SAMPLE NO:146 DATE:180581 REC: 505
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:65.8 CL:183.5 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=706 CONDUCT:1094
COMMENTS:

SAMPLE NO:146 DATE:100881 REC: 587
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:46.1 CL:99 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=448 CONDUCT:621
COMMENTS:

SAMPLE NO:146 DATE:141080 REC: 271
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:30.9 CL:50.6 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.=438 CONDUCT:510
COMMENTS:

SAMPLE NO:146 DATE:150980 REC: 251
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:47.3 CL:71.5 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=406 CONDUCT:630
COMMENTS:

SAMPLE NO:147 DATE:160381 REC: 477
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:48.6 CL:148.7 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=658 CONDUCT:950
COMMENTS:

SAMPLE NO:147 DATE:160581 REC: 507
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:52.7 CL:197.6 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=686 CONDUCT:1215
COMMENTS:

SAMPLE NO:147 DATE:120880 REC: 227
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:53.1 CL:182.4 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=708 CONDUCT:1100
COMMENTS:

SAMPLE NO:147 DATE:141080 REC: 273
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:35 CL:52.4 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.=357 CONDUCT:520
COMMENTS:

SAMPLE NO:147 DATE:110280 REC: 659
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:35 CL:67 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=367 CONDUCT:620
COMMENTS:

SAMPLE NO:147 DATE:190379 REC: 311
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=500 CONDUCT:750
COMMENTS:HUNTER RIVER SLIG HTLY TURBID MODER ATE FLOW

SAMPLE NO:147 DATE:150980 REC: 253
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:46.3 CL:74 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=408 CONDUCT:600
COMMENTS:

SAMPLE NO:147 DATE:150681 REC: 525
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:35.4 CL:97.8 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.=342 CONDUCT:664
COMMENTS:

SAMPLE NO:147 DATE:150580 REC: 157
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:34 CL:74 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=387 CONDUCT:530
COMMENTS:

SAMPLE NO:147 DATE:180680 REC: 175
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:35 CL:132 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=600 CONDUCT:780
COMMENTS:

SAMPLE NO:147 DATE:150480 REC: 707
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:49 CL:65 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=374 CONDUCT:550
COMMENTS:

SAMPLE NO:147 DATE:130279 REC: 299
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.7
T.D.S.= CONDUCT:720
COMMENTS:HUNTER RIVER DOWNSTREAM JUNCTN WITH FARRELLS CK

SAMPLE NO:147 DATE:130181 REC: 415
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:34.15 CL:66.6 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=408 CONDUCT:624
COMMENTS:

SAMPLE NO:147 DATE:100881 REC: 589
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:45.7 CL:98 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=444 CONDUCT:587
COMMENTS:

SAMPLE NO:147 DATE:111181 REC: 367
UNITS: METRIC TOP: BOTT: ANALYSIS BY :91 CHEM UNITS: MG/L
CO3: HCO3: SO4:23.87 CL:100.9 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=474 CONDUCT:660
COMMENTS:

SAMPLE NO:147 DATE:150680 REC: 199
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:54.6 CL:180.3 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=696 CONDUCT:990
COMMENTS:

SAMPLE NO:147 DATE:180479 REC: 325
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.=<1000 CONDUCT:897
COMMENTS:

SAMPLE NO:147 DATE:140781 REC: 559
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:51 CL:139.1 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=584 CONDUCT:872
COMMENTS:

SAMPLE NO:147 DATE:190981 REC: 621
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:32.1 CL:201.4 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=654 CONDUCT:1026
COMMENTS:

SAMPLE NO:147 DATE:091280 REC: 391
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:38.68 CL:100.92 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=476 CONDUCT:753
COMMENTS:

SAMPLE NO:147 DATE:110380 REC: 683
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:31 CL:56 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.7
T.D.S.=350 CONDUCT:490
COMMENTS:

SAMPLE NO:147 DATE:240579 REC: 335
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=501 CONDUCT:800
COMMENTS:

SAMPLE NO:147 DATE:130279 REC: 297
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.= CONDUCT:1575
COMMENTS:POOL WITHIN FARRELLS CREEK

SAMPLE NO:148 DATE:240579 REC: 337
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=3317 CONDUCT:4400
COMMENTS:CLEAN MINOR FLOW

SAMPLE NO:148 DATE:160381 REC: 479
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=1892 CONDUCT:2750
COMMENTS:

SAMPLE NO:148 DATE:130181 REC: 417
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.=1092 CONDUCT:1620
COMMENTS:

SAMPLE NO:148 DATE:150681 REC: 527
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.=702 CONDUCT:1458
COMMENTS:

SAMPLE NO:148 DATE:100881 REC: 591
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.8
T.D.S.=1302 CONDUCT:1932
COMMENTS:

SAMPLE NO:148 DATE:140781 REC: 561
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.6
T.D.S.=1962 CONDUCT:2822
COMMENTS:

SAMPLE NO:148 DATE:190379 REC: 313
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.=1000 CONDUCT:1800
COMMENTS:STILL CONTINUOUS WATER.

SAMPLE NO:149 DATE:150680? REC: 201
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=906 CONDUCT:1380
COMMENTS:

SAMPLE NO:149 DATE:100881 REC: 593
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=1540 CONDUCT:2346
COMMENTS:

SAMPLE NO:149 DATE:130181 REC: 419
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.6
T.D.S.=1088 CONDUCT:1555
COMMENTS:

SAMPLE NO:149 DATE:140781 REC: 563
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.6
T.D.S.=136 CONDUCT:3078
COMMENTS:

SAMPLE NO:149 DATE:150681 REC: 529
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.6
T.D.S.=700 CONDUCT:1377
COMMENTS:

SAMPLE NO:149 DATE:190379 REC: 315
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.=5500 CONDUCT:9550
COMMENTS:CLEAN MINOR FLOW.

SAMPLE NO:149 DATE:180680 REC: 177
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:143 CL:615 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=1608 CONDUCT:1950
COMMENTS:

SAMPLE NO:149 DATE:170281 REC: 449
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.8
T.D.S.=550 CONDUCT:770
COMMENTS:

SAMPLE NO:150 DATE:200279 REC: 303
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:680 CL:2800 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=.08 CONDUCT:9.61
COMMENTS:

SAMPLE NO:150 DATE:200279 REC: 303
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:680 CL:2800 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=.08 CONDUCT:9.61
COMMENTS:

SAMPLE NO:150 DATE:190979 REC: 317
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=3000 CONDUCT:6300
COMMENTS:

SAMPLE NO:150 DATE:180479 REC: 327
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=5000 CONDUCT:8800
COMMENTS:CLEAN POND AQUATIC WEED

SAMPLE NO:150 DATE:130279 REC: 301
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=4500 CONDUCT:7790
COMMENTS:PUDDLE

SAMPLE NO:150 DATE:180680 REC: 179
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:420 CL:2511 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=5918 CONDUCT:7150
COMMENTS:

SAMPLE NO:150 DATE:150680 REC: 203
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=3191 CONDUCT:4280
COMMENTS:

SAMPLE NO:150 DATE:120880 REC: 229
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.2
T.D.S.=7107 CONDUCT:8600
COMMENTS:

SAMPLE NO:150 DATE:150681 REC: 531
UNITS: METRIC TOP: BOTT:9 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.=506 CONDUCT:1458
COMMENTS:

SAMPLE NO:150 DATE:140781 REC: 565
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=12316 CONDUCT:16245
COMMENTS:

SAMPLE NO:150 DATE:100881 REC: 595
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=11842 CONDUCT:15180
COMMENTS:

SAMPLE NO:150 DATE:160381 REC: 481
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=3678 CONDUCT:5051
COMMENTS:

SAMPLE NO:150 DATE:111180 REC: 369
UNITS: METRIC TOP: BOTT: ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=2592 CONDUCT:3440
COMMENTS:

SAMPLE NO:150 DATE:240579 REC: 341
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.2
T.D.S.=51 CONDUCT:80
COMMENTS:MODERATELY TURBID FARM DAM

SAMPLE NO:150 DATE:130181 REC: 421
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:9.1
T.D.S.=764 CONDUCT:1181
COMMENTS:

SAMPLE NO:151 DATE:150681 REC: 81
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.=104 CONDUCT:235
COMMENTS:

SAMPLE NO:151 DATE:240579 REC: 35
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:831.8 CL:375 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.
T.D.S.=7195 CONDUCT:11100
COMMENTS:CLEAN MINOR FLOW

SAMPLE NO:151 DATE:180479 REC: 23
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.= CONDUCT:192
COMMENTS:VERY TURBID DAM

SAMPLE NO:151 DATE:110380 REC: 125
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9. CHEM UNITS: MG/L
CO3: HCO3: SO4:80 CL:632 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.2
T.D.S.=1260 CONDUCT:1690
COMMENTS:

SAMPLE NO:151 DATE:100881 REC: 101
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:9
T.D.S.=150 CONDUCT:83
COMMENTS:

SAMPLE NO:151 DATE:140781 REC: 91
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:9.2
T.D.S.=200 CONDUCT:109
COMMENTS:

SAMPLE NO:151 DATE:190379 REC: 13
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.= CONDUCT:190
COMMENTS:VERY TURBID CLEAN

SAMPLE NO:151 DATE:130279 REC: 1
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.= CONDUCT:192
COMMENTS:DAM

SAMPLE NO:152 DATE:150580 REC: 369
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:705 CL:3998 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.6
T.D.S.=9069 CONDUCT:11870
COMMENTS:

SAMPLE NO:152 DATE:180680 REC: 375
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:1101 CL:4801 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=10658 CONDUCT:11700
COMMENTS:

SAMPLE NO:152 DATE:140781 REC: 93
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=9986 CONDUCT:13770
COMMENTS:

SAMPLE NO:152 DATE:130279 REC: 3
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=11500 CONDUCT:19680
COMMENTS:PUDDLE

SAMPLE NO:152 DATE:110280 REC: 117
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:976 CL:5379 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.6
T.D.S.=11292 CONDUCT:15900
COMMENTS:

SAMPLE NO:152 DATE:100881 REC: 103
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=7668 CONDUCT:11040
COMMENTS:

SAMPLE NO:152 DATE:110380 REC: 127
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:613 CL:3565 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.6
T.D.S.=9005 CONDUCT:10570
COMMENTS:

SAMPLE NO:152 DATE:1804 REC: 25
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=10000 CONDUCT:16100
COMMENTS:CLEAN WATER MINOR FLOW BROWN SLUDGE CREEK BOTTOM

SAMPLE NO:152 DATE:120880 REC: 391
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=11776 CONDUCT:15200
COMMENTS:

SAMPLE NO:152 DATE:150681 REC: 83
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.=2080 CONDUCT:3726
COMMENTS:

SAMPLE NO:152 DATE:150680 REC: 383
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=11530 CONDUCT:15180
COMMENTS:

SAMPLE NO:152 DATE:190379 REC: 15
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=10000 CONDUCT:17850
COMMENTS:CLEAN STILL CONTINUOUS WATER

SAMPLE NO:153 DATE:100881 REC: 105
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:65.8 CL:58.8 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.=390 CONDUCT:371
COMMENTS:

SAMPLE NO:153 DATE:180581 REC: 73
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:1380.6 CL:7158.2 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.6
T.D.S.=16388 CONDUCT:20655
COMMENTS:

SAMPLE NO:153 DATE:130279 REC: 7
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:9
T.D.S.=11000 CONDUCT:18430
COMMENTS:NO FLOW

SAMPLE NO:153 DATE:130279 REC: 5
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.=11000 CONDUCT:19100
COMMENTS:NO FLOW

SAMPLE NO:153 DATE:150681 REC: 85
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:45.2 CL:153.2 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.=492 CONDUCT:942
COMMENTS:

SAMPLE NO:153 DATE:140781 REC: 95
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:1166.6 CL:6329.5 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.9
T.D.S.=14978 CONDUCT:19320
COMMENTS:

SAMPLE NO:153 DATE:150680 REC: 385
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:872.8 CL:4911.3 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.8
T.D.S.=11970 CONDUCT:15230
COMMENTS:

SAMPLE NO:153 DATE:180680 REC: 377
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:842 CL:5021 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.1
T.D.S.=11658 CONDUCT:1300
COMMENTS:

SAMPLE NO:153 DATE:120880 REC: 393
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.8
T.D.S.=12751 CONDUCT:16200
COMMENTS:

SAMPLE NO:153 DATE:110380 REC: 129
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:715 CL:4478 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.1
T.D.S.=11500 CONDUCT:14100
COMMENTS:

SAMPLE NO:153 DATE:141080 REC: 405
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:511.9 CL:2862 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.8
T.D.S.=6860 CONDUCT:9220
COMMENTS:

SAMPLE NO:153 DATE:130580 REC: 371
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:435 CL:5056 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.1
T.D.S.=11978 CONDUCT:15960
COMMENTS:

SAMPLE NO:153 DATE:150980 REC: 399
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:960.9 CL:5804.03 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.4
T.D.S.=13078 CONDUCT:16640
COMMENTS:

SAMPLE NO:153 DATE:150480 REC: 133
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:860 CL:4939 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.9
T.D.S.=11894 CONDUCT:16800
COMMENTS:

SAMPLE NO:153 DATE:110280 REC: 119
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:821 CL:5107 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.1
T.D.S.=11833 CONDUCT:16110
COMMENTS:

SAMPLE NO:153 DATE:180479 REC: 27
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.7
T.D.S.=8000 CONDUCT:13750
COMMENTS:CLEAN WATER NO FLOW

SAMPLE NO:153 DATE:190981 REC: 111
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:1094.6 CL:6809.6 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.7
T.D.S.=15514 CONDUCT:19200
COMMENTS:

SAMPLE NO:153 DATE:130181 REC: 55
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:940.28 CL:5565.7 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.=13161 CONDUCT:17760
COMMENTS:

SAMPLE NO:153 DATE:170260 REC: 61
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:27.98 CL:16.7 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.8
T.D.S.=170 CONDUCT:176
COMMENTS:

SAMPLE NO:153 DATE:190379 REC: 17
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=10000 CONDUCT:17850
COMMENTS:CLEAN STILL CONTINUOUS WATER

SAMPLE NO:153 DATE:111181 REC: 43
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:831.23 CL:6172.7 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7
T.D.S.=13776 CONDUCT:16580
COMMENTS:

SAMPLE NO:153 DATE:091280 REC: 49
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.4
T.D.S.=13750 CONDUCT:17020
COMMENTS:

SAMPLE NO:153 DATE:160381 REC: 67
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:1265 CL:6603.7 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.8
T.D.S.=15262 CONDUCT:19980
COMMENTS:

SAMPLE NO:153 DATE:240579 REC: 37
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=7345 CONDUCT:11300
COMMENTS:CLEAR NO FLOW

SAMPLE NO:154 DATE:111181 REC: 45
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:9.1
T.D.S.=724 CONDUCT:950
COMMENTS:

SAMPLE NO:154 DATE:180581 REC: 75
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=292 CONDUCT:489
COMMENTS:

SAMPLE NO:154 DATE:110380 REC: 131
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:27 CL:109 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=465 CONDUCT:550
COMMENTS:

SAMPLE NO:154 DATE:150680 REC: 387
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=550 CONDUCT:830
COMMENTS:

SAMPLE NO:154 DATE:130279 REC: 9
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.= CONDUCT:228
COMMENTS:DAM

SAMPLE NO:154 DATE:110280 REC: 121
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:37 CL:96 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=401 CONDUCT:640
COMMENTS:

SAMPLE NO:154 DATE:141080 REC: 407
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.=685 CONDUCT:960
COMMENTS:

SAMPLE NO:154 DATE:190379 REC: 19
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.6
T.D.S.= CONDUCT:231
COMMENTS:VERY TURBID DAM

SAMPLE NO:154 DATE:150980 REC: 401
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=602 CONDUCT:900
COMMENTS:

SAMPLE NO:154 DATE:240579 REC: 39
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:19.4 CL:26 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.=109 CONDUCT:200
COMMENTS:CLEAR MINOR FLOW

SAMPLE NO:154 DATE:150480 REC: 135
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:19 CL:138 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=532 CONDUCT:830
COMMENTS:

SAMPLE NO:154 DATE:120880 REC: 395
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.7
T.D.S.=563 CONDUCT:900
COMMENTS:

SAMPLE NO:154 DATE:190981 REC: 113
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=250 CONDUCT:450
COMMENTS:

SAMPLE NO:154 DATE:180680 REC: 379
UNITS: METRIC TOP: BOTT:9 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4:52 CL:115 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=550 CONDUCT:780
COMMENTS:

SAMPLE NO:154 DATE:140781 REC: 97
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.=360 CONDUCT:403
COMMENTS:

SAMPLE NO:154 DATE:130181 REC: 57
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=404 CONDUCT:467
COMMENTS:

SAMPLE NO:154 DATE:180479 REC: 31
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.= CONDUCT:187
COMMENTS:TURBID SETTLING DAM DRAINAGE FROM HAULAGE ROAD

SAMPLE NO:154 DATE:170280 REC: 63
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=340 CONDUCT:582
COMMENTS:

SAMPLE NO:154 DATE:150681 REC: 87
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.6
T.D.S.=234 CONDUCT:377
COMMENTS:

SAMPLE NO:154 DATE:160381 REC: 69
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.=270 CONDUCT:322
COMMENTS:

SAMPLE NO:154 DATE:130580 REC: 373
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:24 CL:157 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.3
T.D.S.=428 CONDUCT:790
COMMENTS:

SAMPLE NO:154 DATE:100881 REC: 107
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=360 CONDUCT:345
COMMENTS:

SAMPLE NO:154 DATE:091280 REC: 51
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.7
T.D.S.=876 CONDUCT:1175
COMMENTS:

SAMPLE NO:154 DATE:180479 REC: 29
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.3
T.D.S.= CONDUCT:236
COMMENTS:VERY TURBID DAM AQUATIC WEED

SAMPLE NO:155 DATE:180479 REC: 33
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:9.1
T.D.S.=<1000 CONDUCT:861
COMMENTS:

SAMPLE NO:155 DATE:120880 REC: 397
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.=374 CONDUCT:600
COMMENTS:

SAMPLE NO:155 DATE:180680 REC: 381
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:11 CL:104 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.8
T.D.S.=420 CONDUCT:450
COMMENTS:

SAMPLE NO:155 DATE:190379 REC: 21
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7
T.D.S.= CONDUCT:462
COMMENTS:VERY TURBID DAM

SAMPLE NO:155 DATE:150680 REC: 389
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.7
T.D.S.=380 CONDUCT:550
COMMENTS:

SAMPLE NO:155 DATE:130279 REC: 11
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.8
T.D.S.= CONDUCT:679
COMMENTS:DAM

SAMPLE NO:155 DATE:130181 REC: 59
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=462 CONDUCT:344
COMMENTS:

SAMPLE NO:155 DATE:150681 REC: 89
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.=182 CONDUCT:324
COMMENTS:

SAMPLE NO:155 DATE:091280 REC: 53
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:9.1
T.D.S.=466 CONDUCT:707
COMMENTS:

SAMPLE NO:155 DATE:140781 REC: 99
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.=200 CONDUCT:255
COMMENTS:

SAMPLE NO:155 DATE:170281 REC: 65
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.=550 CONDUCT:275
COMMENTS:

SAMPLE NO:155 DATE:180581 REC: 79
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:9.1
T.D.S.=302 CONDUCT:554
COMMENTS:

SAMPLE NO:155 DATE:160381 REC: 71
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.3
T.D.S.=320 CONDUCT:385
COMMENTS:

SAMPLE NO:155 DATE:180581 REC: 77
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:9.1
T.D.S.=302 CONDUCT:554
COMMENTS:

SAMPLE NO:155 DATE:100881 REC: 109
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.=200 CONDUCT:236
COMMENTS:

SAMPLE NO:155 DATE:240579 REC: 41
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:13.6 CL:56 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.3
T.D.S.=228 CONDUCT:300
COMMENTS:

SAMPLE NO:155 DATE:141080 REC: 409
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=477 CONDUCT:780
COMMENTS:

SAMPLE NO:155 DATE:150980 REC: 403
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.=355 CONDUCT:670
COMMENTS:

SAMPLE NO:156 DATE:050882 REC: 435
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:4200
COMMENTS:HAUL ROAD SEEPAGE HOWICK COLLIERY

SAMPLE NO:156 DATE:070283 REC: 437
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:5800
COMMENTS:HAUL ROAD SEEPAGE HOWICK COLLIERY

SAMPLE NO:156 DATE:170582 REC: 431
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1403 SO4: 974.603 CL: 624.096 N:
F: CA: 10.019 MG: 318.59 NA: 772.8 K: 93.83
SIO2: FE: B: PH:7.91
T.D.S.= CONDUCT:4800
COMMENTS:HAUL ROAD SEEPAGE HOWICK COLLIERY

SAMPLE NO:156 DATE:160682 REC: 433
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1287 SO4: 1257.86 CL: 638.28 N:
F: CA: 54.107 MG: 339.26 NA: 793.5 K: 74.28
SIO2: FE: B: PH:8.29
T.D.S.= CONDUCT:2630
COMMENTS:HAUL ROAD SEEPAGE HOWICK COLLIERY

SAMPLE NO:156 DATE:180583 REC: 439
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:3500
COMMENTS:HAUL ROAD SEEPAGE HOWICK COLLIERY

SAMPLE NO:156 DATE:20.04.82 REC: 291
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=3150 CONDUCT:4500
COMMENTS:677/82/4/1 HOWICK MINE SPOIL SEEPAGE

SAMPLE NO:156 DATE:0882 REC: 229
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:55. HCO3:1020 SO4:1000 CL:705. N:.05
F:1. CA:68. MG:244. NA:760. K:49.
SIO2: FE: B: PH:8.9
T.D.S.=3520 CONDUCT:4600
COMMENTS:

SAMPLE NO:156 DATE:2/11/82 REC: 145
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:1180 SO4:918 CL:770 N:.94
F:.76 CA:25 MG:250 NA:840 K:50
SIO2: FE: B: PH:8.2
T.D.S.=3570 CONDUCT:4800
COMMENTS:HOWICK SEEPAGE

SAMPLE NO:156 DATE: REC: 317
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3:1.5 SO4:.25 CL:.395 N:
F:.04 CA:.369 MG:.592 NA:1.15 K:.08
SIO2: FE: B:.004 PH:7.6
T.D.S.=150 CONDUCT:213
COMMENTS:692/81/3

SAMPLE NO:156 DATE:170382 REC: 429
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1238 SO4: 547.314 CL: 538.992 N:
F: CA: 88.175 MG: 282.11 NA: 924.6 K: 43
SIO2: FE: B: PH:6.92
T.D.S.= CONDUCT:4380
COMMENTS:HAUL ROAD SEEPAGE HOWICK COLLIERY

SAMPLE NO:156 DATE:011181 REC: 415
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.85
T.D.S.= CONDUCT:2640
COMMENTS:HAUL ROAD SEEPAGE HOWICK COLLIERY

SAMPLE NO:156 DATE:031181 REC: 417
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 622.4 SO4: 427.289 CL: 287.226 N:
F: CA: 48.095 MG: 110.65 NA: 460 K: 31.27
SIO2: FE: B: PH:6.63
T.D.S.= CONDUCT:2790
COMMENTS:HAUL ROAD SEEPAGE HOWICK COLLIERY

SAMPLE NO:156 DATE:161081 REC: 411
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1916 SO4: 1017.81 CL: 457.434 N:
F: CA: 114.22 MG: 166.59 NA: 466.9 K: 27.36
SIO2: FE: B: PH:8.28
T.D.S.= CONDUCT:3050
COMMENTS:HAUL ROAD SEEPAGE HOWICK COLLIERY

SAMPLE NO:156 DATE:191081 REC: 413
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1073 SO4: 1493.11 CL: 893.592 N:
F: CA: 66.131 MG: 383.03 NA: 1000.5 K: 78.19
SIO2: FE: B: PH:8.34
T.D.S.= CONDUCT:6040
COMMENTS:HAUL ROAD SEEPAGE HOWICK COLLIERY

SAMPLE NO:156 DATE:101181 REC: 419
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1238 SO4: 1214.65 CL: 872.316 N:
F: CA: 86.171 MG: 40.127 NA: 802.7 K: 58.64
SIO2: FE: B: PH:7.16
T.D.S.= CONDUCT:5610
COMMENTS:HAUL ROAD SEEPAGE HOWICK COLLIERY

