BORE DATA - MASTER INDEX - COMPUTER INPUT SHEET
Condition OK

RN 6859 INDEX 40/285

NAME (30) WSH WISO N°1

LOCATION (30) 9M WEST OF WISO PUMPING STN

CADASTRAL (35) PHILLIP CREEK PL 331

S/NAV GPS/TRANS EL ___ H ___ V ___ CT ___ NO ___ TIME ___

AMG ___ ZONE 53 EASTING 349 ___ NORTHING 7848 ___

LATITUDE 19° 28' ___ LONGITUDE 133° 34' ___

LOCATION PRECISION 5 MAP

AWRC BASIN NUMBER 1208 (4)

OLD IMP GRID SE53/14 120-560. 1-250000 TENNANT CREEK

NEW IMP GRID COMP/CONVERSION ___

DISCHARGE ___ LPS. DEPTH SAMPLED ___ METHOD ___

SAMPLE NO. ___ TIME ___ HRS. DATE ___

TEMP ___ PH ___ CONDUCTIVITY ___ OTHER ___

T-DEPTH IF MEASURED ___ METERS

SWL IF MEASURED ___ METERS- TIME ___ DATE ___

CASING/WELL ABOVE GROUND BY 0.30 M

BORE EQUIPPED WITH 10" & 8" STEEL CASING 4" COLUM. ELEC/SUB.

COMMENTS: BORE USED

TAG LOCATION: CONCRETE BLOCK AROUND CASING

USED FOR: MINE

INSPECTING OFFICER RMarsh DATE 9-11-89

350366 / 7852369

1·8 km North from pump station to 7122 and 7127A
350375 A
7854170

(95m WNW of Pump Stn)
13039 GPS 350288
7852408

(75m WNW of Pump Stn)
13010 GPS 350308
7852400

(15m W)
13941A

13942A
(18m W of 13039)

(80m W)
12962A

(45m W)
10533A

(23mW) (15mW)
7136A 6858A

7135A (21mW)
6859A (9mW)

WISO PUMP STATION
350375 A
7852369

Distances from Pump Station

6857A (7mS)

33m

7018 and 7020
Near pump house but no trace now

ALL CO-ORDS ARE APPROX

26·7m 21m

12963A 12964A 12965A

7852420
7852400
7852380
7852360
7852340
7852320

350260 350280 350300 350320 350340 350360 350380 350400 350420

1·8 km South from Pump station to 7123A
350375 A
7850570

NOTE: GRID IS BASED ON GPS COORDS OF RN 13039 AND RN 13010

Map, Vax + B.D. File
amended March 1992.

12470 to 12497
12499 to 12507
12859 to 12868

Last Hope Mine Bore
4078A

Alluvial Bores
2100G
13943G

14740G
14741G
14667SN
14668SN
Mungalawurru
DLH 248

(16 Bores)
6857-6859
7018
7020
7135-7136
10533
12962 to 12965
13010
13039
13941-13942

7019G
7124G
7128G
7133A
7122A
7127A
7123A
Wiso Pump Station & Bores

10478A

10206A

10378A

7129G
7131A
7132A

(37 Bores)
6410 to 6421
7021
7125, 7126
7134
10136
10496
10821 to 10939

Warrego Mine
Caravan park
10116A
Warrego No.1

BLACK ANGEL
Abandoned
6566A Black Angel Mine Bore

NM/G/302
287

RED BLUFF
Abandoned

GREAT WESTERN

WATER ANALYSIS

Origin of water WARREGO MINE WS4 — Reference Sn 70 AD329

COREY & COLE DRILLERS — Specimen Advice Note No. 1111

Date sampled 20/12/69-30/12/69 — Date received 13/1/70

* Results in milligrams per litre of filtered sample.