SAMPLE NO:156 DATE:291281 REC: 425
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1311 SO4: 1521.92 CL: 283.68 N:
F: CA: 48.095 MG: 285.75 NA: 650.9 K: 50.82
SIO2: FE: B: PH:8.02
T.D.S.= CONDUCT:4680
COMMENTS:HAUL ROAD SEEPAGE HOWICK COLLIERY

SAMPLE NO:156 DATE:020382 REC: 427
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1342 SO4: 1003.41 CL: 652.464 N:
F: CA: 68.135 MG: 358.71 NA: 1000.5 K: 62.55
SIO2: FE: B: PH:8.03
T.D.S.= CONDUCT:4970
COMMENTS:HAUL ROAD SEEPAGE HOWICK COLLIERY

SAMPLE NO:156 DATE:101181 REC: 421
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1543 SO4: 758.558 CL: 659.556 N:
F: CA: 82.163 MG: 34.047 NA: 742.9 K: 54.73
SIO2: FE: B: PH:7.23
T.D.S.= CONDUCT:4860
COMMENTS:HAUL ROAD SEEPAGE HOWICK COLLIERY

SAMPLE NO:156 DATE:021281 REC: 423
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1379 SO4: 1152.24 CL: 581.544 N:
F: CA: 40.079 MG: 318.59 NA: 480.7 K: 50.82
SIO2: FE: B: PH:8.34
T.D.S.= CONDUCT:4850
COMMENTS:HAUL ROAD SEEPAGE HOWICK COLLIERY

SAMPLE NO:155 DATE:190981 REC: 115
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.8
T.D.S.=500 CONDUCT:312
COMMENTS:

SAMPLE NO:155 DATE:111181 REC: 47
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.6
T.D.S.=390 CONDUCT:570
COMMENTS:

SAMPLE NO:155 DATE:110280 REC: 123
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:9 CL:152 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:9.8
T.D.S.=445 CONDUCT:530
COMMENTS:

SAMPLE NO:156 DATE: REC: 317
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3:1.5 SO4:.25 CL:.395 N:
F:.04 CA:.369 MG:.592 NA:1.15 K:.08
SIO2: FE: B:.004 PH:7.6
T.D.S.=150 CONDUCT:213
COMMENTS:692/81/3

SAMPLE NO:156 DATE:0882 REC: 229
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:55. HCO3:1020 SO4:1000 CL:705. N:.05
F:1. CA:68. MG:244. NA:760. K:49.
SIO2: FE: B: PH:8.9
T.D.S.=3520 CONDUCT:4600
COMMENTS:

SAMPLE NO:156 DATE:20.04.82 REC: 291
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=3150 CONDUCT:4500
COMMENTS:677/82/4/1 HOWICK MINE SPOIL SEEPAGE

SAMPLE NO:156 DATE:2/11/82 REC: 145
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:1180 SO4:918 CL:770 N:.94
F:.76 CA:25 MG:250 NA:840 K:50
SIO2: FE: B: PH:8.2
T.D.S.=3570 CONDUCT:4800
COMMENTS:HOWICK SEEPAGE

SAMPLE NO:157 DATE:3/11/82 REC: 143
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:1150 SO4:1205 CL:1500 N:1.99
F:1.16 CA:196 MG:245 NA:1350 K:24
SIO2: FE: B: PH:8
T.D.S.=5120 CONDUCT:6900
COMMENTS:HOWICK MINE SUMP

SAMPLE NO:157 DATE:20.04.82 REC: 293
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.8
T.D.S.=3325 CONDUCT:4750
COMMENTS:HOWICK MINE SUMP 667/82/4/2

SAMPLE NO:158 DATE:0482 REC: 325
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:11.6 SO4:19.4 CL:18.3 N:0.11
F:4 CA:2.79 MG:8.23 NA:36.1 K:0.42
SIO2: FE:0.01 B: PH:8.3
T.D.S.=3050 CONDUCT:4000
COMMENTS:667/82/4/3 FOYBROOK OPEN-CUT SUMP

SAMPLE NO:158 DATE:21.04.82 REC: 295
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.9
T.D.S.=2800 CONDUCT:4000
COMMENTS:FOYBROOK MINE O/C 667/82/4/3

SAMPLE NO:160 DATE:22.04.82 REC: 297
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.2
T.D.S.=462 CONDUCT:660
COMMENTS:RAMROD CREEK (FLOWING) 667/82/4/8

SAMPLE NO:161 DATE:23.04.82 REC: 299
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=8400 CONDUCT:12000
COMMENTS:FIRST CREEK (JUST FLOWING) 667/82/4/11

SAMPLE NO:162 DATE:22.04.82 REC: 301
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.5
T.D.S.=1120 CONDUCT:1600
COMMENTS:DANGARS CREEK 667/82/4/12

SAMPLE NO:163 DATE:22.04.82 REC: 303
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.2
T.D.S.=1400 CONDUCT:2000
COMMENTS:WEST BROOK 667/82/4/13

SAMPLE NO:164 DATE:23.04.82 REC: 305
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.2
T.D.S.=483 CONDUCT:690
COMMENTS:GLENDON BROOK (FLOWING) 667/82/4/14

SAMPLE NO:165 DATE:22.04.82 REC: 307
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:4.5
T.D.S.=5600 CONDUCT:8000
COMMENTS:AYREFIELD WASHERY 667/82/4/16

SAMPLE NO:166 DATE:22.04.82 REC: 309
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.3
T.D.S.=1330 CONDUCT:1900
COMMENTS:BLACK CREEK 667/82/4/17

SAMPLE NO:167 DATE:21.04.82 REC: 311
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.1
T.D.S.=2800 CONDUCT:4000
COMMENTS:RAVENSWORTH MINE BAYSWATER SEAM 667/82/4/5

SAMPLE NO:167 DATE:0482 REC: 327
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 640.7 SO4: 1200.25 CL: 691.47 N: .28
F: .95 CA: 97.995 MG: 150.78 NA: 784.3 K: 21.89
SIO2: FE: B: PH:8.1
T.D.S.=3250 CONDUCT:4100
COMMENTS:667/82/4/5

SAMPLE NO:168 DATE:0482 REC: 329
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 732.2 SO4: 600.125 CL: 1099.26 N: 1.821
F: .76 CA: 115.02 MG: 150.78 NA: 830.3 K: 12.9
SIO2: FE: B: PH:7.8
T.D.S.=3320 CONDUCT:4400
COMMENTS:667/82/4/6

SAMPLE NO:168 DATE:21.04.82 REC: 313
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.2
T.D.S.=3150 CONDUCT:4500
COMMENTS:RAVENSWORTH - SETTLING POND 667/82/4/6

SAMPLE NO:169 DATE:0482 REC: 333
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 144.6 SO4: 269.816 CL: 368.784 N: .56
F: 1.14 CA: 20.841 MG: 37.331 NA: 340.4 K: 12.12
SIO2: FE: B: PH:7.8
T.D.S.=1140 CONDUCT:1660
COMMENTS:667/82/4/10

SAMPLE NO:169 DATE:22.04.82 REC: 315
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=1400 CONDUCT:2000
COMMENTS:WORTHWORTH - TAILING DAM 67/82/4/10

SAMPLE NO:170 DATE:0482 REC: 331
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 671.2 SO4: 3888.81 CL: 6701.94 N: 9.666
F: 1.14 CA: 338.67 MG: 809.85 NA: 4025 K: 69.98
SIO2: FE: B: PH:8
T.D.S.=16600 CONDUCT:19500
COMMENTS:667/82/4/9

SAMPLE NO:171 DATE:310882 REC: 231
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3:246. SO4:15.4 CL:31. N:0.05
F:1.1 CA:21. MG:24. NA:52. K:11.1
SIO2: FE: B: PH:8.3
T.D.S.=285 CONDUCT:460
COMMENTS:HOWICK SPOIL DAM

SAMPLE NO:171 DATE:041182 REC: 177
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:600
COMMENTS:OVERBURDEN RUNOFF DAM

SAMPLE NO:171 DATE: REC: 319
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3:91.7 SO4:12 CL:14 N:
F:.8 CA:7.4 MG:7.2 NA:26.6 K:3.25
SIO2: FE: B:.016 PH:7.6
T.D.S.=150 CONDUCT:213
COMMENTS:692/81/2 DAM

SAMPLE NO:172 DATE: REC: 321
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 197.7 SO4: 259.734 CL: 349.99 N:
F: .836 CA: 22.043 MG: 40.006 NA: 316.02 K: 6.255
SIO2: FE: B: PH:8.6
T.D.S.=1150 CONDUCT:1680
COMMENTS:HOWICK DAM NEAR WORKSHOP 692/81/1

SAMPLE NO:173 DATE: REC: 323
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: 98.85 SO4: 14.018 CL: 34.75 N:
F: .76 CA: 4.809 MG: 5.836 NA: 48.99 K: 2.345
SIO2: FE: B:0.013 PH:7.7
T.D.S.=180 CONDUCT:282
COMMENTS:DAM HOWICK 692/81/5

SAMPLE NO:173 DATE:041182 REC: 175
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:1000
COMMENTS:OVERBURDEN RUNOFF DAM

SAMPLE NO:174 DATE:230682 REC: 365
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:0 HCO3:115 SO4:33 CL:35 N:.42
F:.54 CA:7.9 MG:12 NA:41 K:2.7
SIO2: FE:4.5 B: PH:7.7
T.D.S.=240 CONDUCT:290
COMMENTS:ravensworth spoil dam

SAMPLE NO:175 DATE:230682 REC: 363
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:14.4 HCO3:470 SO4:830 CL:850 N:.88
F:1 CA:71 MG:195 NA:700 K:16
SIO2: FE:4.3 B: PH:8.4
T.D.S.=2620 CONDUCT:2900
COMMENTS:RAVENSWORTH WEST CUT

SAMPLE NO:176 DATE:230682 REC: 361
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:0 HCO3:820 SO4: CL:950 N:<0.05
F:.8 CA:215 MG:255 NA:620 K:18
SIO2: FE:3.8 B: PH:8.1
T.D.S.=3470 CONDUCT:4600
COMMENTS:BAYSWATER 2 PIT FLOOR

SAMPLE NO:177 DATE:230682 REC: 359
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:0 HCO3:140 SO4:350 CL:130 N:.66
F:.44 CA:40 MG:48 NA:175 K:7.2
SIO2: FE:3.5 B: PH:8.2
T.D.S.=710 CONDUCT:1150
COMMENTS:

SAMPLE NO:178 DATE:230682 REC: 367
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:470 SO4:165 CL:1140 N:1.86
F:1 CA:31 MG:52 NA:810 K:12
SIO2: FE:3.7 B: PH:8.1
T.D.S.=2270 CONDUCT:3800
COMMENTS:WARKWORTH DUMP SLOPE

SAMPLE NO:179 DATE:250682 REC: 337
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.6
T.D.S.= CONDUCT:251
COMMENTS:BUCH:OVERBURDEN RUNOFF

SAMPLE NO:179 DATE:280680 REC: 355
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:0 HCO3:78 SO4:89 CL:72 N:.28
F:.5 CA:5.6 MG:11.2 NA:78 K:6
SIO2: FE:8.4 B: PH:7.6
T.D.S.=210 CONDUCT:405
COMMENTS:

SAMPLE NO:180 DATE:250682 REC: 343
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.8
T.D.S.= CONDUCT:2800
COMMENTS:BUCH:OVERBURDEN RUNOFF

SAMPLE NO:180 DATE:280682 REC: 349
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:43 HCO3:900 SO4:229 CL:1110 N:.46
F:1 CA:33 MG:78 NA:940 K:14
SIO2: FE:4.2 B: PH:7.7
T.D.S.=2870 CONDUCT:4400
COMMENTS:BUCHANAN EAST OF O/C

SAMPLE NO:181 DATE:250682 REC: 345
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.= CONDUCT:2800
COMMENTS:COAL AND ALLIED SEEPAGE.

SAMPLE NO:182 DATE:280682 REC: 357
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:0 HCO3:530 SO4:65 CL:310 N:.13
F:2.48 CA:38 MG:70 NA:260 K:16
SIO2: FE:3.7 B: PH:8
T.D.S.=1020 CONDUCT:1560
COMMENTS:BAYSWATER DAM BELOW SPOIL

SAMPLE NO:182 DATE:250682 REC: 347
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8
T.D.S.= CONDUCT:1000
COMMENTS:COAL AND ALLIED OVERBURDERN

SAMPLE NO:183 DATE:280682 REC: 353
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:0 HCO3:63 SO4:84 CL:100 N:.56
F:.5 CA:3.6 MG:5 NA:110 K:4.4
SIO2: FE:9 B: PH:7.6
T.D.S.=400 CONDUCT:525
COMMENTS:

SAMPLE NO:183 DATE:250682 REC: 339
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.= CONDUCT:350
COMMENTS:SAXANVALE OVERBURDEN RUNOFF

SAMPLE NO:183 DATE:250882 REC: 193
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3:0. HCO3:146. SO4:41. CL:130. N:
F: CA: MG: NA:139. K:
SIO2: FE: B: PH:8.2
T.D.S.=384 CONDUCT:62
COMMENTS:TWELVE MEGALITRE DAM

SAMPLE NO:184 DATE:280682 REC: 351
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:0 HCO3:110 SO4:49 CL:130 N:.53
F:.56 CA:4 MG:8 NA:118 K:5.2
SIO2: FE:8.6 B: PH:7.7
T.D.S.=420 CONDUCT:610
COMMENTS:SAXONVALE OVERBURDEN R/O

SAMPLE NO:184 DATE:250682 REC: 341
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.= CONDUCT:490
COMMENTS:SAXANVALE OVERBURDEN RUNOFF

SAMPLE NO:184 DATE:250882 REC: 195
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3:0. HCO3:171. SO4:37. CL:130. N:
F: CA: MG: NA:146. K:
SIO2: FE: B: PH:8.3
T.D.S.=526 CONDUCT:72
COMMENTS:FOUR MEGALITRE DAM

SAMPLE NO:185 DATE:310882 REC: 233
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: 57.01 HCO3: 1141 SO4: 1161.84 CL: 1737.54 N: .84
F: .76 CA: 56.111 MG: 279.67 NA: 1564 K: 12.9
SIO2: FE: B: PH:8.9
T.D.S.=5350 CONDUCT:7200
COMMENTS:PARNELL CREEK AT HOWICK

SAMPLE NO:185 DATE:041182 REC: 181
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:9500
COMMENTS:PARNELL CREEK SEEPAGE

SAMPLE NO:186 DATE:310882 REC: 235
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:90. SO4:91. CL:34. N:0.05
F:0.54 CA:22. MG:19.4 NA:29. K:19.
SIO2: FE: B: PH:7.7
T.D.S.=240 CONDUCT:350
COMMENTS:DAM ON SPOIL

SAMPLE NO:187 DATE:21182 REC: 141
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:105 SO4:93 CL:110 N:.27
F:.56 CA:21 MG:26 NA:73 K:8.2
SIO2: FE:.08 B: PH:7.8
T.D.S.=380 CONDUCT:600
COMMENTS:DAM HOWICK

SAMPLE NO:187 DATE:310882 REC: 237
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:103. HCO3: SO4:81. CL:79. N:0.15
F:0.58 CA:18.7 MG:18.4 NA:54. K:12.2
SIO2: FE: B: PH:7.8
T.D.S.=270 CONDUCT:410
COMMENTS:

SAMPLE NO:188 DATE:310882 REC: 239
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3:212. SO4:10.5 CL:22. N:.05
F:1.2 CA:16.7 MG:25.5 NA:31. K:10.9
SIO2: FE: B: PH:8.2
T.D.S.=180 CONDUCT:320
COMMENTS:HOWICK DAM

SAMPLE NO:188 DATE:051182 REC: 151
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:0.0 HCO3:335.0 SO4:15. CL:50. N:.05
F:1.76 CA:22. MG:44. NA:46. K:14.
SIO2: FE: B: PH:7.5
T.D.S.=370 CONDUCT:545
COMMENTS:HOWICK SPOIL DAM

SAMPLE NO:189 DATE:310882 REC: 241
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 231.8 SO4: 17.763 CL: 49.644 N:
F: .95 CA: 15.631 MG: 24.319 NA: 62.1 K: 9.383
SIO2: FE: B: PH:8.3
T.D.S.=280 CONDUCT:420
COMMENTS:

SAMPLE NO:190 DATE:310882 REC: 243
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:62. HCO3:1170. SO4:285. CL:1510. N:4.53
F:1.5 CA:28. MG:68. NA:1380. K:21.
SIO2: FE:0.06 B: PH:9.
T.D.S.=4100 CONDUCT:5900
COMMENTS:BUCHANAN TAILINGS DAM

SAMPLE NO:191 DATE:310882 REC: 245
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3:1290. SO4:617. CL:5220. N:26.5
F:0.38 CA:142. MG:496. NA:2850. K:17.
SIO2: FE: B: PH:8.1
T.D.S.=9660 CONDUCT:14200
COMMENTS:REDBANK CREEK

SAMPLE NO:192 DATE:021182 REC: 155
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:0.0 HCO3:140. SO4:8.5 CL:140. N:.05
F:.5 CA:17. MG:12. NA:32. K:4.8
SIO2: FE: B: PH:7.4
T.D.S.=165 CONDUCT:290
COMMENTS:STOCK DAM

SAMPLE NO:193 DATE:021182 REC: 165
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.9
T.D.S.= CONDUCT:200
COMMENTS:STOCK DAM

SAMPLE NO:193 DATE:021182 REC: 161
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.5
T.D.S.= CONDUCT:145
COMMENTS:HOBDEN GULLY WATER HOLE

SAMPLE NO:195 DATE: REC: 163
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.8
T.D.S.= CONDUCT:300
COMMENTS:WATERFALL CREEK WATERHOLE

SAMPLE NO:196 DATE:021182 REC: 167
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.= CONDUCT:500
COMMENTS:WATERHOLE IN CREE K

SAMPLE NO:197 DATE:021182 REC: 149
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:0.0 HCO3:175. SO4:465. CL:370. N:.365
F:2.04 CA:7.4 MG:13. NA:470. K:11.
SIO2: FE: B: PH:7.9
T.D.S.=1490 CONDUCT:2150
COMMENTS:WAMBO TAILING DAM

SAMPLE NO:198 DATE:021182 REC: 147
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:50 HCO3:740 SO4:145 CL:2190 N:4.24
F:0.92 CA:19 MG:225 NA:1340 K:11
SIO2: FE: B: PH:9.3
T.D.S.=4470 CONDUCT:6750
COMMENTS:SADDLERS CREEK T CONCRETE BRIDGE

SAMPLE NO:199 DATE:021182 REC: 157
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:0.0 HCO3:55.0 SO4:515. CL:190. N:.24
F:.58 CA:135. MG:34. NA:190. K:11.
SIO2: FE: B: PH:8.2
T.D.S.=1240 CONDUCT:1630
COMMENTS:DAM WATER

SAMPLE NO:201 DATE:021182 REC: 153
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:0.0 HCO3:140. SO4:470. CL:250. N:.17
F:4.4 CA:110. MG:66. NA:185. K:10.
SIO2: FE: B: PH:7.9
T.D.S.=1310 CONDUCT:1600
COMMENTS:LAKE LIDDEL

SAMPLE NO:202 DATE:041182 REC: 169
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:4500
COMMENTS:WATERHOLE PIKES CREEK

SAMPLE NO:203 DATE:051182 REC: 171
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:800
COMMENTS:OVERBURDEN RUNOFF DAM

SAMPLE NO:204 DATE:051182 REC: 173
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:1500
COMMENTS:OVERBURDEN RUNOFF DAM

SAMPLE NO:205 DATE: REC: 179
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:675
COMMENTS:OVERBURDEN RUNOFF DAM

SAMPLE NO:206 DATE:021182 REC: 159
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:43. HCO3:1130. SO4:1610. CL:2560. N:5.89
F:1.2 CA:30. MG:405. NA:2060. K:28.
SIO2: FE: B: PH:8.9
T.D.S.=7670 CONDUCT:9000
COMMENTS:PARNELL CRK

SAMPLE NO:207 DATE:041182 REC: 183
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:200
COMMENTS:STOCK DAM

SAMPLE NO:208 DATE:041182 REC: 185
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:500
COMMENTS:STOCK DAM

SAMPLE NO:210 DATE:041182 REC: 187
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:300
COMMENTS:STOCK DAM

SAMPLE NO:211 DATE:050782 REC: 227
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL:1030 N:
F: CA:21. MG:50 NA:952 K:
SIO2: FE: B: PH:8.39
T.D.S.= CONDUCT:5400
COMMENTS:HOMESTEAD DEWATER -ING LINE WAMBO

SAMPLE NO:212 DATE:050782 REC: 225
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.15
T.D.S.= CONDUCT:1150
COMMENTS:WAMBO DAM

SAMPLE NO:213 DATE:250882 REC: 189
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3:72 HCO3:902 SO4:1020 CL:3150 N:
F: CA: MG: NA:2125 K:
SIO2: FE: B: PH:8.7
T.D.S.=7327 CONDUCT:10820
COMMENTS:LODERS CREEK ENTRANCE TO MILLER PROPTY.

SAMPLE NO:215 DATE:250882 REC: 191
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3:216. HCO3:1122. SO4:417. CL:5000. N:
F: CA: MG: NA:3312. K:
SIO2: FE: B: PH:8.8
T.D.S.=10339 CONDUCT:1489
COMMENTS:LOWERS CREEK

SAMPLE NO:216 DATE:250882 REC: 223
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:98 SO4:132 CL:100 N:
F: CA: MG: NA:85 K:
SIO2: FE: B: PH:8.2
T.D.S.=430 CONDUCT:680
COMMENTS:LODERS CREEK OPPO SITE PIT ENTRANCE

SAMPLE NO:217 DATE:250882 REC: 197
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:0. HCO3:171. SO4:108. CL:710. N:
F: CA: MG: NA:412. K:
SIO2: FE: B: PH:8.3
T.D.S.=1504. CONDUCT:245.
COMMENTS:GLEN MURNO SEAM

SAMPLE NO:218 DATE:250882 REC: 199
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3:73 SO4:68 CL:220 N:
F: CA: MG: NA:150 K:
SIO2: FE: B: PH:8.2
T.D.S.=500 CONDUCT:900
COMMENTS:PIERCEFIELD SEAM.

SAMPLE NO:219 DATE:250882 REC: 201
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3:73 SO4:68 CL:140 N:
F: CA: MG: NA:150 K:
SIO2: FE: B: PH:8.3
T.D.S.=340 CONDUCT:580
COMMENTS:NUMBERED SEAM

SAMPLE NO:220 DATE:250882 REC: 203
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3:49 SO4:16 CL:55 N:
F: CA: MG: NA:42 K:
SIO2: FE: B: PH:8.2
T.D.S.=172 CONDUCT:270
COMMENTS:MAIN OVERBURDEN DRAINAGE LINE

SAMPLE NO:221 DATE:250882 REC: 205
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3:192 HCO3:1378 SO4:982 CL:6200 N:
F: CA: MG: NA:3875 K:
SIO2: FE: B: PH:8.7
T.D.S.=12326 CONDUCT:17900
COMMENTS:MAIN OVERBURDEN DRAINAGE LINE

SAMPLE NO:222 DATE:250882 REC: 207
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3:134 SO4:18 CL:210 N:
F: CA: MG: NA:105 K:
SIO2: FE: B: PH:8.3
T.D.S.=548 CONDUCT:850
COMMENTS:WOLLOMBI BROOK

SAMPLE NO:223 DATE:250882 REC: 209
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:683 SO4:522 CL:3400 N:16.6
F: CA: MG: NA:1562 K:78
SIO2: FE:<0.01 B: PH:7.9
T.D.S.=6793 CONDUCT:10060
COMMENTS:PIT SAXONVALE

SAMPLE NO:224 DATE:250882 REC: 211
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3:43 SO4:235 CL:280 N:0.07
F: CA: MG: NA:255 K:14
SIO2: FE:0.03 B: PH:7.8
T.D.S.=872 CONDUCT:1400
COMMENTS:TAILING DAM

SAMPLE NO:225 DATE:250882 REC: 213
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3:146 SO4:307 CL:180 N:0.01
F: CA: MG: NA:156 K:3
SIO2: FE:<0.01 B: PH:8.3
T.D.S.=850 CONDUCT:1230
COMMENTS:COAL WASHERY DAM

SAMPLE NO:226 DATE:250882 REC: 215
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3:12 HCO3:146 SO4:3 CL:80 N:30
F: CA: MG: NA:85 K:1.9
SIO2: FE:<0.01 B: PH:8.0
T.D.S.=324 CONDUCT:530
COMMENTS:COAL WASHERY DAM

SAMPLE NO:227 DATE:250882 REC: 217
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3:146 SO4:337 CL:340 N:0.08
F: CA: MG: NA:36 K:10
SIO2: FE:10 B: PH:8.2
T.D.S.=1230 CONDUCT:1940
COMMENTS:COAL WASHERY DAM

SAMPLE NO:228 DATE:250882 REC: 219
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3:98 SO4:20 CL:60 N:0.2
F: CA: MG: NA: K:
SIO2: FE:0.02 B: PH:8.2
T.D.S.=200 CONDUCT:340
COMMENTS:COAL WASHERY DAM

SAMPLE NO:229 DATE:250882 REC: 221
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3:67 SO4:284 CL:240 N:0.07
F: CA: MG: NA: K:12
SIO2: FE:0.02 B: PH:7.9
T.D.S.=870 CONDUCT:1480
COMMENTS:COAL WASHERY DAM

SAMPLE NO:230 DATE:131282 REC: 139
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:350 SO4:8440 CL:8770 N:28
F:.32 CA:330 MG:1550 NA:6400 K:40
SIO2: FE: B: PH:8.2
T.D.S.=27200 CONDUCT:28800
COMMENTS:PIKES CREEK UPPER REACH

SAMPLE NO:231 DATE:310882 REC: 137
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:21 HCO3:490 SO4:290 CL:1250 N:15.4
F: CA:42 MG:75 NA:850 K:13
SIO2: FE: B: PH:8.8
T.D.S.=2830 CONDUCT:4700
COMMENTS:WARKWORTH HOPPER SEEPAGE

SAMPLE NO:232 DATE:0582 REC: 247
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 12.81 SO4: 5.761 CL: 8.865 N: .196
F: .057 CA: 2.404 MG: 1.945 NA: 2.53 K: 1.563
SIO2: FE: B: PH:6.0
T.D.S.=30 CONDUCT:41
COMMENTS:RAINWATER SCHOOL TANK-RAVENSWORTH.

SAMPLE NO:233 DATE:0382 REC: 289
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:290 CL:590 N:
F: CA: MG:141 NA:210 K:
SIO2: FE: B: PH:7.6
T.D.S.=1650 CONDUCT:2449
COMMENTS:DRAYTON

SAMPLE NO:234 DATE:0782 REC: 287
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:610.0 CL:1320.0 N:
F: CA: MG:340.0 NA:635.0 K:
SIO2: FE: B: PH:7.8
T.D.S.=3750 CONDUCT:4800
COMMENTS:DRAYTON

SAMPLE NO:235 DATE:1182 REC: 285
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:590.0 CL:1280 N:
F: CA: MG:470.0 NA:300 K:
SIO2: FE: B: PH:7.8
T.D.S.=3430 CONDUCT:5000
COMMENTS:DRAYTON

SAMPLE NO:236 DATE:0482 REC: 283
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4:58.0 CL:68.0 N:
F: CA: MG:21.0 NA:53.0 K:
SIO2: FE: B: PH:8.1
T.D.S.=225 CONDUCT:420
COMMENTS:DRAYTON

SAMPLE NO:237 DATE:783 REC: 281
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4:43. CL:80. N:
F: CA: MG:20. NA:51. K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:500
COMMENTS:DRAYTON

SAMPLE NO:238 DATE: REC: 279
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4:66.0 CL:235.0 N:
F: CA: MG:64.0 NA:160.0 K:
SIO2: FE: B: PH:8.1
T.D.S.=800 CONDUCT:1180
COMMENTS:DRAYTON

SAMPLE NO:239 DATE:0482 REC: 277
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:85. CL:29 N:
F: CA: MG:15 NA:35 K:
SIO2: FE: B: PH:7.4
T.D.S.=220 CONDUCT:300
COMMENTS:DRAYTON

SAMPLE NO:240 DATE:1182 REC: 275
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4:125.0 CL:60.0 N:
F: CA: MG:20. NA:59. K:
SIO2: FE: B: PH:7.4
T.D.S.=360 CONDUCT:530
COMMENTS:DRAYTON

SAMPLE NO:241 DATE:0782 REC: 273
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.0
T.D.S.=415 CONDUCT:193
COMMENTS:DRAYTON DAM

SAMPLE NO:242 DATE:0782 REC: 271
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.7
T.D.S.=482 CONDUCT:250
COMMENTS:DRAYTON DAM

SAMPLE NO:243 DATE:0782 REC: 269
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.6
T.D.S.= CONDUCT:2500
COMMENTS:DRAYTON DAM

SAMPLE NO:244 DATE:0782 REC: 267
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.3
T.D.S.= CONDUCT:157
COMMENTS:DRAYTON DAM

SAMPLE NO:245 DATE:0782 REC: 265
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.= CONDUCT:650
COMMENTS:DRAYTON DAM

SAMPLE NO:246 DATE:0782 REC: 263
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.6
T.D.S.= CONDUCT:185
COMMENTS:DRAYTON DAM

SAMPLE NO:247 DATE:0782 REC: 261
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.8
T.D.S.= CONDUCT:180
COMMENTS:DRAYTON DAM

SAMPLE NO:248 DATE:0782 REC: 259
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.= CONDUCT:250
COMMENTS:DRAYTON DAM

SAMPLE NO:249 DATE:0782 REC: 257
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.= CONDUCT:1250
COMMENTS:DRAYTON DAM

SAMPLE NO:250 DATE:0782 REC: 255
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.9
T.D.S.= CONDUCT:450
COMMENTS:DRAYTON DAM

SAMPLE NO:251 DATE:0482 REC: 253
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4:960 CL:160 N:
F: CA: MG:122 NA:205 K:
SIO2: FE: B: PH:7.4
T.D.S.=1600 CONDUCT:2000
COMMENTS:DRAYTON

SAMPLE NO:252 DATE:0882 REC: 251
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4:1570 CL:20 N:
F: CA: MG:212 NA:305 K:
SIO2: FE: B: PH:7.2
T.D.S.= CONDUCT:2800
COMMENTS:DRAYTON

SAMPLE NO:253 DATE:0283 REC: 249
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4:3600 CL:890 N:
F: CA: MG:380 NA:750 K:
SIO2: FE: B: PH:7.
T.D.S.= CONDUCT:7000
COMMENTS:DRAYTON

SAMPLE NO:529 DATE:1075 REC: 335
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4:53 CL: N:<3
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.5
T.D.S.= CONDUCT:1140
COMMENTS:

SAMPLE NO:A2 DATE:050749 REC: 1
UNITS: METRIC TOP:40.8 BOTT: ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: 2537.38 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.80
T.D.S.=6870 CONDUCT:
COMMENTS:W.R.C. NO. 8140 WRC

SAMPLE NO:A3 DATE:161050 REC: 7
UNITS: METRIC TOP:51.5 BOTT:52.1 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: 677.179 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.80
T.D.S.=2138 CONDUCT:
COMMENTS:COAL 8199

SAMPLE NO:A3 DATE:161050 REC: 5
UNITS: METRIC TOP:48.8 BOTT:49.4 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: 618.351 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.80
T.D.S.=2138 CONDUCT:
COMMENTS:SHALES 8199 WRC

SAMPLE NO:A3 DATE:161050 REC: 3
UNITS: METRIC TOP:45.7 BOTT:46.3 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: 460.944 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.20
T.D.S.=1739 CONDUCT:
COMMENTS:SHALES NO. 8199 WRC

SAMPLE NO:A4 DATE:141250 REC: 13
UNITS: METRIC TOP:57.6 BOTT:58.5 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: 342.472 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.1
T.D.S.=17960 CONDUCT:
COMMENTS:8203. SDRK.

SAMPLE NO:A4 DATE:141250 REC: 11
UNITS: METRIC TOP:44.5 BOTT:45.7 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: 342.472 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.3
T.D.S.=17647 CONDUCT:
COMMENTS:SHALES. 8203 WRC

SAMPLE NO:A4 DATE:151050 REC: 9
UNITS: METRIC TOP:27.7 BOTT:28.3 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: 164.321 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=14368 CONDUCT:
COMMENTS:COAL SEAM 8203 WRC

SAMPLE NO:A5 DATE:010351 REC: 19
UNITS: METRIC TOP:62.5 BOTT:66.8 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: 602.784 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.=2152 CONDUCT:
COMMENTS:SHALE 8217 WRC

SAMPLE NO:A5 DATE:010351 REC: 17
UNITS: METRIC TOP:66.8 BOTT:1 ANALYSIS BY :4 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: 594.132 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.=2209 CONDUCT:
COMMENTS:SHALES. 8217 WRC

SAMPLE NO:A5 DATE:180151 REC: 15
UNITS: METRIC TOP:23.8 BOTT:28.7 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: 882.102 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.3
T.D.S.=2808 CONDUCT:
COMMENTS:COAL 8217 WRC

SAMPLE NO:A6 DATE:221151 REC: 23
UNITS: METRIC TOP:113.4 BOTT: ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: 224 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.2
T.D.S.=713 CONDUCT:
COMMENTS:COAL 8227 WRC

SAMPLE NO:A6 DATE:250551 REC: 21
UNITS: METRIC TOP:98.8 BOTT:99.1 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: 255.134 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.7
T.D.S.=1026 CONDUCT:
COMMENTS:SHALES 8227 WRC

SAMPLE NO:A52 DATE:040648 REC: 25
UNITS: METRIC TOP:13.7 BOTT: ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 328.2 SO4: CL: 97.656 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.8
T.D.S.=812 CONDUCT:
COMMENTS:SANDSTONES. 8080

SAMPLE NO:A80 DATE:221179 REC: 27
UNITS: METRIC TOP:23.8 BOTT:35.7 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3:0.0 HCO3: 1514 SO4: 62.893 CL: 580.125 N: 7.845
F: 28.878 CA: 22.244 MG: 179.96 NA: 649.06 K: 18.76
SIO2:20.900 FE: B: PH:8.01
T.D.S.=2258 CONDUCT:
COMMENTS:SHALES 31623.

SAMPLE NO:A81 DATE:221179 REC: 31
UNITS: METRIC TOP:44.8 BOTT:49.4 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 2040 SO4: 210.763 CL: 2499.93 N: 7.257
F: 25.268 CA: 9.619 MG: 263.99 NA: 1935.91 K: 7.037
SIO2:14.3 FE: B: PH:8.2
T.D.S.=5930 CONDUCT:
COMMENTS:SHALES. 31859

SAMPLE NO:A81 DATE:240276 REC: 29
UNITS: METRIC TOP:48.8 BOTT:49.4 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 2678 SO4: 67.214 CL: 712.746 N:
F: 23.463 CA: 12.625 MG: 31.007 NA: 1393.8 K: 12.9
SIO2:13.0 FE: B: PH:8.0
T.D.S.=3547 CONDUCT:
COMMENTS:SHALES/SST. 31889. WRC.

SAMPLE NO:A83 DATE:201078 REC: 37
UNITS: METRIC TOP:21.9 BOTT:30.5 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 1848 SO4: 97.94 CL: 1580.1 N:
F: CA: 50.901 MG: 157.95 NA: 1380.69 K: 32.06
SIO2:14.100 FE:1.6300 B: PH:7.80
T.D.S.=4208 CONDUCT:
COMMENTS:SHALES 32512 WRC

SAMPLE NO:A83 DATE:221179 REC: 39
UNITS: METRIC TOP:21.9 BOTT:30.5 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 1775 SO4: 153.632 CL: 1230.11 N: 51.024
F: 23.102 CA: 49.999 MG: 115.03 NA: 1268.91 K: 23.65
SIO2:14.800 FE:3.0600 B: PH:7.96
T.D.S.=3714 CONDUCT:
COMMENTS:SANDSTONE 32512 WRC

SAMPLE NO:A83 DATE:130977 REC: 33
UNITS: METRIC TOP:21.9 BOTT:30.5 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 1912 SO4: 189.639 CL: 1574.42 N:
F: CA: 59.117 MG: 170.23 NA: 1467.4 K: 21.89
SIO2:14.0 FE:0.5 B: PH:7.1
T.D.S.=4423 CONDUCT:
COMMENTS:SHALES 32512.

SAMPLE NO:A83 DATE:211177 REC: 35
UNITS: METRIC TOP:21.9 BOTT:30.5 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 1900 SO4: 180.037 CL: 1631.16 N:
F: CA: 64.528 MG: 172.06 NA: 1476.6 K: 20.72
SIO2:14.0 FE: B: PH:7.15
T.D.S.=4479 CONDUCT:
COMMENTS:SHALES 32512

SAMPLE NO:A88 DATE:180877 REC: 41
UNITS: METRIC TOP: BOTT: ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 172.6 SO4: CL: 29.999 N:
F: CA: 60.059 MG: NA: K:
SIO2: FE: B: PH:7.40
T.D.S.= CONDUCT:
COMMENTS:COAL AND SHALE AT 2M 42993 WRC

SAMPLE NO:A95 DATE:220580 REC: 45
UNITS: METRIC TOP:12.0 BOTT:92.0 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 783.4 SO4: 424.408 CL: 914.868 N:
F: CA: 273.94 MG: 155.89 NA: 462.76 K: 28.15
SIO2: FE: B: PH:7.35
T.D.S.=2645 CONDUCT:
COMMENTS:COAL 47486 WRC

SAMPLE NO:A95 DATE:051179 REC: 43
UNITS: METRIC TOP: BOTT: ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 809.1 SO4: 459.791 CL: 850.153 N: 2.241
F: 9.88 CA: 265 MG: 175.1 NA: 385.25 K: 30.1
SIO2:15.000 FE:0.4200 B: PH:7.30
T.D.S.=2700 CONDUCT:
COMMENTS:COAL 47486 WRC

SAMPLE NO:A103 DATE:140377 REC: 51
UNITS: METRIC TOP: BOTT:12.1 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 230.6 SO4: 485.381 CL: 396.088 N:
F: CA: 134.06 MG: 81.228 NA: 286.12 K: 4.691
SIO2: FE: B: PH:7.90
T.D.S.=1501 CONDUCT:
COMMENTS:S.S. 44861 WRC

SAMPLE NO:A103 DATE:190176 REC: 53
UNITS: METRIC TOP: BOTT:12.1 ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 491.2 SO4: 1800.38 CL: 1312.02 N: 17.666
F: 19.853 CA: 408.81 MG: 280.89 NA: 862.5 K: 7.819
SIO2:18.000 FE: B: PH:7.00
T.D.S.=4914 CONDUCT:
COMMENTS:SANDSTONE

SAMPLE NO:A103 DATE:050476 REC: 47
UNITS: METRIC TOP: BOTT:12.1 ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 460.7 SO4: 1608.34 CL: 1042.52 N:
F: CA: 348.69 MG: 244.41 NA: 772.8 K: 7.819
SIO2:20.000 FE: B: PH:7.25
T.D.S.=4251 CONDUCT:
COMMENTS:S.S. 44861

SAMPLE NO:A103 DATE:080976 REC: 49
UNITS: METRIC TOP: BOTT:12.1 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 490.6 SO4: 1853.19 CL: 1254.93 N:
F: CA: 399.99 MG: 289.65 NA: 811.44 K: 7.819
SIO2: FE: B: PH:7.60
T.D.S.=4858 CONDUCT:
COMMENTS:S.S. 44861 WRC

SAMPLE NO:A107 DATE:180778 REC: 67
UNITS: METRIC TOP:6 BOTT:13.2 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.= CONDUCT:1375
COMMENTS:WRC ALL. WELL SINGLETON AREA

SAMPLE NO:A107 DATE:251177 REC: 65
UNITS: METRIC TOP:6.0 BOTT:13.2 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: 7.502 HCO3: 421 SO4: 28.806 CL: 60.282 N: 3.922
F: 6.137 CA: 89.779 MG: 41.587 NA: 56.58 K: 3.127
SIO2:31 FE: B: PH:8.1
T.D.S.=543 CONDUCT:910
COMMENTS:WRC ALLUVIAL WELL SINGLETON AREA

SAMPLE NO:A107 DATE:250879 REC: 69
UNITS: METRIC TOP:6 BOTT:13.2 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.6
T.D.S.= CONDUCT:2000
COMMENTS:WRC ALL.WELL SINGLETON AREA

SAMPLE NO:A107 DATE:031280 REC: 73
UNITS: METRIC TOP:6 BOTT:13.2 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3:0 HCO3: 229.4 SO4: 669.259 CL: 511.333 N: .196
F: 7.219 CA: 129.05 MG: 131.32 NA: 326.14 K: 8.21
SIO2:33.1 FE: B: PH:8.01
T.D.S.=1888 CONDUCT:3200
COMMENTS:WRC ALLUVIUM WELL SINGLETON AREA

SAMPLE NO:A107 DATE:171279 REC: 71
UNITS: METRIC TOP:6 BOTT:13.2 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3:0 HCO3: 386.2 SO4: 353.353 CL: 380.131 N: 9.61
F: 12.272 CA: 129.05 MG: 109.92 NA: 205.16 K: 3.518
SIO2:32.2 FE: B: PH:7.84
T.D.S.=1371 CONDUCT:2400
COMMENTS:WRC ALLUVIAL WELL SINGLETON AREA

SAMPLE NO:A107 DATE:240276 REC: 57
UNITS: METRIC TOP:6 BOTT:13.2 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 237.9 SO4: 40.808 CL: 21.276 N: 15.705
F: 9.025 CA: 56.512 MG: 11.673 NA: 32.2 K: 5.473
SIO2:20.00 FE: B: PH:7.30
T.D.S.=285 CONDUCT:510
COMMENTS:WRC ALL BORE SINGLETON AREA.

SAMPLE NO:A107 DATE:190176 REC: 55
UNITS: METRIC TOP:6. BOTT:13.2 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 848.1 SO4: 720.15 CL: 726.93 N: 137.368
F: 12.633 CA: 200.39 MG: 211.58 NA: 503.7 K: 3.127
SIO2:38 FE: B: PH:7.5
T.D.S.= CONDUCT:4000
COMMENTS:WRC ALLUVIAL WELL SINGLETON AREA.

SAMPLE NO:A107 DATE:050476 REC: 59
UNITS: METRIC TOP:6.0 BOTT:13.2 ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 298.9 SO4: 72.015 CL: 62.055 N: 13.729
F: 8.664 CA: 78.155 MG: 22.252 NA: 53.82 K: 7.819
SIO2:25 FE: B: PH:7.4
T.D.S.=443 CONDUCT:790
COMMENTS:WRC ALLUVIAL BORE SINGLETON AREA

SAMPLE NO:A107 DATE:140377 REC: 63
UNITS: METRIC TOP:6.0 BOTT:13.2 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3:0.0 HCO3: 194 SO4: 12.962 CL: 25.885 N:
F: CA: 35.069 MG: 14.105 NA: 30.13 K: 3.909
SIO2: FE: B: PH:7.6
T.D.S.=217 CONDUCT:410
COMMENTS:WRC ALLUVIAL WELL SINGLETON AREA

SAMPLE NO:A107 DATE:050976 REC: 61
UNITS: METRIC TOP:6.0 BOTT:13.2 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3:0.0 HCO3: 478.3 SO4: 150.751 CL: 136.166 N:
F: CA: 119.03 MG: 57.03 NA: 103.04 K: 4.691
SIO2: FE: B: PH:7.9
T.D.S.=806 CONDUCT:1431
COMMENTS:WRC ALLUVIAL WELL SINGLETON AREA

SAMPLE NO:A108 DATE:031280 REC: 77
UNITS: METRIC TOP: BOTT: ANALYSIS BY :1 CHEM UNITS: MG/L
CO3:0 HCO3: 521.1 SO4: 343.271 CL: 495.021 N: 149.136
F: CA: 202.6 MG: 147.13 NA: 171.58 K: .781
SIO2:34.8 FE:8.5 B: PH:7.87
T.D.S.=1617 CONDUCT:2800
COMMENTS:WRC ALLUVIAL WELL SINGLETON AREA

SAMPLE NO:A108 DATE:191078 REC: 75
UNITS: METRIC TOP: BOTT: ANALYSIS BY :1 CHEM UNITS: MG/L
CO3:0 HCO3: 463.7 SO4: 254.453 CL: 351.054 N:
F: CA: 163.92 MG: 108.95 NA: 147.2 K: 1.563
SIO2:28.6 FE:.24 B: PH:7.8
T.D.S.=1255 CONDUCT:2200
COMMENTS:WRC ALLUVIAL WELL SINGLETON AREA

SAMPLE NO:A109 DATE:050476 REC: 79
UNITS: METRIC TOP:7.4 BOTT:14.3 ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 219.6 SO4: 38.408 CL: 37.233 N: 29.435
F: 9.025 CA: 33.667 MG: 16.659 NA: 51.75 K: 5.082
SIO2:23 FE: B: PH:7.8
T.D.S.=291 CONDUCT:540
COMMENTS:WRC ALLUVIAL WELL SINGLETON AREA

SAMPLE NO:A110 DATE:031280 REC: 85
UNITS: METRIC TOP:13.1 BOTT:14.3 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3:0 HCO3: 290.4 SO4: 90.738 CL: 196.448 N: 307.491
F: 3.61 CA: 77.955 MG: 56.787 NA: 116.84 K: 1.172
SIO2:45.5 FE: B: PH:8.11
T.D.S.=683 CONDUCT:1350
COMMENTS:WRC ALL. WELL SINGLETON AREA

SAMPLE NO:A110 DATE:251177 REC: 83
UNITS: METRIC TOP:13.1 BOTT:14.3 ANALYSIS BY :2 CHEM UNITS: MG/L
CO3:0 HCO3: 350.8 SO4: 93.619 CL: 281.907 N: 276.683
F: 4.693 CA: 96.191 MG: 72.959 NA: 133.4 K: 1.563
SIO2:49 FE: B: PH:6.95
T.D.S.=852 CONDUCT:1620
COMMENTS:WRC ALLUVIAL WELL SINGLETON AREA

SAMPLE NO:A110 DATE:050476 REC: 81
UNITS: METRIC TOP:13.1 BOTT:14.3 ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 332.5 SO4: 74.415 CL: 241.128 N: 274.722
F: CA: 88.977 MG: 65.663 NA: 122.13 K: 1.563
SIO2:51 FE: B: PH:7.1
T.D.S.=757 CONDUCT:1500
COMMENTS:WRC ALL. WELL SINGLETON AREA

SAMPLE NO:A111 DATE:031280 REC: 87
UNITS: METRIC TOP:10.3 BOTT:12.7 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3:0 HCO3: 333.7 SO4: 85.457 CL: 174.463 N: 270.603
F: 3.61 CA: 69.939 MG: 54.233 NA: 115.46 K: 1.172
SIO2:46 FE:.23 B: PH:7.93
T.D.S.=665 CONDUCT:1300
COMMENTS:WRC ALL. WELL SINGLETON AREA

SAMPLE NO:A112 DATE:010279 REC: 89
UNITS: METRIC TOP:11.5 BOTT:13.5 ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 665.1 SO4: 93.619 CL: 549.63 N: 39.242
F: 7.219 CA: 76.151 MG: 77.823 NA: 414 K: 2.345
SIO2:37.5 FE: B: PH:7.8
T.D.S.=1540 CONDUCT:2850
COMMENTS:WRC ALL. WELL WARKWORTH AREA

SAMPLE NO:A113 DATE:210879 REC: 91
UNITS: METRIC TOP:16 BOTT:16.5 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3:0 HCO3: 595.5 SO4: 39.368 CL: 219.852 N:
F: CA: 43.286 MG: 61.407 NA: 220.34 K: 2.345
SIO2:43.8 FE: B: PH:7.8
T.D.S.=879 CONDUCT:1650
COMMENTS:WRC ALL. WELL WARKWORTH AREA

SAMPLE NO:A114 DATE:210879 REC: 93
UNITS: METRIC TOP:13 BOTT:13.8 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3:0 HCO3: 658.4 SO4: 41.768 CL: 219.852 N:
F: CA: 34.268 MG: 49.855 NA: 241.96 K: 1.954
SIO2:35 FE: B: PH:7.8
T.D.S.=913 CONDUCT:1620
COMMENTS:

SAMPLE NO:A115 DATE:210879 REC: 99
UNITS: METRIC TOP:12.5 BOTT:13.1 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 259.9 SO4: 2.88 CL: 71.983 N:
F: CA: 41.883 MG: 34.047 NA: 30.36 K: 1.172
SIO2:28.2 FE: B: PH:7.35
T.D.S.=310 CONDUCT:600
COMMENTS:WRC ALLUVIAL WELL WARKWORTH AREA

SAMPLE NO:A115 DATE:210279 REC: 97
UNITS: METRIC TOP:12.5 BOTT:13.1 ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 195.2 SO4: 28.806 CL: 79.785 N:
F: 4.332 CA: 31.462 MG: 23.711 NA: 59.8 K: 2.736
SIO2:12 FE: B: PH:7.5
T.D.S.=322 CONDUCT:655
COMMENTS:WRC ALL. WELL WARKWORTH AREA

SAMPLE NO:A115 DATE:210279 REC: 95
UNITS: METRIC TOP:17 BOTT:17.5 ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 268.4 SO4: CL: 79.785 N:
F: 1.444 CA: 45.089 MG: 31.007 NA: 39.1 K: 3.518
SIO2:26 FE: B: PH:6.9
T.D.S.= CONDUCT:690
COMMENTS:WRC ALL. WELL WARKWORTH AREA

SAMPLE NO:A116 DATE:0377 REC: 103
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:2120
COMMENTS:ALL. WELL DENMAN

SAMPLE NO:A116 DATE:1166 REC: 101
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:2670
COMMENTS:ALL. WELL WALKWORTH

SAMPLE NO:A117 DATE:221179 REC: 107
UNITS: METRIC TOP:5.1 BOTT: ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 386.8 SO4: 51.85 CL: 506.014 N: 58.842
F: 7.219 CA: 160.92 MG: 84.998 NA: 189.98 K: 2.345
SIO2:35.1 FE:.1 B: PH:7.83
T.D.S.=1186 CONDUCT:2300
COMMENTS:ALL. WELL WALKWORTH.