	Sample	Recommended Maximums (see over page). Domestic	Stock	Agriculture
HARDNESS (calculated as $CaCO_3$)—				
" Total	426	500	—	—
" Carbonate	336	—	—	—
" Non-Carbonate	90	—	—	—
ALKALINITY IN EXCESS OF TOTAL HARDNESS	NIL	—	—	—
CHLORIDE	600	500	—	—
SULPHATE	372	250	2,000	—
BICARBONATE	410	—	—	—
NITRATE	Not determined	Child 20 / Adult 120	—	—
FLUORIDE	" "	1.5	5.0	—
CARBONATE	NIL	—	—	—
SODIUM	480	—	—	—
POTASSIUM	73	—	—	—
CALCIUM	53	100	—	—
MAGNESIUM	71	100	300	—
TOTAL DISSOLVED SALTS		3,000	8,000	1,000
RESIDUE ON EVAPORATION	3000	3,000	8,000	1,000

pH 8.15

General remarks of Analysing Officer with particular reference to suitability of the water for the purpose for which it is stated to be required.

The sample, as analysed, is chemically unsuitable for human consumption due to the high dissolved salt content of the water.

Signature Norman M. Best (Chemist)

Date 2-2-70

* 14.3 milligrams per litre equals 1 grain per gallon. 437.5 grains equals 1oz.

40/285

GROUNDWATER INVESTIGATION

WATER ANALYSIS - BORE WS4

STANDBY PRODUCTION BORE

Sample No. :	1/AC70
Data Received in Laboratory :	10/9/70
Analysed by :	AMDEL
Date of Sampling :	11/5/70
Depth of Bore :	305 feet
Tested Supply :	7,000 gph
Bore Completed :	5/12/69
Circulation :	Air
Drilling Chemicals :	Adafoam
Method of Sampling :	Pump test
Pump Type :	Mono

Conductivity (micromhos/cm^2) at 25°C :	
Total Dissolved Solids :	1822 ppm
PH	8.1
Hardness, Total :	420
Hardness, Temporary :	335
Hardness, Permanent :	85
Alkalinity :	335

ANIONS	ppm	Meq	CATIONS	ppm	Meq
Chloride	590	16.63	Sodium	478	20.78
Sulphate	360	7.50	Potassium	64	1.64
Nitrate	Trace	-	Calcium	57	2.84
Carbonate	Nil	-	Magnesium	68	5.59
Bicarbonate	410	6.72	Iron		
Flouride			Manganese		
		30.85			30.85

% Difference Anions and Cations = Nil o.k.

HOO3

CI	= .40
S.A.R.	= 10.14
Residual Alkalinity	=
Richards Classification	=

GROUND WATER INVESTIGATION

40/285

WATER ANALYSIS - BORE MS4

STANDBY PRODUCTION BORE

Sample No. :	2/AC08
Date Received in Laboratory :	10/9/70
Analysed by :	AMDEL
Date of Sampling :	11/8/70
Depth of Bore :	305 feet
Tested Supply :	3,000 gph
Bore Completed :	5/12/69
Circulation :	Air
Drilling Chemicals :	Adafoam
Method of Sampling :	Pump test
Pump Type :	Bore

Conductivity (micromhos/cm at 25°C) :	
Total Dissolved Solids :	1327 ppm
pH :	
Hard. as CaCO3 :	
Hardness, Temporary :	
Hardness, Permanent :	
Alkalinity :	

	me/l	ppm		me/l	ppm
Chloride	10.46	370	Sodium	10.44	240
Sulphate	1.25	120	Calcium	2.66	107
Nitrate	0.00	0	Magnesium	0.34	4
Carbonate	0.70	21	Iron	0.00	0
Bicarbonate	0.00	0	Manganese	0.00	0
Flouride	0.00	0			
	12.46			13.44	

% Difference Anions and Cations = 0.03% o.k.

HCO3

Cl = .40

S.A.R. = 10.41

Residual Alkalinity =

Richards Classification =

WATER ANALYSIS

40/285

Origin of water WAANGO MINE WS 4
GOREY & COLE DRILLERS

Reference Sn ~~30~~ 329

Specimen Advice Note No. 1111

Date sampled 20/12/69-30/12/69

Date received 13/1/70

* Results in milligrams per litre of filtered sample.

	Sample	Recommended Maximums (see over page). Domestic	Stock	Agriculture
HARDNESS (calculated as $CaCO_3$)—				
" Total	430	500	—	—
" Carbonate	330	—	—	—
" Non-Carbonate	100	—	—	—
ALKALINITY IN EXCESS OF TOTAL HARDNESS	NIL	—	—	—
CHLORIDE	610	500	—	—
SULPHATE	~~379~~	250	2,000	—
BICARBONATE	402	—	—	—
		Child 20	—	—
NITRATE	Not Determined	Adult 120	—	—
FLUORIDE	" "	1.5	5.0	—
CARBONATE	NIL	—	—	—
SODIUM	Not determined	—	—	—
POTASSIUM	" "	—	—	—
CALCIUM	" "	100	—	—
MAGNESIUM	" "	100	300	—
TOTAL DISSOLVED SALTS		3,000	8,000	1,000
RESIDUE ON EVAPORATION	~~3220~~	3,000	8,000	1,000
pH 5.5				

General remarks of Analysing Officer with particular reference to suitability of the water for the purpose for which it is stated to be required.

The above results are forwarded for your information. The sample, as analysed, is chemically unsuitable for human consumption due to the high dissolved salt content of the water.

Signature Susan M Best (Chemist)

Date 30th January 1970

* 14.3 milligrams per litre equals 1 grain per gallon. 437.5 grains equals 1oz.

WATER ANALYSIS

Origin of water WARREGO MINE WS4
GOREY & COLES DRILLERS

Reference Sn 70/329

Specimen Advice Note No.

Date sampled 20/12/69-30/12/69

Date received 13/1/70

* Results in milligrams per litre of filtered sample.

	Sample	Domestic	Stock	Agriculture
		Recommended Maximums (see over page).		
HARDNESS (calculated as $CaCO_3$)—				
" Total	428	500	—	—
" Carbonate	336	—	—	—
" Non-Carbonate	92	—	—	—
ALKALINITY IN EXCESS OF TOTAL HARDNESS	NIL	—	—	—
CHLORIDE	600	500	—	—
SULPHATE	373	250	2,000	—
BICARBONATE	375	—	—	—
		Child 20	—	—
NITRATE	Not determined	Adult 120	—	—
FLUORIDE	" "	1.5	5.0	—
CARBONATE	17	—	—	—
SODIUM	460	—	—	—
POTASSIUM	76	—	—	—
CALCIUM	58	100	—	—
MAGNESIUM	69	100	300	—
TOTAL DISSOLVED SALTS		3,000	8,000	1,000
RESIDUE ON EVAPORATION	2200	3,000	8,000	1,000

pH 8.5

General remarks of Analysing Officer with particular reference to suitability of the water for the purpose for which it is stated to be required.

The sample, as analysed, is unsuitable for human consumption due to the high concentrations of sulphate and chloride dissolved in the water.

Signature Susan M Best (Chemist)

Date 2-2-70

* 14.3 milligrams per litre equals 1 grain per gallon. 437.5 grains equals 1oz.

GROUNDWATER INVESTIGATION

40/208

WATER ANALYSIS - BORE WS 4

Sample No. :	1/BJ28
Date Received in Laboratory :	13/1/70
Analysed by :	S. Best - Primary Industries Branch NTA
Date of Sampling :	20/12/69 - 30/12/69
Depth of Bore :	305 feet
Tested Supply :	7,000 gph
Bore Completed :	5/12/69
Circulation :	Air
Drilling Chemicals :	Adafoam - stiff foam
Method of Sampling :	Pump test
Pump Type :	Mono

Conductivity (Micromhos/cm^2) at 25°C :	3,060
Total Dissolved Solids :	2,200
pH	8.5
Hardness, Total :	428
Hardness, Temporary :	336
Hardness, Permanent :	92
Alkalinity :	Nil

ANIONS	ppm	Meq	CATIONS	ppm	Meq
Chloride	600	16.92	Sodium	460	20.00
Sulphate	375	7.77	Potassium	76	1.95
Nitrate	.....	.....	Calcium	58	2.89
Carbonate	17	0.55	Magnesium	69	5.67
Bicarbonate	373	6.15	Iron	.....	.....
Flouride	.....	.....	Manganese	.....	.....
		31.39			30.51

% Difference Anions and Cations = 1.42% o.k.

HCO3

CI	= 0.36
S.A.R.	= 9.66
Residual Alkalinity	= 333
Richards Classification	=

Remarks:

The sample as analysed is unsuitable for human consumption due to high total dissolved salts.