SAMPLE NO:A117 DATE:0179 REC: 105
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:1830
COMMENTS:ALL. WELL WALKWOTH AREA

SAMPLE NO:A118 DATE:260478 REC: 109
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:1180
COMMENTS:ALLUVIUM WELL WARKWORTH

SAMPLE NO:A119 DATE:180778 REC: 119
UNITS: METRIC TOP: BOTT:5.2 ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:1880
COMMENTS:ALLUVIAL WELL DENMAN

SAMPLE NO:A119 DATE:201078 REC: 121
UNITS: METRIC TOP: BOTT:5.2 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 403.9 SO4: 41.768 CL: 450.342 N:
F: CA: 113.02 MG: 92.902 NA: 150.19 K: 2.736
SIO2:30.2 FE:.08 B: PH:8
T.D.S.=1049 CONDUCT:2000
COMMENTS:ALL. WELL DENMAN

SAMPLE NO:A119 DATE:031280 REC: 123
UNITS: METRIC TOP:5.1 BOTT: ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 168.4 SO4: 53.291 CL: 369.847 N: .196
F: CA: 41.683 MG: 75.027 NA: 140.3 K: .781
SIO2:20.07 FE:.13 B: PH:8.42
T.D.S.=764 CONDUCT:1600
COMMENTS:ALLUVIUM WELL DENMAN

SAMPLE NO:A119 DATE:260478 REC: 117
UNITS: METRIC TOP: BOTT:5.2 ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:1890
COMMENTS:

SAMPLE NO:A119 DATE:211177 REC: 111
UNITS: METRIC TOP:5.2 BOTT: ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 417.9 SO4: 52.811 CL: 404.244 N:
F: CA: 116.23 MG: 85.119 NA: 152.72 K: 1.954
SIO2:27 FE:.02 B: PH:7.45
T.D.S.=1016 CONDUCT:1890
COMMENTS:

SAMPLE NO:A119 DATE:0278 REC: 113
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:2125
COMMENTS:ALLUVIUM WELL DENMAN

SAMPLE NO:A119 DATE:0478 REC: 115
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:1890
COMMENTS:ALLUVIAL WELL DENMAN

SAMPLE NO:A120 DATE:180778 REC: 125
UNITS: METRIC TOP: BOTT:16.6 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.0
T.D.S.= CONDUCT:845
COMMENTS:WRC ALLUVIAL WELL MUSWELLBROOK AREA

SAMPLE NO:A121 DATE:060580 REC: 145
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.8
T.D.S.= CONDUCT:1200
COMMENTS:

SAMPLE NO:A121 DATE:120280 REC: 143
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.8
T.D.S.= CONDUCT:1560
COMMENTS:

SAMPLE NO:A121 DATE:221179 REC: 141
UNITS: METRIC TOP: BOTT:11.8 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 408.8 SO4: 61.932 CL: 331.905 N: 103.674
F: CA: 138.27 MG: 81.471 NA: 85.1 K: 1.563
SIO2:28.3 FE:.14 B: PH:7.83
T.D.S.=902 CONDUCT:1800
COMMENTS:ALL, WELL MUSWELLBROOK

SAMPLE NO:A121 DATE:080981 REC: 151
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:1230
COMMENTS:ALL, WELL MUSWELLBROOK

SAMPLE NO:A121 DATE:270581 REC: 149
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.9
T.D.S.= CONDUCT:1120
COMMENTS:

SAMPLE NO:A121 DATE:041280 REC: 147
UNITS: METRIC TOP:11.8 BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: 403.3 SO4: 60.012 CL: 135.102 N: 131.694
F: CA: 96.191 MG: 57.151 NA: 56.12 K: .39
SIO2:27.9 FE:.33 B: PH:7.92
T.D.S.=740 CONDUCT:1200
COMMENTS:ALLUVIAL WELL ABERDEEN.

SAMPLE NO:A121 DATE:220879 REC: 139
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.8
T.D.S.= CONDUCT:1450
COMMENTS:

SAMPLE NO:A121 DATE:0478 REC: 131
UNITS: METRIC TOP: BOTT:14.3 ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:1310
COMMENTS:ALL. WELL MUSWELLBROOK

SAMPLE NO:A121 DATE:0278 REC: 129
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:1300
COMMENTS:ALLUVIAL WELL MUSWELLBROOK

SAMPLE NO:A121 DATE:211177 REC: 127
UNITS: METRIC TOP: BOTT: ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 442.3 SO4: 69.614 CL: 304.956 N: 105.915
F: 5.054 CA: 144.28 MG: 88.767 NA: 72.22 K: .781
SIO2:28.0 FE:.02 B: PH:7.55
T.D.S.=899 CONDUCT:1680
COMMENTS:ALLUVIUM WELL MUSWELLBROOK

SAMPLE NO:A121 DATE:210579 REC: 137
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:1600
COMMENTS:

SAMPLE NO:A121 DATE:191078 REC: 135
UNITS: METRIC TOP:11.8 BOTT: ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 421 SO4: 83.057 CL: 378.003 N:
F: CA: 154.9 MG: 103.96 NA: 76.13 K: 1.172
SIO2: FE: B: PH:7.74
T.D.S.=1007 CONDUCT:1880
COMMENTS:ALLUVIAL WELL MUSWELLBROOK

SAMPLE NO:A121 DATE:0778 REC: 133
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:1440
COMMENTS:ALLUVIAL WELL MUSWELLBROOK

SAMPLE NO:A122 DATE:180778 REC: 153
UNITS: METRIC TOP: BOTT:11.6 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.2
T.D.S.= CONDUCT:650
COMMENTS:WRC ALL. WELL MUSWELLBROOK AREA

SAMPLE NO:A123 DATE:041280 REC: 155
UNITS: METRIC TOP: BOTT:11.6 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3:0 HCO3: 388.6 SO4: 48.01 CL: 99.997 N: 129.704
F: 7.219 CA: 91.582 MG: 53.747 NA: 54.05 K: .39
SIO2:30.7 FE: B: PH:7.95
T.D.S.=539 CONDUCT:1070
COMMENTS:WRC ALLUVIAL WELL MUSWELLBROOK AREA

SAMPLE NO:A124 DATE:231179 REC: 157
UNITS: METRIC TOP: BOTT: ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 247.7 SO4: 44.169 CL: 675.158 N: 231.585
F: 3.971 CA: 122.84 MG: 137.04 NA: 160.08 K: .781
SIO2:32.2 FE:1.64 B: PH:7.96
T.D.S.=1262 CONDUCT:2700
COMMENTS:ALL. WELL ABERDEEN

SAMPLE NO:A125 DATE:190778 REC: 183
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7
T.D.S.= CONDUCT:1960
COMMENTS:ALL. WELL ABERDEEN

SAMPLE NO:A125 DATE:0778 REC: 185
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:1960
COMMENTS:ALLUVIAL WELL ABERDEEN

SAMPLE NO:A125 DATE:0579 REC: 179
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7
T.D.S.= CONDUCT:1650
COMMENTS:ALLUVIAL WELL ABERDEEN

SAMPLE NO:A125 DATE:0179 REC: 181
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7
T.D.S.= CONDUCT:1890
COMMENTS:ALL. WELL ABERDEEN

SAMPLE NO:A125 DATE:250478 REC: 187
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:2040
COMMENTS:ALLUVIAL WELL ABERDEEN

SAMPLE NO:A125 DATE:0877 REC: 193
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:1900
COMMENTS:ALL. WELL ABERDEEN

SAMPLE NO:A125 DATE:0577 REC: 195
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:2000
COMMENTS:ALLUVIAL WELL ABERDEEN

SAMPLE NO:A125 DATE:0278 REC: 189
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:1600
COMMENTS:ALLUVIAL WELL ABERDEEN

SAMPLE NO:A125 DATE:221177 REC: 191
UNITS: METRIC TOP: BOTT: ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 341.7 SO4: 52.811 CL: 418.428 N: 58.842
F: 5.415 CA: 79.759 MG: 71.743 NA: 204.7 K: 1.172
SIO2:34 FE: B: PH:7.55
T.D.S.=999 CONDUCT:1870
COMMENTS:ALL. WELL ABERDEEN

SAMPLE NO:A125 DATE:0879 REC: 177
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.8
T.D.S.= CONDUCT:1640
COMMENTS:ALLUVIAL WELL ABERDEEN

SAMPLE NO:A125 DATE:210881 REC: 163
UNITS: METRIC TOP: BOTT: ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.9
T.D.S.= CONDUCT:1700
COMMENTS:ALL. WELL ABERDEEN

SAMPLE NO:A125 DATE:270581 REC: 165
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:1400
COMMENTS:ALLUVIAL WELL ABERDEEN

SAMPLE NO:A125 DATE:191081 REC: 159
UNITS: METRIC TOP:6.3 BOTT: ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 347.8 SO4: 47.049 CL: 404.244 N:
F: CA: 80.961 MG: 69.919 NA: 200.1 K: 1.172
SIO2:32.9 FE: B: PH:7.7
T.D.S.=975 CONDUCT:1860
COMMENTS:ALL. WELL ABERDEEN

SAMPLE NO:A125 DATE:030981 REC: 161
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:1290
COMMENTS:ALL. WELL ABERDEEN

SAMPLE NO:A125 DATE:100381 REC: 167
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.8
T.D.S.= CONDUCT:1500
COMMENTS:ALLUVIAL WELL ABERDEEN

SAMPLE NO:A125 DATE:160280 REC: 173
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.10
T.D.S.= CONDUCT:1700
COMMENTS:ALLUVIAL WELL ABERDEEN

SAMPLE NO:A125 DATE:241179 REC: 175
UNITS: METRIC TOP:6.3 BOTT: ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 340.4 SO4: 47.049 CL: 364.174 N: 52.957
F: 6.08 CA: 68.336 MG: 53.139 NA: 212.06 K: 1.563
SIO2:34 FE:1 B: PH:7.85
T.D.S.=906 CONDUCT:1750
COMMENTS:ALL. WELL ABERDEEN

SAMPLE NO:A125 DATE:051280 REC: 169
UNITS: METRIC TOP:6.3 BOTT: ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 303.8 SO4: 47.049 CL: 326.586 N: 34.604
F: 7.219 CA: 60.52 MG: 53.625 NA: 179.63 K: .39
SIO2:33.4 FE:2.24 B: PH:7.92
T.D.S.=817 CONDUCT:1650
COMMENTS:ALL. WELL ABERDEEN

SAMPLE NO:A125 DATE:100580 REC: 171
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.0
T.D.S.= CONDUCT:1550
COMMENTS:ALLUVIAL WELL ABERDEEN

SAMPLE NO:A126 DATE:201078 REC: 199
UNITS: METRIC TOP:6.0 BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: 691.9 SO4: 150.751 CL: 825.154 N:
F: CA: 222.04 MG: 188.96 NA: 255.07 K: 3.127
SIO2:29.9 FE:.42 B: PH:7.6
T.D.S.=1985 CONDUCT:3700
COMMENTS:ALLUVIAL WELL ABERDEEN

SAMPLE NO:A126 DATE:0864 REC: 197
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:3210
COMMENTS:ALL. WELL ABERDEEN

SAMPLE NO:A127 DATE:0466 REC: 201
UNITS: METRIC TOP: BOTT: ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:2070
COMMENTS:ALL. WELL ABERDEEN

SAMPLE NO:A128 DATE:221177 REC: 203
UNITS: METRIC TOP: BOTT:11.4 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 356.9 SO4: 52.811 CL: 88.65 N:
F: CA: 75.951 MG: 45.721 NA: 49.22 K: .781
SIO2: FE: B: PH:7.3
T.D.S.=489 CONDUCT:890
COMMENTS:ALL. WELL ABERDEEN

SAMPLE NO:A129 DATE:221177 REC: 205
UNITS: METRIC TOP:4.9 BOTT:10.5 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 250.1 SO4: 21.604 CL: 65.601 N:
F: CA: 42.885 MG: 29.791 NA: 42.32 K: 1.563
SIO2: FE: B: PH:7.15
T.D.S.=327 CONDUCT:615
COMMENTS:ALL. WELL KINGDON PONDS

SAMPLE NO:A130 DATE:231179 REC: 229
UNITS: METRIC TOP:7.7 BOTT:9.1 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 496.7 SO4: 27.845 CL: 54.963 N:
F: CA: 58.115 MG: 44.627 NA: 85.56 K: .39
SIO2: FE: B: PH:7.97
T.D.S.=516 CONDUCT:950
COMMENTS:ALL. WELL KINGDOM PONDS

SAMPLE NO:A130 DATE:060580 REC: 231
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7
T.D.S.= CONDUCT:950
COMMENTS:ALL. WELL KINGDOM PONDS

SAMPLE NO:A130 DATE:210579 REC: 225
UNITS: METRIC TOP:7.7 BOTT:9.1 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:800
COMMENTS:ALL. WELL KINGDON PONDS

SAMPLE NO:A130 DATE:220879 REC: 227
UNITS: METRIC TOP:7.7 BOTT:9.1 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:960
COMMENTS:ALLUVIAL WELL KINGDON PONDS

SAMPLE NO:A130 DATE:210880 REC: 233
UNITS: METRIC TOP:7.7 BOTT:9.1 ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.1
T.D.S.= CONDUCT:1050
COMMENTS:ALL. WELL KINGDOM PONDS

SAMPLE NO:A130 DATE:280581 REC: 239
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.3
T.D.S.= CONDUCT:900
COMMENTS:ALL. WELL KINGDOM PONDS

SAMPLE NO:A130 DATE:020981 REC: 241
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:850
COMMENTS:ALLUVIAL WELL

SAMPLE NO:A130 DATE:031280 REC: 235
UNITS: METRIC TOP:7.7 BOTT:9.1 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 506.4 SO4: 34.567 CL: 58.509 N:
F: CA: 62.524 MG: 49.369 NA: 83.72 K:
SIO2: FE: B: PH:7.72
T.D.S.=538 CONDUCT:1000
COMMENTS:ALL. WELL KINGDOM PONDS

SAMPLE NO:A130 DATE:050381 REC: 237
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.1
T.D.S.= CONDUCT:800
COMMENTS:ALL. WELL KINGDOM PONDS

SAMPLE NO:A130 DATE:280875 REC: 211
UNITS: METRIC TOP:7.6 BOTT:9.1 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 530.8 SO4: 7.201 CL: 78.012 N:
F: CA: 65.53 MG: 51.436 NA: 82.8 K: .39
SIO2: FE: B: PH:7.05
T.D.S.=546 CONDUCT:965
COMMENTS:ALL. WELL UPPER KINGDON PONDS

SAMPLE NO:A130 DATE:150977 REC: 213
UNITS: METRIC TOP:7.7 BOTT:9.1 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 530.8 SO4: 43.209 CL: 69.147 N:
F: CA: 62.524 MG: 51.193 NA: 87.4 K: .39
SIO2: FE: B: PH:7.7
T.D.S.=575 CONDUCT:1010
COMMENTS:ALL, WELL UPPER KINGDON PONDS

SAMPLE NO:A130 DATE:210273 REC: 207
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: 368.5 SO4: CL: N:
F: CA: 91.983 MG: NA: K:
SIO2: FE: B: PH:8.9
T.D.S.=480 CONDUCT:740
COMMENTS:ALL, WELL UPPER KINGDON PONDS

SAMPLE NO:A130 DATE:150373 REC: 209
UNITS: METRIC TOP: BOTT: ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 436.9 SO4: CL: N:
F: CA: 128.05 MG: NA: K:
SIO2: FE: B: PH:8.2
T.D.S.=610 CONDUCT:910
COMMENTS:ALL, WELL UPPER KINGDON PONDS

SAMPLE NO:A130 DATE:221177 REC: 215
UNITS: METRIC TOP:7.7 BOTT:9.1 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 515.6 SO4: 38.408 CL: 62.055 N:
F: CA: 58.316 MG: 48.275 NA: 87.86 K:
SIO2: FE: B: PH:7.95
T.D.S.=548 CONDUCT:930
COMMENTS:ALL, WELL UPPER KINGDON PONDS

SAMPLE NO:A130 DATE:201078 REC: 221
UNITS: METRIC TOP:7.7 BOTT:9.1 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: 512.5 SO4: 24.005 CL: 59.927 N:
F: CA: 52.905 MG: 49.977 NA: 77.969 K: .781
SIO2: FE: B: PH:8.2
T.D.S.=518 CONDUCT:950
COMMENTS:ALL, WELL UPPER KINDOM PONDS

SAMPLE NO:A130 DATE:220179 REC: 223
UNITS: METRIC TOP:7.7 BOTT:9.1 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:960
COMMENTS:ALL, WELL KINDON PONDS,

SAMPLE NO:A130 DATE:060778 REC: 217
UNITS: METRIC TOP:7.7 BOTT:9.1 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:970
COMMENTS:

SAMPLE NO:A130 DATE:170778 REC: 219
UNITS: METRIC TOP:7.7 BOTT:9.1 ANALYSIS BY :1 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:1050
COMMENTS:ALLUVIAL WELL UPPER KINGDON PONDS

SAMPLE NO:A131 DATE:150475 REC: 243
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 744.4 SO4: 64.813 CL: 920.187 N: 173.724
F: 4.94 CA: 159.91 MG: 152.97 NA: 460.23 K: 4.3
SIO2:53 FE: B: PH:8.2
T.D.S.=2330 CONDUCT:3980
COMMENTS:ALLUVIAL WELL JERRYS PLAIN AGC REPORT 330

SAMPLE NO:B1 DATE: REC: 197
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: 2949.73 CL: 410.272 N: .07
F: CA: 589.97 MG: 150.05 NA: 300.15 K: 9.383
SIO2: FE: B: PH:
T.D.S.=5320 CONDUCT:
COMMENTS:U.G. MINE NO.1

SAMPLE NO:B1 DATE: REC: 55
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: 1.8 HCO3: 198.3 SO4: 260.022 CL: 350.132 N:NT
F: .836 CA: 22.204 MG: 40.036 NA: 309.35 K: 6.255
SIO2: FE: B:.007 PH:8.6
T.D.S.=1150 CONDUCT:1680
COMMENTS:MUS U/G NO.1

SAMPLE NO:B2 DATE: REC: 199
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 145.2 SO4: 2799.94 CL: 340.061 N: 2.661
F: CA: 520.03 MG: 500.14 NA: 140.07 K: 39.88
SIO2: FE: B: PH:6.90
T.D.S.=4520 CONDUCT:
COMMENTS:OLD OPEN CUT

SAMPLE NO:B2 DATE: REC: 57
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3: 91.53 SO4: 12.002 CL: 14.006 N:NT
F: .798 CA: 7.394 MG: 7.198 NA: 26.68 K: 3.127
SIO2: FE: B:.004 PH:7.6
T.D.S.=150 CONDUCT:213
COMMENTS:

SAMPLE NO:B3 DATE: REC: 59
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3: 1214 SO4: 1060.06 CL: 670.229 N:NT
F: .589 CA: 44.809 MG: 186.04 NA: 924.369 K: 48.48
SIO2: FE: B:.037 PH:8.2
T.D.S.=3550 CONDUCT:4620
COMMENTS:

SAMPLE NO:B3 DATE:020181 REC: 203
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: 1399.97 CL: 99.997 N:
F: CA: MG: NA: K:
SIO2:20.000 FE:0.0800 B: PH:7.20
T.D.S.= CONDUCT:
COMMENTS:NEW OPEN CUT

SAMPLE NO:B3 DATE: REC: 201
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 509.5 SO4: 820.01 CL: 35.814 N: 70.89
F: CA: 294.98 MG: 69.068 NA: 80.04 K: 5.082
SIO2: FE: B: PH:6.60
T.D.S.=1770 CONDUCT:
COMMENTS:NEW OPEN CUT

SAMPLE NO:B4 DATE:090379 REC: 205
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: 29.4 HCO3: 1440 SO4: 465.024 CL: 4171.37 N: .028
F: CA: 69.999 MG: 345.17 NA: 2651.44 K: 59.04
SIO2: FE:0.0500 B: PH:8.50
T.D.S.= CONDUCT:14800
COMMENTS:BULKING SAMPLING PIT

SAMPLE NO:B4 DATE: REC: 61
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3: 580.3 SO4: 365.02 CL: 950.328 N:NT
F: 1.045 CA: 76.793 MG: 115.03 NA: 301.047 K: 26.19
SIO2: FE: B:.039 PH:7.7
T.D.S.=2650 CONDUCT:4000
COMMENTS:

SAMPLE NO:B5 DATE:111078 REC: 207
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: 1509 SO4: 409.813 CL: 4269.74 N: 3.922
F: CA: 113 MG: 385.1 NA: 2651.21 K: 54.73
SIO2: FE:0.1 B: PH:7.9
T.D.S.=9396 CONDUCT:
COMMENTS:TRIAL CUT FOR BLK COAL SAMPLE (SPG X STHN FACE)

SAMPLE NO:B5 DATE: REC: 63
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3:0 HCO3: 98.85 SO4: 14.018 CL: 34.999 N:NT
F: .76 CA: 4.849 MG: 5.897 NA: 48.99 K: 2.345
SIO2: FE: B:.013 PH:7.7
T.D.S.=180 CONDUCT:282
COMMENTS:

SAMPLE NO:B6 DATE:201278 REC: 183
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: 1249.96 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.6
T.D.S.=3500 CONDUCT:
COMMENTS:NTH OPEN CUT

SAMPLE NO:B7 DATE:201278 REC: 185
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: 335.983 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.4
T.D.S.=760 CONDUCT:
COMMENTS:STH OPEN CUT

SAMPLE NO:B8 DATE:201278 REC: 187
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: 1489.99 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:.3
T.D.S.=4565 CONDUCT:
COMMENTS:UG 1

SAMPLE NO:B9 DATE:201278 REC: 189
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: 2849.92 N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:8.5
T.D.S.=7700 CONDUCT:
COMMENTS:UG NO. 2

SAMPLE NO:B10 DATE:271080 REC: 195
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: 71.966 CL: 1929.73 N:
F: CA: 50.981 MG: 94.969 NA: 1589.99 K: 26.97
SIO2: FE:0.15 B: PH:8.00
T.D.S.=4500 CONDUCT:7500
COMMENTS:DDH 130

SAMPLE NO:B10 DATE:250180 REC: 193
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.3
T.D.S.=6300 CONDUCT:8000
COMMENTS:DDH 130

SAMPLE NO:B10 DATE:140979 REC: 191
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.0
T.D.S.=5000 CONDUCT:9250
COMMENTS:

SAMPLE NO:B11 DATE:120479 REC: 171
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1750 SO4: 126.986 CL: 1025.33 N: .014
F: CA: 21.001 MG: 22.009 NA: 1291.68 K: 12.12
SIO2: FE:0.42 B: PH:8.1
T.D.S.=3000 CONDUCT:5000
COMMENTS:516/1A/1

SAMPLE NO:B12 DATE:120479 REC: 173
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1779 SO4: 249.027 CL: 3501.14 N:
F: CA: 69.999 MG: 160.04 NA: 2601.3 K: 26.19
SIO2: FE:2.5 B: PH:8.0
T.D.S.=7500 CONDUCT:12500
COMMENTS:516/1A/2. PO4= 0.574 MG/L.

SAMPLE NO:B13 DATE:120479 REC: 175
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 635.2 SO4: 67.021 CL: 619.982 N: .014
F: CA: 59.999 MG: 68.023 NA: 470.35 K: 17.2
SIO2: FE:0.52 B: PH:7.8
T.D.S.=1470 CONDUCT:2450
COMMENTS:516/1A/3

SAMPLE NO:B14 DATE:121180 REC: 165
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1080 SO4: 119.016 CL: 1400.46 N:
F: CA: 98.997 MG: 76.024 NA: 1150.69 K: 8.21
SIO2: FE: B: PH:7.2
T.D.S.=3180 CONDUCT:4500
COMMENTS:

SAMPLE NO:B15 DATE:131180 REC: 167
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1260 SO4: 370.013 CL: 2600.85 N: .084
F: CA: 116.99 MG: 300.01 NA: 1690.96 K: 16.03
SIO2: FE: B: PH:7.4
T.D.S.=5460 CONDUCT:8370
COMMENTS:

SAMPLE NO:B16 DATE:131180 REC: 169
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 471.6 SO4: 235.008 CL: 1420.46 N:
F: CA: 81.001 MG: 195.05 NA: 790.51 K: 19.15
SIO2: FE:22. B: PH:6.6
T.D.S.=3130 CONDUCT:4500
COMMENTS:

SAMPLE NO:B17 DATE: REC: 269
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: 1409 SO4: 178.981 CL: 1650.56 N:
F: CA: 85.991 MG: 256.07 NA: 950.36 K: 14.85
SIO2: FE: B: PH:8.4
T.D.S.=3820 CONDUCT:5630
COMMENTS:SAMPLE 533/1 RAMROD CK W.T.2 1 DATE READ 160779

SAMPLE NO:B17 DATE:260779 REC: 145
UNITS: METRIC TOP:55.0 BOTT:61.0 ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: 24.6 HCO3: 1410 SO4: 178.981 CL: 1650.56 N: .014
F: 1.064 CA: 85.991 MG: 256.07 NA: 950.59 K: 14.85
SIO2:19.0 FE:2.44 B: PH:8.4
T.D.S.=3920 CONDUCT:5630
COMMENTS:WT2 RAMROD CK SEAM

SAMPLE NO:B18 DATE:260779 REC: 147
UNITS: METRIC TOP:37.0 BOTT:40.0 ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: 37.81 HCO3: 1200 SO4: 68.99 CL: 1240.39 N: .014
F: .968 CA: 74.007 MG: 210.06 NA: 710.47 K: 16.03
SIO2:18.0 FE:0.46 B: PH:8.5
T.D.S.=3040 CONDUCT:4540
COMMENTS:WT7 EDING LASSIE SEAM

SAMPLE NO:B19 DATE: REC: 275
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: 939.7 SO4: 720.006 CL: 1820.59 N:
F: CA: 161 MG: 288.08 NA: 1020.51 K: 18.76
SIO2: FE: B: PH:7.2
T.D.S.=4700 CONDUCT:6420
COMMENTS:SAMPLE NO. 533/4 RAMROD CK DATE READ ?

SAMPLE NO:B19 DATE:260779 REC: 149
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 940.3 SO4: 709.011 CL: 1750.59 N: .014
F: .342 CA: 156.99 MG: 281.07 NA: 980.49 K: 16.03
SIO2: FE: B: PH:7.2
T.D.S.=4600 CONDUCT:6280
COMMENTS:RAMROD CK SEAM WT3 AT 900 HRS

SAMPLE NO:B19 DATE:260779 REC: 151
UNITS: METRIC TOP:23.0 BOTT:28.0 ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 940.3 SO4: 720.006 CL: 1820.59 N: .014
F: .266 CA: 161 MG: 288.08 NA: 1020.51 K: 19.15
SIO2:20. FE:2.44 B: PH:7.2
T.D.S.=4700 CONDUCT:6420
COMMENTS:RAMROD CK SEAM WT3 AT 1600 HRS

SAMPLE NO:B20 DATE:270779 REC: 153
UNITS: METRIC TOP:24.0 BOTT:28.0 ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1200 SO4: 800.038 CL: 2540.82 N: .014
F: .456 CA: 184 MG: 435.12 NA: 1300.65 K: 19.15
SIO2:19. FE:0.02 B: PH:7.4
T.D.S.=6200 CONDUCT:8320
COMMENTS:EDING LASSIE SEAM WT5

SAMPLE NO:B20 DATE: REC: 277
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1199 SO4: 799.846 CL: 2540.82 N:
F: CA: 184 MG: 435.08 NA: 1300.65 K: 31.27
SIO2: FE: B: PH:7.4
T.D.S.=6200 CONDUCT:8320
COMMENTS:SAMPLE 533/7 EDMINGLASSIE WT5 DATE READ 230779

SAMPLE NO:B21 DATE:280181 REC: 157
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: 10.2 HCO3: 826.2 SO4: 249.988 CL: 3175.02 N: .084
F: 2.128 CA: 38.997 MG: 32.017 NA: 2441.22 K: 8.992
SIO2: FE:.01 B: PH:8.6
T.D.S.=6560 CONDUCT:8950
COMMENTS:K15

SAMPLE NO:B21 DATE:280181 REC: 161
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: 12.3 HCO3: 904.9 SO4: 468.001 CL: 2751.87 N: .098
F: 2.033 CA: 46.993 MG: 63.013 NA: 2161.08 K: 8.21
SIO2: FE:0.01 B: PH:8.6
T.D.S.=6160 CONDUCT:8250
COMMENTS:K15

SAMPLE NO:B21 DATE:280181 REC: 159
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: 11.7 HCO3: 890.2 SO4: 460.031 CL: 2257.7 N: .112
F: 3.021 CA: 32.003 MG: 69.02 NA: 1820.91 K: 8.992
SIO2: FE:0.05 B: PH:8.4
T.D.S.=5300 CONDUCT:7005
COMMENTS:K15

SAMPLE NO:B22 DATE:280181 REC: 163
UNITS: METRIC TOP:21.0 BOTT:22.0 ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1390 SO4: 590.042 CL: 2045.65 N: .126
F: CA: 94.989 MG: 190.06 NA: 1640.82 K: 14.85
SIO2: FE: B: PH:8.1
T.D.S.=5370 CONDUCT:7005
COMMENTS:WB1

SAMPLE NO:B23 DATE:170381 REC: 177
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 273.9 SO4: 75.039 CL: 450.164 N: .098
F: .38 CA: 33.406 MG: 34.412 NA: 300.15 K:
SIO2: FE: B: PH:8.0
T.D.S.=1040 CONDUCT:1720
COMMENTS:RDH 1010 ALLUVIAL SAMPLE ABOVE ROOF ROCK

SAMPLE NO:B24 DATE:170381 REC: 179
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 788.9 SO4: 120.025 CL: 1040.33 N: .196
F: .589 CA: 95.009 MG: 48.007 NA: 770.5 K: 12.51
SIO2: FE: B: PH:8.1
T.D.S.=2490 CONDUCT:3830
COMMENTS:ROOF FALL

SAMPLE NO:B25 DATE:170381 REC: 181
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 793 SO4: 88.002 CL: 296.091 N: .042
F: .342 CA: 46.592 MG: 25.195 NA: 390.31 K: 2.736
SIO2: FE: B: PH:8.1
T.D.S.=1290 CONDUCT:1840
COMMENTS:

SAMPLE NO:B26 DATE: REC: 279
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/.
CO3: HCO3: 1520 SO4: 108.022 CL: 1300.42 N:
F: CA: 81.001 MG: 205.05 NA: 870.319 K: 10.94
SIO2: FE: B: PH:7.9
T.D.S.=3480 CONDUCT:5060
COMMENTS:SAMPLE NO.533/8 EDINGLASSIE/RANRO CK DT.RD.230779.

SAMPLE NO:B27 DATE:271179 REC: 127
UNITS: METRIC TOP:12.0 BOTT:92.0 ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 809.1 SO4: 460.031 CL: 850.259 N: .042
F: .513 CA: 265 MG: 175.05 NA: 385.25 K: 30.1
SIO2:15. FE:0.42 B: PH:7.3
T.D.S.=2700 CONDUCT:3800
COMMENTS:AFTER 180 MIN W1-A

SAMPLE NO:B27 DATE:271179 REC: 129
UNITS: METRIC TOP:12.0 BOTT:92.0 ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 815.8 SO4: 490.038 CL: 910.293 N: .028
F: .475 CA: 285 MG: 190.06 NA: 395.14 K: 30.88
SIO2:7. FE:0.70 B: PH:7.4
T.D.S.=2820 CONDUCT:4100
COMMENTS:AFTER 3500 MINS W1-A

SAMPLE NO:B27 DATE:271179 REC: 131
UNITS: METRIC TOP:12. BOTT:92. ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 820.1 SO4: 520.044 CL: 930.293 N: .028
F: .456 CA: 295 MG: 195.05 NA: 395.14 K: 32.84
SIO2:10. FE:0.26 B: PH:7.5
T.D.S.=2920 CONDUCT:4160
COMMENTS:

SAMPLE NO:B28 DATE:071078 REC: 213
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: 459.935 CL: 913.095 N:
F: CA: 289.97 MG: 190.06 NA: 410.09 K: 20.72
SIO2: FE: B: PH:7.2
T.D.S.=2980 CONDUCT:4300
COMMENTS:SITE 5 DRILLHOLE NO. T10

SAMPLE NO:B28 DATE:280878 REC: 211
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 392.9 SO4: 465.697 CL: 913.095 N:
F: CA: 299.99 MG: 180.21 NA: 400.2 K: 23.85
SIO2: FE: B: PH:7.3
T.D.S.=2725 CONDUCT:4200
COMMENTS:SITE 5. DRILLHOLE NO.T105

SAMPLE NO:B28 DATE:150678 REC: 209
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 314.2 SO4: 466.657 CL: 921.96 N:
F: CA: 269.93 MG: 176.07 NA: 387.09 K: 19.94
SIO2: FE: B: PH:7.7
T.D.S.=2590 CONDUCT:4080
COMMENTS:SITE 5 DRILLHOLE NO.T105

SAMPLE NO:B28 DATE:081079 REC: 223
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: 470.017 CL: 809.906 N:
F: CA: 264.92 MG: 160.02 NA: 390.08 K: 20.72
SIO2: FE: B: PH:7.3
T.D.S.=2630 CONDUCT:4680
COMMENTS:SITE 5 DRILLHOLE NO.T105

SAMPLE NO:B28 DATE:031279 REC: 225
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 785.3 SO4: 479.619 CL: 840.047 N:
F: CA: 299.99 MG: 160.02 NA: 380.19 K: 19.94
SIO2: FE: B: PH:7.2
T.D.S.=2800 CONDUCT:4540
COMMENTS:SITE 5 DRILLHOLE NO. T10

SAMPLE NO:B28 DATE:080681 REC: 91
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3: 4200 SO4:NT CL: 680.229 N:NT
F:NT CA:NT MG: 12.001 NA:NT K: 12.12
SIO2: FE: B: PH:7. 8
T.D.S.=5380 CONDUCT:7920
COMMENTS:

SAMPLE NO:B28 DATE:170779 REC: 221
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: 1249.7 CL: 899.974 N:
F: CA: 274.94 MG: 190.06 NA: 370.07 K: 16.81
SIO2: FE: B: PH:7.2
T.D.S.=2800 CONDUCT:3880
COMMENTS:SITE 5 DRILLHOLE NO. T.105

SAMPLE NO:B28 DATE:101078 REC: 215
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: 429.689 CL: 1018.06 N:
F: CA: 259.91 MG: 195.04 NA: 440.22 K: 20.72
SIO2: FE: B: PH:7.5
T.D.S.=3064 CONDUCT:4350
COMMENTS:SITE 5 DRILLHOLE NO.T.10

SAMPLE NO:B28 DATE:041278 REC: 217
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 380.7 SO4: 400.883 CL: 947.845 N:
F: CA: 294.98 MG: 180.08 NA: 400.2 K: 20.72
SIO2: FE: B: PH:7.0
T.D.S.=2630 CONDUCT:4000
COMMENTS:SITE 5 DRILLHOLE NO:T.1

SAMPLE NO:B28 DATE:250279 REC: 219
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: 474.818 CL: 899.974 N:
F: CA: 289.97 MG: 175.1 NA: 410.09 K: 21.89
SIO2: FE: B: PH:7.5
T.D.S.=2930 CONDUCT:3880
COMMENTS:SITE 5 DRILLHOLE NO. T.105.

SAMPLE NO:B29 DATE:170779 REC: 233
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: 429.689 CL: 385.095 N:
F: CA: 143.08 MG: 167.07 NA: 300.15 K: 11.72
SIO2: FE: B: PH:5.6
T.D.S.=1450 CONDUCT:2670
COMMENTS:S.7 SMALL FARM DAM CLOSE TO D/HOLE BP67B

SAMPLE NO:B29 DATE:081079 REC: 235
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 12.2 SO4: 909.789 CL: 264.886 N:
F: CA: 106.01 MG: 133.03 NA: 220.11 K: 10.94
SIO2: FE: B: PH:6.6
T.D.S.=1750 CONDUCT:2830
COMMENTS:S.7 A SMALL FARM DAM CLOSE TO D/HOLE BP67B

SAMPLE NO:B29 DATE:031279 REC: 237
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 9.153 SO4: 1399.49 CL: 519.843 N:
F: CA: 179.95 MG: 215.11 NA: 360.87 K: 19.94
SIO2: FE: B: PH:6.1
T.D.S.=2710 CONDUCT:4380
COMMENTS:S.7 A SMALL FARM DAM CLOSE TO D/HOLE BP67B

SAMPLE NO:B29 DATE:150678 REC: 227
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 167.8 SO4: 471.938 CL: 930.115 N:
F: CA: 209.81 MG: 89.983 NA: 520.26 K: 10.94
SIO2: FE: B: PH:7.2
T.D.S.=2480 CONDUCT:3820
COMMENTS:SITE 6 DRILLHOLE BP67B

SAMPLE NO:B29 DATE:280878 REC: 229
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 305.1 SO4: 337.99 CL: 840.402 N:
F: CA: 235.06 MG: 92.051 NA: 480.24 K: 16.81
SIO2: FE: B: PH:
T.D.S.=2360 CONDUCT:4000
COMMENTS:SITE 6 DRILLHOLE BP67B

SAMPLE NO:B29 DATE:041278 REC: 231
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 461.9 SO4: 24.965 CL: 807.069 N:
F: CA: 169.93 MG: 98.982 NA: 520.26 K: 20.72
SIO2: FE: B: PH:8.5
T.D.S.=2240 CONDUCT:3900
COMMENTS:SITE 6 DRILLHOLE BP67B

SAMPLE NO:B30 DATE:020880 REC: 133
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1787 SO4: 46.089 CL: 1375 N:
F: CA: 103 MG: 80.997 NA: 1299.96 K: 27.36
SIO2: FE:0.05 B: PH:7.2
T.D.S.=3827 CONDUCT:5690
COMMENTS:627.1

SAMPLE NO:B31 DATE:040980 REC: 137
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 920.1 SO4: 249.988 CL: 870.011 N:
F: CA: 179.99 MG: 270 NA: 290.03 K: 7.819
SIO2: FE: B: PH:7.2
T.D.S.=2328 CONDUCT:3780
COMMENTS:627-4 BORE 568

SAMPLE NO:B31 DATE:090880 REC: 135
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 846.9 SO4: 248.979 CL: 896.003 N:
F: CA: 135 MG: 249.99 NA: 394.91 K: 25.8
SIO2: FE:0.10 B: PH:8.0
T.D.S.=2375 CONDUCT:3470
COMMENTS:627-3 BORE 568

SAMPLE NO:B31 DATE:100980 REC: 139
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 920.1 SO4: 240.002 CL: 870.011 N:
F: CA: 169.99 MG: 270 NA: 299.92 K: 5.864
SIO2: FE: B: PH:7.2
T.D.S.=2316 CONDUCT:3750
COMMENTS:627-5 BORE 568

SAMPLE NO:B32 DATE:241078 REC: 259
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: 69.32 HCO3: SO4: 1949.21 CL: 379.776 N:
F: CA: MG: NA: 250.01 K: 10.16
SIO2: FE:0.02 B: PH:12.5
T.D.S.=2754 CONDUCT:
COMMENTS:REDBANK CK SEAM (15)

SAMPLE NO:B32 DATE:241078 REC: 265
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 970.2 SO4: 2.016 CL: 879.762 N:
F: CA: MG: NA: 875.38 K: 14.07
SIO2: FE:0.03 B: PH:7.4
T.D.S.=3005 CONDUCT:
COMMENTS:PIERCEFIELD SEAM (12)

SAMPLE NO:B32 DATE:241078 REC: 263
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 939.7 SO4: 639.493 CL: 1119.83 N:
F: CA: MG: NA: 1325.49 K: 14.07
SIO2: FE:0.04 B: PH:7.7
T.D.S.=4315 CONDUCT:
COMMENTS:WOODLANDS SEAM (13)

SAMPLE NO:B32 DATE:100681 REC: 53
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3:631 SO4:127 CL:1050 N:.01
F: CA:120 MG:376 NA:645 K:24
SIO2: FE: B: PH:7.3
T.D.S.=2616 CONDUCT:3800
COMMENTS:WHYBROW BOX CUT

SAMPLE NO:B32 DATE:17050681 REC: 51
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3:170 SO4:25 CL:220 N:.07
F: CA:32 MG:62 NA:129 K:7
SIO2: FE:.001 B: PH:8.1
T.D.S.=580 CONDUCT:900
COMMENTS:WHYBROW BOX CUT

SAMPLE NO:B31 DATE:130980 REC: 143
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 939.7 SO4: 219.981 CL: 860.011 N:
F: CA: 145 MG: 260 NA: 335.11 K: 5.082
SIO2: FE: B: PH:7.3
T.D.S.=2285 CONDUCT:3780
COMMENTS:627-7 BORE 568

SAMPLE NO:B31 DATE:100980 REC: 141
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 920.1 SO4: 219.981 CL: 840.011 N:
F: CA: 143 MG: 249.99 NA: 324.99 K: 7.037
SIO2: FE: B: PH:7.3
T.D.S.=2245 CONDUCT:3700
COMMENTS:627-6 BORE 568

SAMPLE NO:B32 DATE:241078 REC: 267
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 889.6 SO4: 2.016 CL: 879.762 N:
F: CA: MG: NA: 875.38 K: 14.07
SIO2: FE:0.04 B: PH:7.5
T.D.S.=2930 CONDUCT:
COMMENTS:VAUX SEAM (11)

SAMPLE NO:B32 DATE:241078 REC: 261
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 34.78 SO4: 2618.47 CL: 1119.83 N:
F: CA: MG: NA: 1300.65 K: 19.15
SIO2: FE:0.04 B: PH:8.1
T.D.S.=5804 CONDUCT:
COMMENTS:GLEN MUNRO SEAM (14)

SAMPLE NO:B33 DATE:231078 REC: 257
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1149 SO4: 499.784 CL: 3619.76 N:
F: CA: MG: NA: 2201.1 K: 46.91
SIO2: FE:0.01 B: PH:7.2
T.D.S.=8163 CONDUCT:
COMMENTS:(1007)

SAMPLE NO:B34 DATE:241078 REC: 255
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1399 SO4: 859.379 CL: 3619.76 N:
F: CA: MG: NA: 2201.1 K: 48.87
SIO2: FE:0.03 B: PH:7.9
T.D.S.=8982 CONDUCT:
COMMENTS:1080

SAMPLE NO:B35 DATE:241078 REC: 253
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 997 SO4: 329.828 CL: 2799.92 N:
F: CA: MG: NA: 1500.75 K: 44.18
SIO2: FE:0.06 B: PH:7.3
T.D.S.=5010 CONDUCT:
COMMENTS:(1129)

SAMPLE NO:B36 DATE:241078 REC: 251
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1189 SO4: 579.48 CL: 2999.92 N:
F: CA: MG: NA: 1625.64 K: 74.68
SIO2: FE:0.07 B: PH:7.5
T.D.S.=6815 CONDUCT:
COMMENTS:(1176)

SAMPLE NO:B37 DATE:241078 REC: 249
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 969.6 SO4: 639.493 CL: 3799.89 N:
F: CA: MG: NA: 1825.74 K: 91.49
SIO2: FE:0.07 B: PH:8.0
T.D.S.=7789 CONDUCT:
COMMENTS:(1145)

SAMPLE NO:B38 DATE:241078 REC: 247
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 667.5 SO4: 609.727 CL: 3599.9 N:
F: CA: MG: NA: 1925.79 K: 100
SIO2: FE:0.05 B: PH:8.1
T.D.S.=7349 CONDUCT:
COMMENTS:(1049)

SAMPLE NO:B39 DATE:241078 REC: 245
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1449 SO4: 709.587 CL: 3199.91 N:
F: CA: MG: NA: 2075.98 K: 79.76
SIO2: FE:0.05 B: PH:8.2
T.D.S.=7687 CONDUCT:
COMMENTS:(1065)

SAMPLE NO:B40 DATE:241078 REC: 243
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 727.9 SO4: 909.309 CL: 3499.9 N:
F: CA: MG: NA: 1900.95 K: 102
SIO2: FE:0.03 B: PH:7.8
T.D.S.=7656 CONDUCT:
COMMENTS:(1097)

SAMPLE NO:B41 DATE:241078 REC: 239
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 399.6 SO4: 619.329 CL: 2399.93 N:
F: CA: MG: NA: 1300.65 K: 44.96
SIO2: FE:0.03 B: PH:7.8
T.D.S.=5080 CONDUCT:
COMMENTS:(1113)

SAMPLE NO:B42 DATE: REC: 241
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: 1601 SO4: 449.373 CL: 2599.93 N:
F: CA: MG: NA: 1800.9 K: 46.13
SIO2: FE:0.05 B: PH:7.9
T.D.S.=6628 CONDUCT:
COMMENTS:1177

SAMPLE NO:B43 DATE:290878 REC: 285
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: SO4: 469.777 CL: 4081.34 N:
F: CA: MG: NA: 2301.15 K:
SIO2: FE:9.3 B: PH:7.1
T.D.S.=9000 CONDUCT:15000
COMMENTS:T18

SAMPLE NO:B44 DATE:290878 REC: 283
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: SO4: 95.971 CL: 637.287 N:
F: CA: MG: NA: 359.95 K:
SIO2: FE: B: PH:7.9
T.D.S.=440 CONDUCT:2400
COMMENTS:T21

SAMPLE NO:B45 DATE:111078 REC: 281
UNITS: METRIC TOP: BOTT: ANALYSIS BY :2 CHEM UNITS: MG/L
CO3: HCO3: SO4: 559.748 CL: 3567.6 N:
F: CA: 75.991 MG: 400.11 NA: 2021.01 K: 50.82
SIO2: FE:.25 B: PH:8.6
T.D.S.=7800 CONDUCT:13000
COMMENTS:T26

SAMPLE NO:B46 DATE: REC: 287
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 113.4 SO4: 1600.08 CL: 123.046 N:
F: .722 CA: 387.99 MG: 156.04 NA: 122.13 K: 14.85
SIO2: FE: B:.01 PH:
T.D.S.=2500 CONDUCT:2850
COMMENTS:NO.667/B1/10 MUSWBK O/CUT

SAMPLE NO:B48 DATE:231080 REC: 289
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: 131.691 CL: 1016.5 N:
F: CA: MG: NA: 2420.06 K: 53.95
SIO2: FE: B: PH:
T.D.S.=3500 CONDUCT:
COMMENTS:G.W.2. GNDWATER

SAMPLE NO:B49 DATE: REC: 291
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 878.6 SO4: 490.182 CL: 2210.58 N:
F: .038 CA: 99.999 MG: 227.99 NA: 1607.7 K: 10.16
SIO2: FE:1.15 B: PH:7.9
T.D.S.=5240 CONDUCT:7500
COMMENTS:COAL SEEPAGE PO4:.065MG/L NI:2.2UG/L

SAMPLE NO:B50 DATE: REC: 293
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 760.3 SO4: 629.891 CL: 2040.72 N:
F: .19 CA: 120.03 MG: 215.11 NA: 1320.66 K: 10.16
SIO2: FE:7.8 B: PH:7.8
T.D.S.=5110 CONDUCT:700
COMMENTS:HEBDEN COAL SEEPA PO4:.065 MG/L NI:1.1 UG/L

SAMPLE NO:B51 DATE: REC: 295
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 1349 SO4: 105.141 CL: 1350.32 N:
F: .95 CA: 61.923 MG: 133.03 NA: 930.58 K: 12.9
SIO2: FE:.63 B: PH:6.6
T.D.S.=3214 CONDUCT:4800
COMMENTS:WAMBO U/G MINE PO4:.09MG/L NI:1.0MG/L.

SAMPLE NO:B52 DATE: REC: 297
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 2009 SO4: 40.808 CL: 2110.58 N:
F: .76 CA: 50.901 MG: 84.998 NA: 1920.96 K: 30.1
SIO2: FE:.5 B: PH:7.5
T.D.S.=5130 CONDUCT:7680
COMMENTS:MINE PO4: 0.236 MG/L NI: 2.3 UG/L

SAMPLE NO:B53 DATE:210581 REC: 7
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 114.7 SO4: 1598.73 CL: 123.046 N:
F: .722 CA: 387.97 MG: 156.01 NA: 122.13 K: 14.85
SIO2: FE: B: PH:8.1
T.D.S.=2500 CONDUCT:2850
COMMENTS:MUSWELLBROOK OPEN CUT

SAMPLE NO:B53 DATE:080681 REC: 83
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3: 115.3 SO4: 1600.08 CL: 123.046 N:NT
F: .722 CA: 387.99 MG: 156.04 NA: 122.13 K: 14.85
SIO2: FE: B:.009 PH:8.1
T.D.S.=2500 CONDUCT:2850
COMMENTS:667/81/10 MUS OPEN CUT

SAMPLE NO:B56 DATE:080681 REC: 1
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3:4200 SO4: CL:680 N:NT
F: CA: MG:12 NA:NT K:12
SIO2:NT FE:31.8 B: PH:7.8
T.D.S.=5380 CONDUCT:7920
COMMENTS:JERRYS PLAINS FARM BORE NI:1.1;PO4:1.897

SAMPLE NO:B58 DATE: REC: 3
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.4
T.D.S.= CONDUCT:5100
COMMENTS:M/BROOK 4 BORE SAMPLED BY BOTTLE AT SURFACE

SAMPLE NO:B58 DATE: REC: 5
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 732.2 SO4: 3024.63 CL: 1312.02 N:
F: CA: 360.71 MG: 401.27 NA: 1196 K: 27.36
SIO2: FE: B: PH:7.5
T.D.S.=6500 CONDUCT:7310
COMMENTS:MUSWELLBROOK BORE NO. 315

SAMPLE NO:B60 DATE: REC: 9
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 319.7 SO4: 2530.13 CL: 899.974 N:
F: .684 CA: 569.93 MG: 250.13 NA: 700.35 K: 30.88
SIO2: FE: B: PH:7.9
T.D.S.=5300 CONDUCT:5610
COMMENTS:BORE MUSWELLBROOK MINES BORE NO 276

SAMPLE NO:B61 DATE:090981 REC: 85
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3: 1475 SO4: 39.512 CL: 1300.42 N:NT
F: .342 CA: 13.025 MG: 94.969 NA: 1165.64 K: 21.11
SIO2:.001 FE: B:.018 PH:8.2
T.D.S.=3370 CONDUCT:5100
COMMENTS:667/81/47 316 MUS

SAMPLE NO:B61 DATE:140781 REC: 67
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3: 416.1 SO4: 433.05 CL: 103.897 N:NT
F: .38 CA: 180.96 MG: 60.07 NA: 117.07 K: 8.992
SIO2: FE: B:.09 PH:7.7
T.D.S.=1200 CONDUCT:1560
COMMENTS:667/81/61 MUS 318

SAMPLE NO:B62 DATE: REC: 13
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: 19.2 HCO3: 5942 SO4: CL: 827.281 N:
F: 1.273 CA: 8.015 MG: 8.998 NA: 2701.35 K: 50.04
SIO2: FE: B: PH:8.35
T.D.S.=6400 CONDUCT:8330
COMMENTS:BORE MUSWELLBROOK MINES 667/81/48

SAMPLE NO:B63 DATE: REC: 15
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 541.8 SO4: 2780.26 CL: 2000.65 N: .56
F: CA: 550.09 MG: 500.14 NA: 1180.59 K: 48.09
SIO2: FE: B: PH:7.8
T.D.S.=7970 CONDUCT:9000
COMMENTS:BORE MUSWELLBROOK MINES BORE 273

SAMPLE NO:B64 DATE: REC: 17
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 604 SO4: 2900.28 CL: 2070.51 N:
F: .95 CA: 549.89 MG: 500.14 NA: 1320.66 K: 35.97
SIO2: FE: B: PH:7.8
T.D.S.=8300 CONDUCT:9300
COMMENTS:BORE MUSWELLBROOK MINES BORE 287

SAMPLE NO:B65 DATE: REC: 19
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 13.42 SO4: 790.244 CL: 1300.32 N:
F: .19 CA: 412.02 MG: 70.041 NA: 610.42 K: 10.55
SIO2: FE: B: PH:6.1
T.D.S.=3430 CONDUCT:4550
COMMENTS:BORE MUSWELLBROOK MINES BORE 311

SAMPLE NO:B66 DATE: REC: 23
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: 18.9 HCO3: 1660 SO4: 48.01 CL: 2140.72 N:
F: .57 CA: 63.927 MG: 140.08 NA: 1715.8 K: 25.8
SIO2: FE: B: PH:.4
T.D.S.=5040 CONDUCT:7920
COMMENTS: SAXONVALE BORE 7

SAMPLE NO:B66 DATE: REC: 21
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 1549 SO4: 168.035 CL: 2710.92 N:
F: .38 CA: 81.963 MG: 232.01 NA: 1931.08 K: 34.4
SIO2: FE: B: PH:8.2
T.D.S.=6020 CONDUCT:9130
COMMENTS:SAXONVALE BORE 7

SAMPLE NO:B67 DATE:280781 REC: 25
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 583.3 SO4: 2750.01 CL: 4271.51 N:
F: .57 CA: 737.07 MG: 675.24 NA: 2101.05 K: 55.91
SIO2: FE: B: PH:7.8
T.D.S.=11200 CONDUCT:13900
COMMENTS:BORE MUSWELLBROOK MINES 318

SAMPLE NO:B68 DATE:280781 REC: 27
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 416.1 SO4: 433.05 CL: 103.897 N:
F: .38 CA: 180.96 MG: 60.07 NA: 117.07 K: 8.992
SIO2: FE: B: PH:7.7
T.D.S.=1200 CONDUCT:1560
COMMENTS:BORE MUSWELLBROOK MINES BORE 317

SAMPLE NO:B69 DATE:280781 REC: 29
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 566.2 SO4: 2347.69 CL: 1540.38 N:
F: .38 CA: 471.94 MG: 440.07 NA: 890.56 K: 37.14
SIO2: FE: B: PH:7.8
T.D.S.=6300 CONDUCT:7200
COMMENTS:BORE MUSWELLBROOK MINES BORE 275

SAMPLE NO:B70 DATE: REC: 75
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: 18.9 HCO3: 1660 SO4: 48.01 CL: 2140.72 N:NT
F: .57 CA: 63.927 MG: 140.08 NA: 1715.8 K: 25.8
SIO2: FE: B:.02 PH:8.4
T.D.S.=5040 CONDUCT:7920
COMMENTS:514/81/3/1

SAMPLE NO:B70 DATE:Z50881 REC: 93
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: 9.603 HCO3: 1750 SO4: 217.005 CL: 2900.98 N:
F: .38 CA: 110.01 MG: 225.08 NA: 2061.04 K: 39.88
SIO2: FE: B:.005 PH:8.4
T.D.S.=6400 CONDUCT:9400
COMMENTS:514/81/3/P SAXONVALE PROD. BORE NO 3

SAMPLE NO:B71 DATE: REC: 77
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:0 HCO3: 1560 SO4: 480.1 CL: 3691.03 N:NT
F: .38 CA: 102 MG: 300.1 NA: 2516.2 K: 57.08
SIO2: FE: B:.02 PH:8.2
T.D.S.=8220 CONDUCT:12000
COMMENTS:

SAMPLE NO:B71 DATE:Z50881 REC: 95
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1750 SO4: 519.948 CL: 3601.32 N:
F: .38 CA: 125.04 MG: 375.13 NA: 2441.22 K: 50.82
SIO2: FE: B:.033 PH:8.1
T.D.S.=8100 CONDUCT:11300
COMMENTS:514/81/13P SAXONVALE PROD BORE 13

SAMPLE NO:B72 DATE:Z50881 REC: 97
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 1900 SO4: 349.992 CL: 4901.63 N:
F: .38 CA: 230.05 MG: 465.11 NA: 2951.59 K: 64.9
SIO2: FE: B:.017 PH:7.6
T.D.S.=10250 CONDUCT:14500
COMMENTS:514/81/7A/P SAXONVALE PROD BORE 7

SAMPLE NO:B80 DATE:10/81 REC: 43
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1000 SO4: 681.742 CL: 2900.63 N:
F: CA: 98.195 MG: 306.43 NA: 1872.2 K: 11.72
SIO2: FE: B:.01 PH:7.9
T.D.S.=6500 CONDUCT:9300
COMMENTS:BLOOMFIELD DATA

SAMPLE NO:B81 DATE:1081 REC: 45
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1000 SO4: 859.379 CL: 3102.75 N:
F: CA: 138.27 MG: 316.15 NA: 1971.1 K: 11.72
SIO2: FE: B:.1 PH:8
T.D.S.=7060 CONDUCT:9800
COMMENTS:

SAMPLE NO:B82 DATE:1081 REC: 47
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1098 SO4: 2050.03 CL: 3499.9 N:
F: CA: 222.44 MG: 387.9 NA: 2622 K: 11.72
SIO2: FE: B:.1 PH:
T.D.S.= CONDUCT:
COMMENTS:

SAMPLE NO:B83 DATE:1082 REC: 49
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1098 SO4: 1440.3 CL: 4255.2 N:
F: CA: 250.49 MG: 425.59 NA: 3910 K: 11.72
SIO2: FE: B: PH:8.2
T.D.S.=8800 CONDUCT:11750
COMMENTS:BLOOMFIELDS DATA

SAMPLE NO:B84 DATE:250282 REC: 31
UNITS: METRIC TOP: BOTT:99 ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 774.9 SO4: 556.916 CL: 968.058 N: .28
F: .38 CA: 300.59 MG: 205.5 NA: 455.4 K: 35.18
SIO2: FE: B: PH:7.2
T.D.S.=2910 CONDUCT:4200
COMMENTS:DRAYTON PROD BORE AGC 2

SAMPLE NO:B85 DATE:250282 REC: 37
UNITS: METRIC TOP: BOTT:91.4 ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 628.5 SO4: 537.712 CL: 1379.39 N: .7
F: .57 CA: 270.53 MG: 314.94 NA: 609.5 K: 31.27
SIO2: FE: B: PH:
T.D.S.= CONDUCT:
COMMENTS:DRAYTON OBS HOLE AGC 3

SAMPLE NO:B85 DATE:021182 REC: 113
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:0. HCO3:1320. SO4:1035. CL:2740. N:8.86
F:0.64 CA:160. MG:365. NA:1860. K:42.
SIO2: FE: B: PH:7.4
T.D.S.=7032 CONDUCT:9500
COMMENTS:HOIWICK PIEZ #1

SAMPLE NO:B85 DATE:250282 REC: 33
UNITS: METRIC TOP: BOTT:99 ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: 634.6 SO4: 816.17 CL: 1361.66 N:
F: CA: 280.55 MG: 314.94 NA: 639.4 K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:
COMMENTS: DRAYTON OBS AGC 3

SAMPLE NO:B86 DATE:21.04.82 REC: 41
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.2
T.D.S.=3850 CONDUCT:5500
COMMENTS:FOYBROOK-U/G LIDDEL SEAM 667/82/4/4

SAMPLE NO:B86 DATE:.??.78 REC: 39
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3: HCO3: SO4:1950. CL:1360. N:
F: CA:650. MG:20. NA: K:11.6
SIO2: FE:.2 B: PH:9.1
T.D.S.=5250 CONDUCT:7500
COMMENTS:FOYBROOK-LOWER SIDDEL SEAM U/G DATA 667/82/4/4

SAMPLE NO:B86 DATE:0482 REC: 103
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 781 SO4: 1128.24 CL: 1198.55 N: .84
F: 1.33 CA: 132.06 MG: 128.89 NA: 1069.5 K: 12.51
SIO2: FE: B: PH:7.6
T.D.S.=4020 CONDUCT:5400
COMMENTS:667/82/4/4 FOYBROOK U/G

SAMPLE NO:B87 DATE: REC: 101
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 579.6 SO4: 364.876 CL: 950.328 N:
F: .95 CA: 76.753 MG: 115.03 NA: 710.24 K: 26.19
SIO2: FE: B:.039 PH:7.7
T.D.S.=2650 CONDUCT:4000
COMMENTS:692/81/4 PIEZOMETER NO 3 HOWICK MINE

SAMPLE NO:B87 DATE:020382 REC: 311
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1311 SO4: 620.971 CL: 1797.82 N:
F: CA: 162.32 MG: 353.85 NA: 2359.8 K: 43
SIO2: FE: B: PH:6.78
T.D.S.= CONDUCT:8090
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A1

SAMPLE NO:B87 DATE:280182 REC: 309
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1531 SO4: 1003.41 CL: 1156 N:
F: CA: 74.147 MG: 282.11 NA: 1200.6 K: 50.82
SIO2: FE: B: PH:6.93
T.D.S.= CONDUCT:6480
COMMENTS:HOWICK COLLIERY SPOIL WATER A1

SAMPLE NO:B87 DATE:070283 REC: 333
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:13000
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A1

SAMPLE NO:B87 DATE:170382 REC: 313
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 921.4 SO4: 547.314 CL: 379.422 N:
F: CA: 112.22 MG: 156.86 NA: 680.8 K: 15.63
SIO2: FE: B: PH:6.87
T.D.S.= CONDUCT:3340
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A1

SAMPLE NO:B87 DATE:191082 REC: 331
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1427 SO4: 960.2 CL: 3269.41 N:
F: CA: 144.28 MG: 539.9 NA:.1699.7 K: 46.91
SIO2: FE: B: PH:6.9
T.D.S.= CONDUCT:10640
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A1

SAMPLE NO:B87 DATE:160682 REC: 317
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1452 SO4: 1392.29 CL: 2546.03 N:
F: CA: 140.27 MG: 499.77 NA: 1430.6 K: 54.73
SIO2: FE: B: PH:6.8
T.D.S.= CONDUCT:10730
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A1

SAMPLE NO:B87 DATE:010982 REC: 327
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:10760
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A1

SAMPLE NO:B87 DATE:160982 REC: 329
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1403 SO4: 926.593 CL: 2319.08 N:
F: CA: 128.25 MG: 449.91 NA: 1451.3 K: 39.09
SIO2: FE: B: PH:6.85
T.D.S.= CONDUCT:9480
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A1

SAMPLE NO:B87 DATE:170582 REC: 315
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1433 SO4: 1123.43 CL: N:
F: CA: 971.93 MG: 851.19 NA: 161 K: 74.28
SIO2: FE: B: PH:6.83
T.D.S.= CONDUCT:10090
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A1

SAMPLE NO:B87 DATE:130782 REC: 321
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1470 SO4: 1017.81 CL: 2648.85 N:
F: CA: 122.24 MG: 480.31 NA: 1720.4 K: 39.09
SIO2: FE: B: PH:6.77
T.D.S.= CONDUCT:10810
COMMENTS: HOWICK COLLIERY PIEZO A1

SAMPLE NO:B87 DATE:220682 REC: 319
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:5600
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A1

SAMPLE NO:B87 DATE:010982 REC: 325
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:6150
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A1

SAMPLE NO:B87 DATE:130882 REC: 323
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 451.5 SO4: 355.274 CL: 354.6 N:
F: CA: 44.087 MG: 97.279 NA: 287.5 K: 23.45
SIO2: FE: B: PH:7.0
T.D.S.= CONDUCT:2320
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A1

SAMPLE NO:B87 DATE:291281 REC: 307
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1098 SO4: 1157.04 CL: 645.372 N:
F: CA: 280.55 MG: 282.11 NA: 922.3 K: 27.36
SIO2: FE: B: PH:6.6
T.D.S.= CONDUCT:6630
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A1

SAMPLE NO:B87 DATE: REC: 101
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 579.6 SO4: 364.876 CL: 950.328 N:
F: .95 CA: 76.753 MG: 115.03 NA: 710.24 K: 26.19
SIO2: FE: B:.039 PH:7.7
T.D.S.=2650 CONDUCT:4000
COMMENTS:692/81/4 PIEZOMETER NO 3 HOWICK MINE

SAMPLE NO:B87 DATE:191081 REC: 1
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.13
T.D.S.= CONDUCT:10700
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A1

SAMPLE NO:B87 DATE:021181 REC: 301
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:6.98
T.D.S.= CONDUCT:9350
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A1

SAMPLE NO:B87 DATE:021281 REC: 305
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1470 SO4: 1272.27 CL: 2602.76 N:
F: CA: 156.31 MG: 480.31 NA: 1630.7 K: 35.18
SIO2: FE: B: PH:6.95
T.D.S.= CONDUCT:10620
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A1

SAMPLE NO:B87 DATE:031181 REC: 303
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1238 SO4: 1248.26 CL: 2733.97 N:
F: CA: 144.28 MG: 593.4 NA: 2010.2 K: 39.09
SIO2: FE: B: PH:6.8
T.D.S.= CONDUCT:11160
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A1

SAMPLE NO:B88 DATE:260782 REC: 359
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:6000
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A3

SAMPLE NO:B88 DATE:050882 REC: 361
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:5800
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A3

SAMPLE NO:B88 DATE:130782 REC: 357
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1556 SO4: 974.603 CL: 1170.18 N:
F: CA: 132.26 MG: 279.67 NA: 1021.2 K: 27.36
SIO2: FE: B: PH:6.99
T.D.S.= CONDUCT:6550
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A3

SAMPLE NO:B88 DATE:160882 REC: 351
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1525 SO4: 1200.25 CL: 1159.54 N:
F: CA: 170.33 MG: 318.59 NA: 878.6 K: 46.91
SIO2: FE: B: PH:6.97
T.D.S.= CONDUCT:6680
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A3

SAMPLE NO:B88 DATE:170582 REC: 349
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1531 SO4: 1003.41 CL: 1177.27 N:
F: CA: 164.32 MG: 330.75 NA: 2001 K: 62.55
SIO2: FE: B: PH:7.07
T.D.S.= CONDUCT:6530
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A3

SAMPLE NO:B88 DATE:300682 REC: 355
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:4000
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A3

SAMPLE NO:B88 DATE:220682 REC: 353
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:4610
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A3

SAMPLE NO:B88 DATE:010982 REC: 367
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:3420
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A3

SAMPLE NO:B88 DATE:160982 REC: 369
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 292.8 SO4: 302.463 CL: 343.962 N:
F: CA: 32.063 MG: 89.983 NA: 225.4 K: 7.819
SIO2: FE: B: PH:7.25
T.D.S.= CONDUCT:2000
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A3

SAMPLE NO:B88 DATE:130682 REC: 363
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 207.4 SO4: 307.264 CL: 301.41 N:
F: CA: 32.063 MG: 70.527 NA: 200.1 K: 7.819
SIO2: FE: B: PH:7.91
T.D.S.= CONDUCT:1780
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A3

SAMPLE NO:B88 DATE:010982 REC: 365
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:1760
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A3

SAMPLE NO:B88 DATE:070283 REC: 375
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:2000
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A3

SAMPLE NO:B88 DATE:180583 REC: 377
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:2000
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A3

SAMPLE NO:B88 DATE:191082 REC: 371
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 298.9 SO4: 345.672 CL: 368.784 N:
F: CA: 34.067 MG: 96.063 NA: 315.1 K: 11.72
SIO2: FE: B: PH:7.35
T.D.S.= CONDUCT:2180
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A3

SAMPLE NO:B88 DATE:021182 REC: 373
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:
T.D.S.= CONDUCT:1800
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A3

SAMPLE NO:B88 DATE:021181 REC: 335
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: SO4: CL: N:
F: CA: MG: NA: K:
SIO2: FE: B: PH:7.11
T.D.S.= CONDUCT:5450
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A3

SAMPLE NO:B88 DATE:031181 REC: 337
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1244 SO4: 820.971 CL: 1113.44 N:
F: CA: 194.38 MG: 279.67 NA: 1009.7 K: 27.36
SIO2: FE: B: PH:7.04
T.D.S.= CONDUCT:5580
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A3

SAMPLE NO:B88 DATE: REC: 111
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:0.0 HCO3:265. SO4:350. CL:320. N:.53
F:1.04 CA:35. MG:57. NA:305. K:9.5
SIO2: FE: B: PH:7.8
T.D.S.=1259 CONDUCT:1780
COMMENTS:HOWICK PIEZ #3

SAMPLE NO:B88 DATE:310882 REC: 123
UNITS: METRIC TOP: BOTT: ANALYSIS BY :9 CHEM UNITS: MG/L
CO3:60. HCO3:805. SO4:815. CL:1170. N:4.37
F:0.42 CA:138. MG:216. NA:1010. K:26.
SIO2: FE: B: PH:9.
T.D.S.=4090. CONDUCT:5800
COMMENTS:HOWICK MINE PIEZ #2

SAMPLE NO:B88 DATE:011281 REC: 339
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1543 SO4: 1041.82 CL: 1124.08 N:
F: CA: 120.23 MG: 289.4 NA: 1081 K: 19.54
SIO2: FE: B: PH:7.13
T.D.S.= CONDUCT:5900
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A3

SAMPLE NO:B88 DATE:020382 REC: 345
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1507 SO4: 758.558 CL: 1145.36 N:
F: CA: 162.32 MG: 345.34 NA: 1941.2 K: 31.27
SIO2: FE: B: PH:7.09
T.D.S.= CONDUCT:6460
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A3

SAMPLE NO:B88 DATE:170382 REC: 347
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1507 SO4: 758.558 CL: 1145.36 N:
F: CA: 162.32 MG: 345.34 NA: 1621.5 K: 31.27
SIO2: FE: B: PH:7.09
T.D.S.= CONDUCT:6470
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A3

SAMPLE NO:B88 DATE:280182 REC: 343
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1318 SO4: 1459.5 CL: 595.728 N:
F: CA: 10.019 MG: 290.62 NA: 894.7 K: 82.1
SIO2: FE: B: PH:8.02
T.D.S.= CONDUCT:4720
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A3

SAMPLE NO:B88 DATE:291281 REC: 341
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1494 SO4: 1430.7 CL: 567.36 N:
F: CA: 164.32 MG: 285.75 NA: 1081 K: 27.36
SIO2: FE: B: PH:7.06
T.D.S.= CONDUCT:4610
COMMENTS:HOWICK COLLIERY SPOIL WATER PIEZO A3

SAMPLE NO:B89 DATE:310882 REC: 121
UNITS: METRIC TOP: BOTT: ANALYSIS BY : CHEM UNITS: MG/L
CO3:172. HCO3:1900. SO4:36. CL:1500 N:4.27
F:1.4 CA:36. MG:52. NA:1550. K:19.
SIO2: FE: B: PH:9.3
T.D.S.=4370 CONDUCT:6500
COMMENTS:BORE NEAR BUCHANAN

SAMPLE NO:B91 DATE:021182 REC: 117
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:0.0 HCO3:350. SO4:54. CL:265. N:.05
F:.26 CA:63. MG:58. NA:150. K:5.
SIO2: FE:.06 B: PH:7.6
T.D.S.= CONDUCT:1250
COMMENTS:HOLE NEAR BUCHANA COLLIERY

SAMPLE NO:B92 DATE:021182 REC: 115
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3:1070. SO4:215. CL:1710. N:2.74
F:3.36 CA:61. MG:155. NA:1230. K:15.
SIO2: FE: B: PH:7.7
T.D.S.=4048 CONDUCT:6000
COMMENTS:BORE ON EDGERTON ROAD

SAMPLE NO:B93 DATE:310882 REC: 105
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: 93.03 HCO3: 1586 SO4: 1968.41 CL: 5212.62 N: 22.416
F: CA: 114.22 MG: 400.06 NA: 3243 K: 50.82
SIO2: FE: B: PH:8.9
T.D.S.=9740 CONDUCT:1550
COMMENTS:SHALLOW BORE WARKWORTH MINE.

SAMPLE NO:B94 DATE:310882 REC: 107
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:46 HCO3:1095 SO4:645 CL:6910 N:197
F: CA:120 MG:470 NA:4100 K:63
SIO2: FE: B: PH:
T.D.S.=12860 CONDUCT:18600
COMMENTS:WARKWORTH 4-WMBH

SAMPLE NO:B95 DATE:240782 REC: 109
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3:130 HCO3:1445 SO4:450 CL:3350 N:16.4
F:.36 CA:330 MG:295 NA:2150 K:51
SIO2: FE: B: PH:9.1
T.D.S.=7340 CONDUCT:11000
COMMENTS:WARKWORTH DDH115

SAMPLE NO:B96 DATE:0582 REC: 125
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 652.9 SO4: 115.224 CL: 9361.44 N: .42
F: .57 CA: 64.127 MG: 69.311 NA: 740.6 K: 15.63
SIO2: FE: B: PH:7.3
T.D.S.=2240 CONDUCT:3320
COMMENTS:BUCHANAN PIEZOMETER NO. B2

SAMPLE NO:B97 DATE:130882 REC: 393
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1031 SO4: 571.319 CL: 1184.36 N:
F: CA: 80.159 MG: 214.01 NA: 933.8 K: 19.54
SIO2: FE: B: PH:6.66
T.D.S.= CONDUCT:5640
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U1

SAMPLE NO:B97 DATE:130782 REC: 391
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 1067 SO4: 475.299 CL: 1152.45 N:
F: CA: 54.107 MG: 216.44 NA: 926.9 K: 19.54
SIO2: FE: B: PH:8.54
T.D.S.= CONDUCT:5480
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U1

SAMPLE NO:B97 DATE:160782 REC: 395
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 1061 SO4: 556.916 CL: 1219.82 N:
F: CA: 54.107 MG: 199.42 NA: 961.86 K: 23.45
SIO2: FE: B: PH:7.49
T.D.S.= CONDUCT:5380
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U1

SAMPLE NO:B97 DATE:191082 REC: 399
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 1610 SO4: 571.319 CL: 1219.82 N:
F: CA: 64.127 MG: 229.82 NA: 1099.4 K: 27.36
SIO2: FE: B: PH:6.62
T.D.S.= CONDUCT:5730
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U1

SAMPLE NO:B97 DATE:160782 REC: 397
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 1000 SO4: 417.687 CL: 1191.46 N:
F: CA: 56.111 MG: 179.96 NA: 846.4 K: 19.54
SIO2: FE: B: PH:6.78
T.D.S.= CONDUCT:5640
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U1

SAMPLE NO:B97 DATE:291231 REC: 383
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 1116 SO4: 585.722 CL: 687.924 N:
F: CA: 52.103 MG: 212.79 NA: 869.4 K: 27.36
SIO2: FE: B: PH:7.13
T.D.S.= CONDUCT:6180
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U1

SAMPLE NO:B97 DATE:021281 REC: 381
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 1092 SO4: 523.309 CL: 1230.46 N:
F: CA: 52.103 MG: 192.12 NA: 869.4 K: 19.54
SIO2: FE: B: PH:7.4
T.D.S.= CONDUCT:5710
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U1

SAMPLE NO:B97 DATE:051181 REC: 379
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 573.5 SO4: 340.871 CL: 904.23 N:
F: CA: 42.083 MG: 138.62 NA: 713 K: 19.54
SIO2: FE: B: PH:7.39
T.D.S.= CONDUCT:4200
COMMENTS:HOWICK COLLIERY UNDISTURBED STRAT BORE U1

SAMPLE NO:B97 DATE:160682 REC: 389
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 1110 SO4: 499.304 CL: 1099.26 N:
F: CA: 62.123 MG: 205.5 NA: 880.9 K: 39.09
SIO2: FE: B: PH:6.61
T.D.S.= CONDUCT:5310
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U1

SAMPLE NO:B97 DATE:170582 REC: 387
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 1086 SO4: 441.692 CL: 999.972 N:
F: CA: 64.127 MG: 198.2 NA: 943 K: 54.73
SIO2: FE: B: PH:6.77
T.D.S.= CONDUCT:4860
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U1

SAMPLE NO:B97 DATE:280182 REC: 385
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 1110 SO4: 600.125 CL: 1443.22 N:
F: CA: 120.23 MG: 245.63 NA: 1269.6 K: 54.73
SIO2: FE: B: PH:7.02
T.D.S.= CONDUCT:5200
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U1

SAMPLE NO:B98 DATE:191082 REC: 407
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1610 SO4: 1200.25 CL: 2319.08 N:
F: CA: 158.31 MG: 850.55 NA: 1570.9 K: 39.09
SIO2: FE: B: PH:6.85
T.D.S.= CONDUCT:10320
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U2

SAMPLE NO:B98 DATE:130882 REC: 405
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1110 SO4: 897.767 CL: 1273.01 N:
F: CA: 84.167 MG: 279.67 NA: 908.5 K: 27.36
SIO2: FE: B: PH:6.88
T.D.S.= CONDUCT:6360
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U2

SAMPLE NO:B98 DATE:160882 REC: 401
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 720 SO4: 384.08 CL: 556.722 N:
F: CA: 56.111 MG: 138.62 NA: 476.1 K: 39.09
SIO2: FE: B: PH:6.74
T.D.S.= CONDUCT:3530
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U2

SAMPLE NO:B98 DATE:130782 REC: 403
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 933.6 SO4: 494.503 CL: 950.328 N:
F: CA: 62.123 MG: 248.06 NA: 696.9 K: 19.54
SIO2: FE: B: PH:6.77
T.D.S.= CONDUCT:4800
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U2

SAMPLE NO:B99 DATE:160682 REC: 423
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 549.1 SO4: 230.448 CL: 499.986 N:
F: CA: 42.083 MG: 82.687 NA: 308.2 K: 58.64
SIO2: FE: B: PH:6.51
T.D.S.= CONDUCT:2590
COMMENTS:HOWICK COLLIERY UNDISTIRBED BORE U3

SAMPLE NO:B99 DATE:170582 REC: 421
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 445.4 SO4: 168.035 CL: 453.888 N:
F: CA: 54.107 MG: 71.743 NA: 416.3 K: 70.37
SIO2: FE: B: PH:6.51
T.D.S.= CONDUCT:2230
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U3

SAMPLE NO:B99 DATE:130882 REC: 429
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 1318 SO4: 33.607 CL: 613.458 N:
F: CA: 54.107 MG: 175.1 NA: 328.9 K: 58.64
SIO2: FE: B: PH:6.92
T.D.S.= CONDUCT:3610
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U3

SAMPLE NO:B99 DATE:130782 REC: 427
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 976.3 SO4: CL: 560.268 N:
F: CA: 46.091 MG: 134.97 NA: 363.4 K: 50.82
SIO2: FE: B: PH:6.72
T.D.S.= CONDUCT:3010
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U3

SAMPLE NO:B99 DATE:170382 REC: 419
UNITS: METRIC TOP: BOTT: ANALYSIS BY :5 CHEM UNITS: MG/L
CO3: HCO3: 237.9 SO4: 177.637 CL: 273.042 N:
F: CA: 30.059 MG: 54.719 NA: 317.4 K: 35.18
SIO2: FE: B: PH:6.35
T.D.S.= CONDUCT:1520
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U3

SAMPLE NO:B99 DATE:021281 REC: 411
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 323.4 SO4: 326.468 CL: 492.894 N:
F: CA: 46.091 MG: 63.903 NA: 331.2 K: 35.18
SIO2: FE: B: PH:6.35
T.D.S.= CONDUCT:2470
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U3

SAMPLE NO:B99 DATE:051181 REC: 409
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 115.9 SO4: 278.458 CL: 485.802 N:
F: CA: 40.079 MG: 98.495 NA: 328.9 K: 31.27
SIO2: FE: B: PH:6.38
T.D.S.= CONDUCT:2310
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U3

SAMPLE NO:B99 DATE:291281 REC: 413
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 298.9 SO4: 312.065 CL: 237.582 N:
F: CA: 38.075 MG: 91.199 NA: 296.7 K: 39.09
SIO2: FE: B: PH:6.37
T.D.S.= CONDUCT:2320
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U3

SAMPLE NO:B99 DATE:020382 REC: 417
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 421 SO4: 312.065 CL: 592.182 N:
F: CA: 62.123 MG: 134.97 NA: 556.6 K: 54.73
SIO2: FE: B: PH:6.48
T.D.S.= CONDUCT:2900
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U3

SAMPLE NO:B99 DATE:280182 REC: 415
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 390.5 SO4: 283.259 CL: 542.538 N:
F: CA: 52.103 MG: 102.14 NA: 469.2 K: 62.55
SIO2: FE: B: PH:6.37
T.D.S.= CONDUCT:2710
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U3

SAMPLE NO:B100 DATE:130892 REC: 443
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 14083 SO4: 1286.67 CL: 3145.3 N:
F: CA: 136.27 MG: 629.89 NA: 1499.6 K: 31.27
SIO2: FE: B: PH:6.65
T.D.S.= CONDUCT:12200
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U4

SAMPLE NO:B100 DATE:130782 REC: 441
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 1531 SO4: 1253.06 CL: 3329.69 N:
F: CA: 154.3 MG: 629.88 NA: 1950.4 K: 31.27
SIO2: FE: B: PH:6.71
T.D.S.= CONDUCT:12780
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U4

SAMPLE NO:B100 DATE:191082 REC: 447
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 1537 SO4: 1315.47 CL: 3265.87 N:
F: CA: 172.34 MG: 769.72 NA: 1971.1 K: 39.09
SIO2: FE: B: PH:6.83
T.D.S.= CONDUCT:13110
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U4

SAMPLE NO:B100 DATE:160982 REC: 445
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 1519 SO4: 1315.47 CL: 3425.44 N:
F: CA: 172.34 MG: 790.39 NA: 1570.9 K: 35.18
SIO2: FE: B: PH:6.74
T.D.S.= CONDUCT:12970
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U4

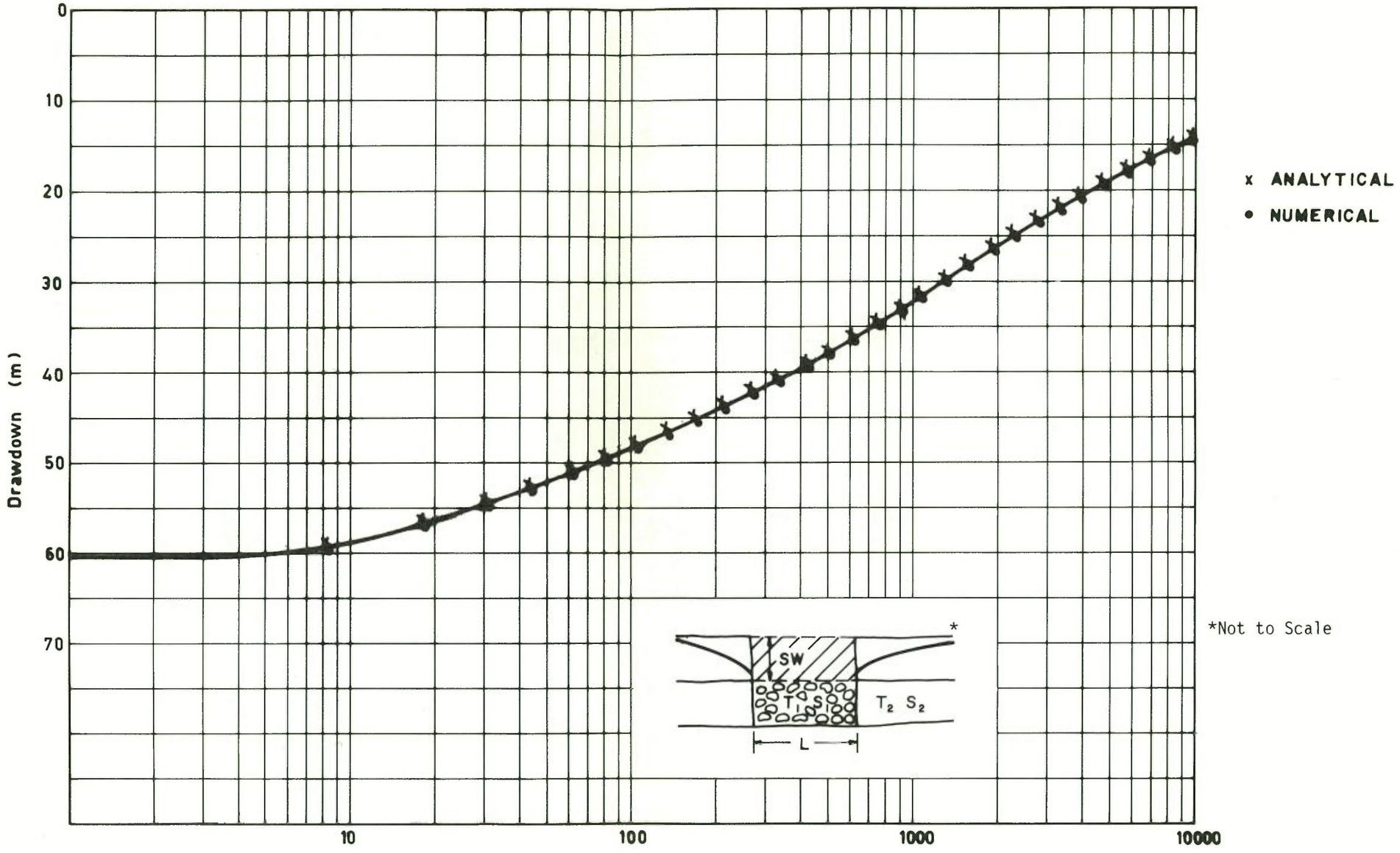
SAMPLE NO:B100 DATE:160682 REC: 439
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 1519 SO4: 1632.34 CL: 3347.42 N:
F: CA: 180.35 MG: 790.39 NA: 1550.2 K: 50.82
SIO2: FE: B: PH:6.72
T.D.S.= CONDUCT:13180
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U4

SAMPLE NO:B100 DATE:020382 REC: 433
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 1525 SO4: 1248.26 CL: 3308.42 N:
F: CA: 184.36 MG: 719.87 NA: 3121.1 K: 50.82
SIO2: FE: B: PH:6.71
T.D.S.= CONDUCT:12370
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U4

SAMPLE NO:B100 DATE:280182 REC: 431
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 1446 SO4: 1171.44 CL: 2595.67 N:
F: CA: 70.139 MG: 340.47 NA: 2520.8 K: 62.55
SIO2: FE: B: PH:6.86
T.D.S.= CONDUCT:10550
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U4

SAMPLE NO:B100 DATE:170582 REC: 437
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 1531 SO4: 1305.87 CL: 3392.88 N:
F: CA: 174.34 MG: 639.61 NA: 2950.9 K: 70.37
SIO2: FE: B: PH:6.77
T.D.S.= CONDUCT:10150
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U4

SAMPLE NO:B100 DATE:170382 REC: 435
UNITS: METRIC TOP: BOTT: ANALYSIS BY :S CHEM UNITS: MG/L
CO3: HCO3: 1464 SO4: 1305.87 CL: 3244.59 N:
F: CA: 166.33 MG: 790.39 NA: 3052.1 K: 46.91
SIO2: FE: B: PH:6.78
T.D.S.= CONDUCT:12390
COMMENTS:HOWICK COLLIERY UNDISTURBED BORE U4



T_1 = 2·44 m^2/day sw = 61 m
T_2 = 12·4 m^2/day
L = 61m
X = -30·5m
S_1 = 0·1
S_2 = 0·0004

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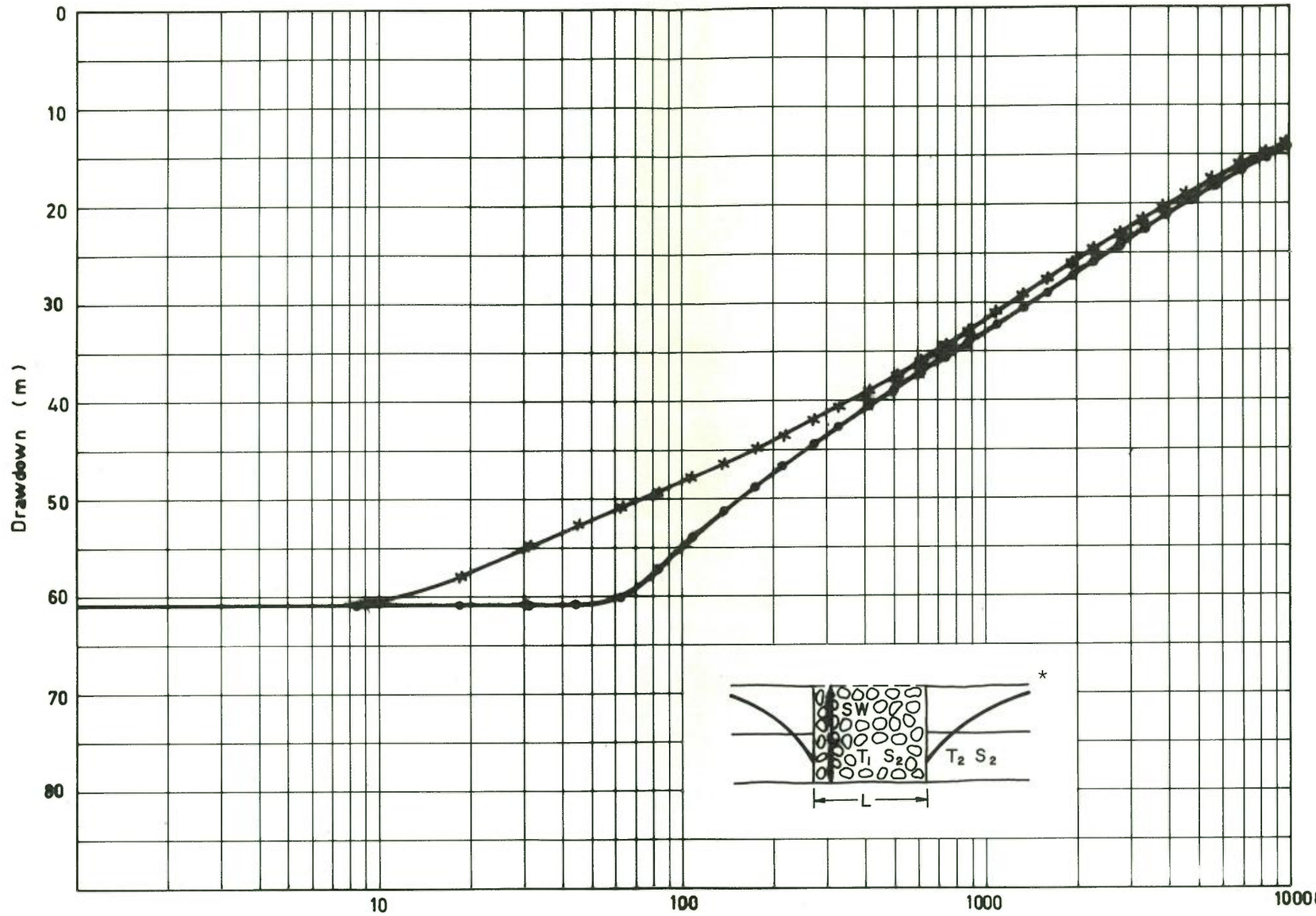
NEW SOUTH WALES COAL ASSOCIATION

EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

MINE PIT RESATURATION
LINEAR MODEL

DATE NOV '83 | DWG. Nº. 667 | FIG. Nº. H-2



K_1 = 0·04 m/day b_1 = 30·5m
K_2 = 0·4066 m/day b_2 = 61m
L = 61m
X = -30·5m

T_1 = 1·22 m^2/day
T_2 = 12·4 m^2/day
S_1 = 0·1
S_2 = 0·0004

sw = 61 m

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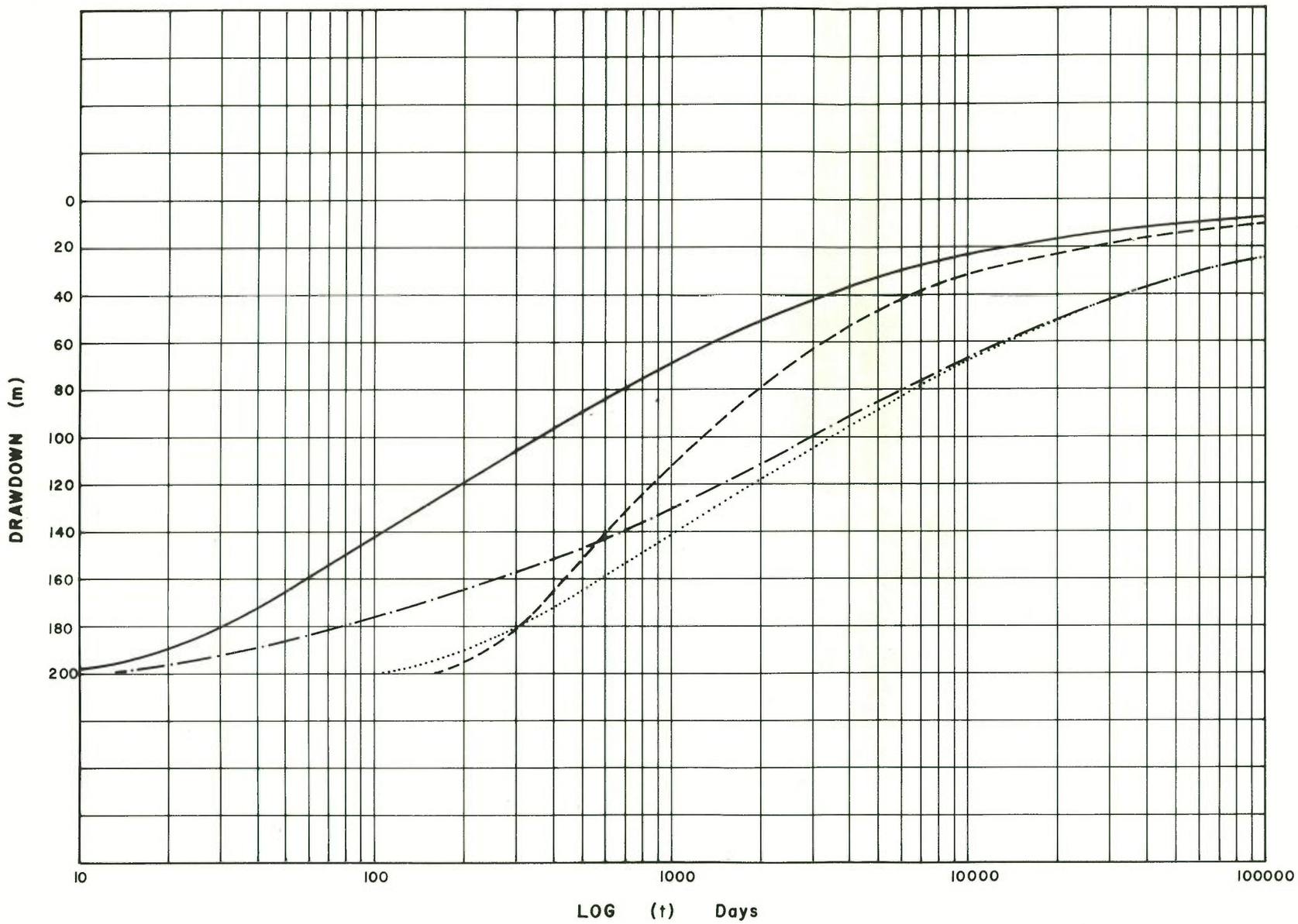
EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

MINE PIT RESATURATION
NON-LINEAR MODEL

DATE NOV '83 | DWG. N°. 667 | FIG. N°. H-3



$T_1 = 100$, $T_2 = 100$

$T_1 = 10$, $T_2 = 100$

$T_1 = 100$, $T_2 = 10$ } Both lines same asymptote

$T_1 = 10$, $T_2 = 10$ }

T_1 governs beginning of water level rise

T_2 governs rate of water level recovery and asymptote

S_1 (Storativity of Spoil) = 0·2

S_2 (Storativity of Aquifer) = 0·05

T_1 (Transmissivity of Spoil) = } As indicated

T_2 (Transmissivity of Aquifer) = }

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EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

RESATURATION CURVES
PIT WIDTH 500 metres

DATE NOV '83 | DWG. Nº. 667 | FIG. Nº. H.4

APPENDIX H

MINE PIT RESATURATION ANALYSIS

H.1 PREDICTION OF RESATURATION

Only one analytical solution has been found for the prediction of resaturation of a mine pit filled with spoil. This solution given by Koch (1983) is based on a heat flow analogy provided by Lovering (1936).

The model assumes an infinite trench completely infilled with spoil materials having different hydraulic properties than the surrounding strata. The drawdown and reclamation of the pit is assumed to occur instantaneously and thus the potentiometric surface outside the mine pit is not drawn down until resaturation beings. Neither the aquifer outside the pit nor the aquifer in the spoil receives any recharge. Figure H.2 shows the conceptual model.

The analytical solutions are as follows:

$$s(x,t) = (s_w/2)\ (-1 + p)\mathrm{erf}(x/2\ \nu_1 t)\ + (1 + p)\ \sum_{n=1}^{\infty}\ (-p)^{n-1}(\mathrm{erf}(Ln + x)/(2\ \nu_1 t)) -(p)\ \mathrm{erf}\ (Ln - x)/(2\ \nu_1 t)) \qquad (H.1)$$

for the region X<0 and

$$s(x,t) = (s_w/2)\ (-\ (1 - p)\mathrm{erf}\ \ x/2\ \nu_2 t)\ + (1 - p^2)\ \sum_{n=1}^{\infty}\ (-p)^{n-1}\mathrm{erf}\ Ln\ (\nu_2/\ _1) + x)/(2\ \nu_2 t))$$

for the region X>0

where $p = \dfrac{\nu_1 T_2 - \nu_2 T_1}{\nu_1 T_2 + \nu_2 T_1}$

and $\nu_1 = T_1/S_1$

$\nu_2 = T_2/S_2$

and erf = the error function

These equations may also be used as an approximate solution for the unconfined case.

A computer program utilising equations above is given in Figure H.1.

Koch (1983) provides an example using the following parameters:

T_1 = 2.33m^2/day: T_2 = 12.4 m^2/day: L = 61m; S_1 = 0.1; S_2 = 0.0004; x = 30.5 m (ie. at centre of spoil in pit).

Where -

T_1 = spoil transmissivity; ($^2T^{-1}$)
T_2 = aquifer transmissivity; (L^2T^{-1})
S_1 = spoil storativity; (dimensionless)
S_2 = aquifer storativity; (dimensionless)
X = distance from edge of pit in the spoil where re-saturation is to be calculated; (L)
sw = initial drawdown in pit; (L)

Results generated using Equation H.1 and a linear numerical finite difference model are shown in Figure H.2. The results are in close agreement. Note that the numerical solution was generated using the mine inflow model with one row of active nodes. Six equally spaced nodes were used to represent spoil in the pit whilst nodes at increasing grid spacing were used to represent the aquifer on either side of the pit.

For the case where the spoil is unconfined and the aquifer is confined the conceptual model is shown in Figure H.3. Using a linearization $T_1 = Ks_w/2$ yields the curve shown in Figure H.3. A comparison is also made here with the non-linear finite difference solution. The results for this case show that the analytical results predict a greater re-saturation at early times than the non-linear finite difference model. However, with time the results approach one another. The differences at earlier times are due to the non-linear model allowing for change in transmissivity with saturated thickness whilst the analytical model assumes a constant transmissivity.

Re-saturation curves presented in Figure H.4 were run for a 500 metre (ie. L = 500 m) wide pit, 200 m deep. The re-saturation curves were calculated using program given in Figure H.1.

The hydraulic parameters used were typical for the Upper Hunter:

Aquifer(s) (Coal Beds) T_2 = 10 and 100 m^2/day
S_2 = 0.05
(long term values for coal beds plus aquitards)

Spoil
T_1 = 10 and 100 m^2/day
S_1 = 0.2

Curves computed using the above parameters are presented in Figure H.4.

The curves indicated that without recharge re-saturation would take up to several hundred years for near equilibrium levels to be established. Wider and/or deeper pits would require a longer time period whilst narrower and/or shallower pits would require less time.

Variations for different sets of parameters can be easily computed using the listed BASIC computer program given in Figure H.1.

```
10 REM PROGRAM RESAT A.G.C. MAY 83
20 INPUT "T1 (SPOIL,M^2/DAY)= ",T1
30 INPUT "T2 (AQUIFER,M^2/DAY)= ",T2
40 INPUT "STORATIVITY OF SPOIL = ",S1
50 INPUT "STORATIVITY OF AQUIFER = ",S2
60 INPUT "DRAWDOWN IN DRAINED AREA (M)=";SW
70 INPUT "WIDTH OF DRAINED AREA (M)=";L
80 INPUT"DISTANCE FROM PIT FACE (M)= ",X:X=-X
90 INPUT "TM=";TM
100 INPUT "MAXIMUM TIME DRAWDOWNS REQUIRED = ",LIM
110 A1#=.0705230784#:A2#=.0422820123#:A3#=9.270527200000005D-03
120 A4#=1.52014E-04:A5#=2.76567E-04:A6#=4.30638E-05
130 U1=T1/S1:U2=T2/S2
140 P=(SQR(U1)*T2-SQR(U2)*T1)/(SQR(U1)*T2+SQR(U2)*T1)
150 IF X>0 THEN 320
160 REM CALCULATE FUNCTION FOR X
170 D1=2*SQR(U1*TM)
180 TR=X/D1:GOSUB 450
190 SX=-(1+P)*EF
200 REM SUM RESULTS.
210 N=0:SM=0
220 N=N+1:TR1=(L*N+X)/D1:TR2=(L*N-X)/D1
230 TR=TR1:GOSUB 450:EF1=EF:TR=TR2:GOSUB 450:EF2=EF
240 SM1=((-P)^(N-1))*(EF1-P*EF2)
250 IF SM1<.00001 THEN 280
260 SM=SM+SM1
270 GOTO 220
280 SX=(SW/2)*(SX+(1+P)*SM)
290 PRINT "DRAWDOWN (M)= ";SX;" AT ";TM;" DAYS"
300 TM=TM*1.33352:IF TM<= LIM THEN 110
310 STOP
320 D2=2*SQR(U2*TM)
330 TR=X/D2:GOSUB 450
340 SX1=-(1-P)*EF
350 N=0:SM=0
360 N=N+1:TR=(L*N*SQR(U2/U1)+X)/D2:GOSUB 450:EF2=EF
370 SM2=((-P)^(N-1))*EF2
380 IF SM2<.00001 THEN 410
390 SM=SM+SM2
400 GOTO 360
410 SX=(SW/2)*(SX1+(1+P^2)*SM)
420 PRINT "DRAWDOWN (M)= ";SX;" AT ";TM;" DAYS"
430 TM=TM*1.33352:IF TM<= LIM THEN 110
440 END
450 IF TR>5 THEN 490
460 ER=1+A1#*TR+A2#*TR^2+A3#*TR^3+A4#*TR^4+A5#*TR^5+A6#*TR^6
470 ER=ER^16
480 EF=1-1/ER:RETURN
490 EF=1:RETURN
```

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EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

SPOIL RESATURATION

COMPUTER PROGRAM LISTING

DATE NOV '83	DWG. NO. 667	FIG. NO. H.1

APPENDIX I

SUGGESTED GROUNDWATER INVESTIGATION/MONITORING PROGRAM FOR COAL MINING PROJECTS

Morton & Kidd (1980) provide a recommended groundwater investigation program for assessing groundwater conditions over a mining lease. This program is outlined below with some minor modifications.

It should be pointed out that the degree of importance of each item is largely site dependent. It is clear however, that many of the aspects outlined can in many cases be collected during initial exploratory phases or reserve estimation stages thereby eliminating a possible duplication of effort in the later stages to collect hydrogeological data.

The recommended investigation program is provided as guidance only to coal mining companies. It is not intended that it should be seen as a compulsory committment for companies to undertake all of the items listed.

SUGGESTED GROUNDWATER INVESTIGATION PROGRAM FOR COAL MINING PROJECTS

Preliminary Investigation:

i) Record depths of water intersections and air-lift flow at regular intervals during coal exploration drilling.
ii) Installation of an observation bore network with piezometers in each of the zones where significant water flows were intersected. Fortnightly monitoring of bore water levels.
iii) Conduct air-lift recovery type pumping tests and/or packer/permeability tests in a selected number of holes over the proposed mine area; Packer/permeability tests are required for low permeabilities encountered at depth.
iv) Collection and chemical analysis of water samples from streams and selected boreholes over the lease and outside the lease boundaries.
v) Review and assessment of the above data in relation to local and regional geological data collected during coal exploration program. Establishment of a provisional model of the groundwater system and initial predictions of mine inflows.

Detail Investigation:

i) Continuation of recording water intersections and flow rates during coal exploration program if it is still proceeding.

ii) Conduct pumping tests of short (24 hours) and long (1 to 7 days) duration to determine aquifers response to pumping, locate hydraulic boundaries and determine hydraulic parameters of aquifers. At least one test should be carried out in each proposed pit location with additional specially designed tests in area of interest such as near alluvial/coal subcrop areas or on major lineaments or fault zones.

iii) More detailed chemical testing where required.

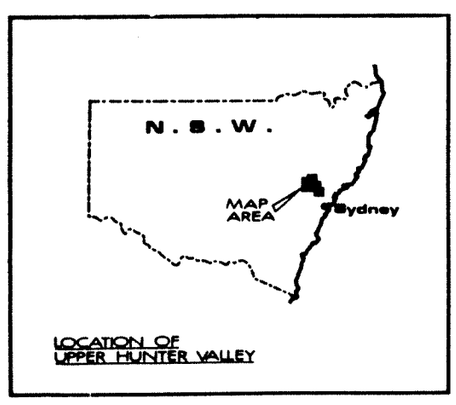
iv) Evaluation of all available data. Refinement of aquifer system model*.
Prediction of groundwater inflows to the mines and consequent decline in the water table around the mine. Design of dewatering facilities if required.

Monitoring:

i) Monitoring of mine inflows, dewatering discharge (if any) and groundwater levels. Inflows and dewatering discharges should be measured daily, or weekly and groundwater levels fortnightly or monthly.

ii) Review of above data every two to three years to confirm initial predictions; recalibration of model and update predictions if necessary.

* Model here refers to solution using analytical, numerical procedures.



KEY TO BOREHOLE CODING

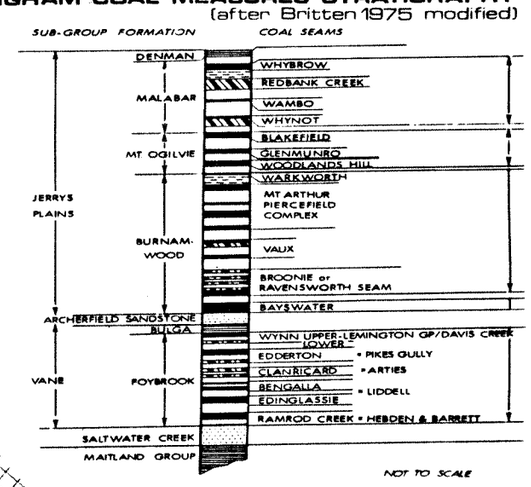
DRILLED BY DEPARTMENT OF MINERAL RESOURCES

CR - CLANRICARD DDH
D - DENMAN DDH
DC - DOYLES CREEK DDH
E - ELLIS DDH
H - HALSCOT DDH
J - JUNCTION DDH
JP - JERRYS PLAINS DDH
LP - LIDDELL PROSPECTING DDH
S - SCONE DDH
ST - STRATHEARN DDH
W - WARKWORTH DDH
WY - WYBONG DDH

OTHER

AB - ARMCO : BULGA DDH
AG - BMR : ANDERSON'S GAP DDH
BHS - BMR : BOWMAN'S HILL
BO - AUSTEN + BUTTA : BOWMANS DDH
BS - BMR : BLAKEFIELD
FE - CLUTHA : FOYBROOK EAST
FW - CLUTHA : FOYBROOK WEST
GD - CGFA : DURHAM DDH
GH - CGFA : HUNTER DDH
JD - JCB : DURHAM
MA - BMR : MT ARTHUR DDH
MC - MUSWELLBROOK COLLIERIES
PK - PEABODY : KOYUGA DDH
R - JCB : GLENNIES CREEK DDH
RS - JCB / BMR : ROXBURGH
SC - BMR : SADDLERS CREEK DDH
SW - ELECOM : SWAMP CREEK
WA - WAMBO DDH
HO - CLUTHA - HOWICK
MF - TEXASGULF : MITCHELL'S FLAT

WITTINGHAM COAL MEASURES - STRATIGRAPHY
(after Britten 1975 modified)



LEGEND

FOLD AXIS
FAULT
OUTCROP OF BASE OF SINGLETON SUPERGROUP

18 - WHYBROW SEAM
17 - REDBANK CREEK SEAM
16 - WAMBO SEAM
15 - WHYNOT SEAM
14 - BLAKEFIELD SEAM
13 - GLEN MUNRO SEAM
12 - WOODLANDS HILL SEAM
11 - WARKWORTH SEAM
10 - MT. ARTHUR / PIERCEFIELD COMPLEX { TOP - 10T, BOTTOM - 10B }
9 - VAUX SEAM
8 - BROONIE / RAVENSWORTH SEAM
7 - BAYSWATER SEAM
6 - LEMINGTON GROUP / DAVIS CREEK SEAMS
5 - PIKES GULLY SEAM
4 - ARTIES SEAM
3 - LIDDELL SEAM
2 - BARRETT / RAMROD CREEK SEAMS
1 - HEBDEN SEAM

NB. SEAM OUTCROPS HAVE BEEN OMITTED FROM THIS PLAN WHERE :
a) THEIR LOCATION IS UNCERTAIN OR
b) THEY CANNOT BE PLOTTED CLEARLY DUE TO LACK OF SPACE

INTRUSIVES
VOLCANICS
ALLUVIUM
TRIASSIC
WOLLOMBI COAL MEASURES
WITTINGHAM COAL MEASURES
MAITLAND GROUP
GRETA COAL MEASURES
DALWOOD GROUP
PRE-PERMIAN
WATTS SANDSTONE

prepared by ROBERTSON RESEARCH AUSTRALIA

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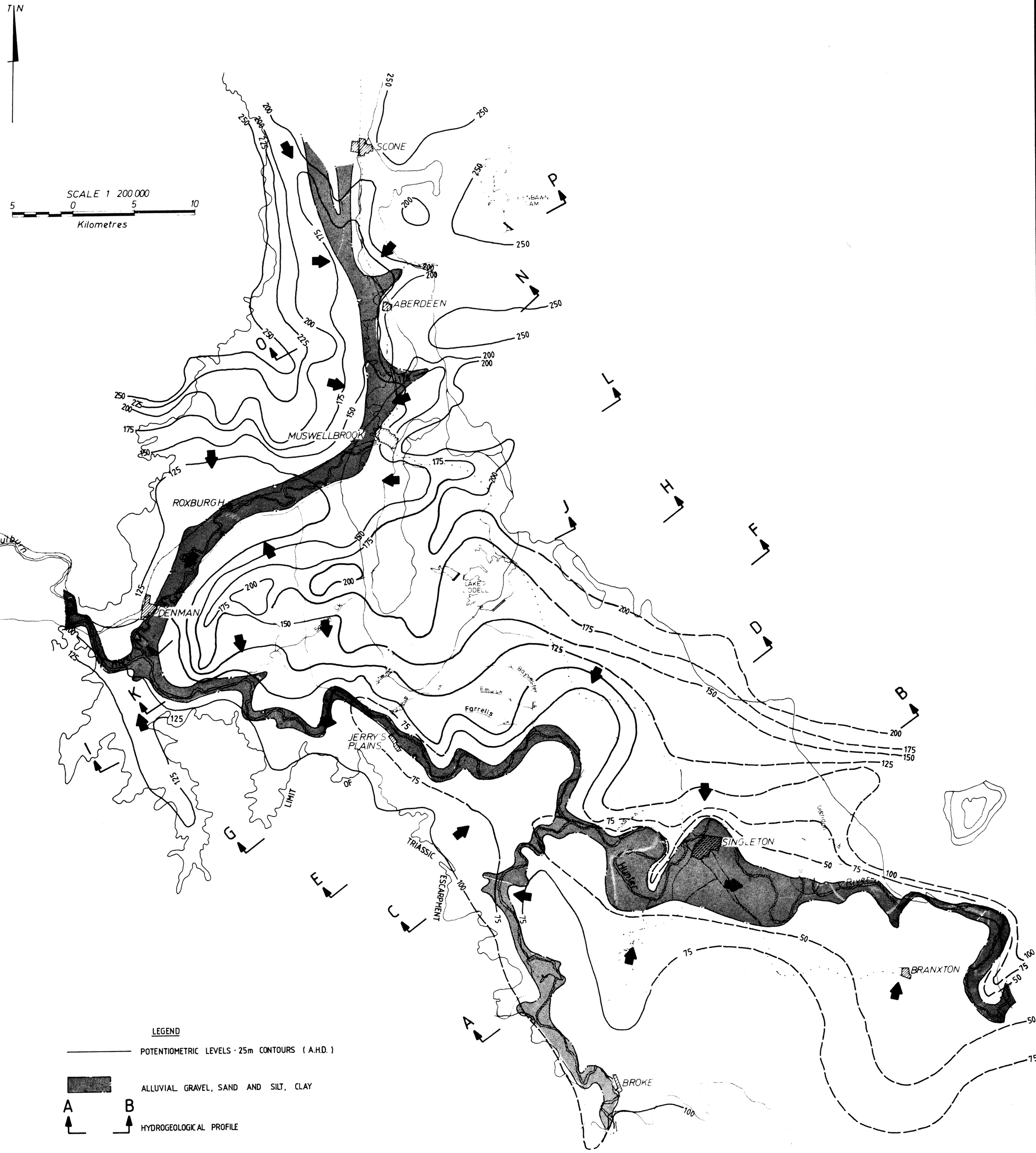
EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

COAL MEASURES & STRUCTURAL GEOLOGY
UPPER HUNTER

DATE NOV '83 | DWG. NO. 667 | PLATE 1



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EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

COMPOSITE POTENTIOMETRIC SURFACE IN THE UPPER HUNTER COAL MEASURES AND ALLUVIUM

DATE NOV '83 | DWG. NO. 667 | PLATE 2

T N

SCALE : 1 : 200 000

5 0 5 10

Kilometres

SCONE

ABERDEEN

MUSWELLBROOK

ROXBURGH

DENMAN

JERRY'S PLAINS

SINGLETON

BRANXTON

BROKE

GLENBAWN DAM

LAKE LIDDELL

FOR DETAIL SEE INSET

Goulburn River

Saddler Ck

Saltwater Ck

Bayswater Ck

Emu Ck

Farrells Ck

Redbank Ck

Wollomb Ck

Hunter River

Glendon Br

Pikes Creek

NEW ENGLAND HIGHWAY

over burden

HOWICK COLLIERY OPEN CUT MINE

INSET

LEGEND

A103 △ 0 - 1000 TOTAL DISSOLVED SALTS (mg/l)

□ 1 - 3000

○ 3 - 7000

◇ 7000 - 10 000

⊘ > 10 000

· ONE RECORD

| MEDIUM TERM RECORDS (>1 year)

+ LONG TERM RECORD (> 5years)

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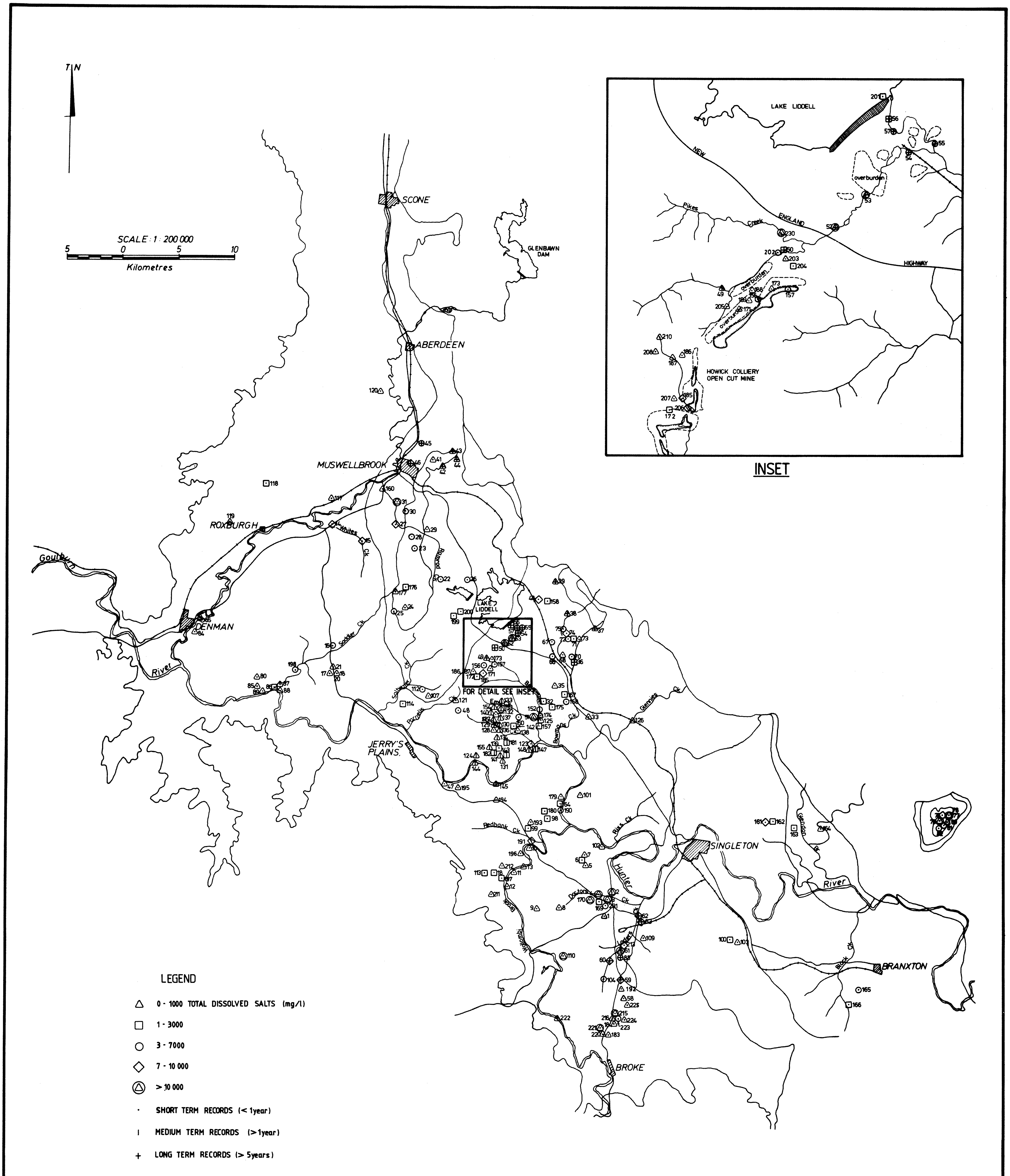
EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

GROUNDWATER SAMPLING POINTS AND SALINITY RANGE

DATE NOV '83 | DWG. No. 667 | PLATE 3



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EFFECTS OF COAL MINING ON GROUNDWATER RESOURCES

SURFACE WATER SAMPLING AND SALINITY RANGE

DATE NOV '83	DWG. No. 667	PLATE 4