40/285

BORE TEST - BORE WS4

Test carried out by Boretest Pty. Ltd.

DRAWDOWN Measurement for Bore: Prod.

Test Numbers: 5 & 6 Date: 11/5/70

Test Type: No. 5 - short term high rate

No. 6 - long term medium rate

Type measurement: Taylor air bleed recorder

S.W.L. from M.P. at Commencement of Test: 130'8"

Minutes from Start	Drawdown (feet)	Discharge GPH	Comments
1	15.0	7,200 gph	
	21.0		
	26.0		
	29.0		
	30.5		
10	32.0		
15	41.0		
	41.5		
	41.7		
	40.7		
	42.0		
	42.0		
11	23.0		
1	23.2		
3	23.0		
4	23.0		
	24.5	6,400 gph	
	24.5		

WARREGO GROUNDWATER [illegible]. RO/285

BOR No 1.

(Ingersoll-Rand T3 Rotary Drilling Rig – Driller: [illegible] Williams, 7/2/69)

Geologist's Log. (D. Williams – Gandeko)

		0	– 10	No Sample.
		10	– 20	Soil containing quartz grains and very decomposed fragments of fine grained sandstone.
		20	– 30	Ferriginous fine grained sandstone with clay matrix. Minor dolomite cement.
–	Clay and Gravel	30	– 40	As for 20 – 30' together with a few dolomite fragments.
–	Sand and Clay	40	– 50	Fine grained dolomitic sandstone. Quartz grains sub-angular.
		50	– 60	Fine grained dolomitic sandstone and minor sandy dolomite.
		60	– 70	Fine grained dolomitic sandstone. Clear sub-rounded quartz grains in a sugary dolomite matrix.
–	Clay, Dolomite and siltstone	70	– 80	As for 60 – 70'.
		80	– 90	Weakly dolomitic siltstone and minor fine grained dolomite.
		90	– 100	Grey to white siltstone slightly dolomitic.
		100	– 110	As for 90 – 100'.
		110	– 120	As for 90 – 100'.
		120	– 130	Clay rich ferriginous and white dolomitic siltstone.
		130	– 140	As for 120 – 130'.
		140	– 150	As for 120 – 130'.
		150	– 160	Dolomitic mudstone.

FOR M Cont'd.

		160 – [illegible]	Brown [illegible] siltstone, chert and fine grained grey dolomite.
170	– 305	Dolomite, Limestone, Chert, Siltstone and Clay	[illegible] – [illegible] Grey granular dolomite – sample wet.
		180 – 190	Soft brown dolomitic siltstone and grey fine grained dolomite – sample wet.
		190 – 200	Grey granular dolomite – wet.
		200 – 210	Grey granular dolomite and minor pale green dolomitic silt-stone – wet.
		210 – 220	Buff to grey granular dolomite – wet.
		220 – 230	As for 210 – 220'.
		230 – 240	As for 210 – 220' – some brown dolomitic siltstone.
		240 – 250	Silty thin bedded dolomite slightly mucaceous – wet.
		250 – 260	As for 240 – 250' with some slightly mucaceous sandy dolomite-quartz grains very fine grained.
		260 – 270	Dolomitic siltstone, fossiliferous dolomitic sandstone and granular grey dolomite – wet.
		270 – 280	Grey granular dolomite – wet.
		280 – [illegible]	As for 270 – 280' and brown dolomitic siltstone.

N.T.A. 181

THE NORTHERN TERRITORY OF AUSTRALIA

Control of Waters Ordinance

IN 40/285.

Regulation 8.

40/6/11.50E_11.65N.

FINAL STATEMENT OF BORE

From	To	Description of Strata
0	30	Clay & gravel.
30	40	" "
40	75	sand & clay.
75	170	clay & dolomite
170	305	dolomite & clay.

Location of Bore (or supply sketch on back hereof)—

16 Miles

(a) N NE S SE E NW (W) SW of (b) Warrego shafe.

(a) Circle appropriate direction.
(b) Use known point such as existing bore, homestead, outstation, etc.

Additional information of interest about the bore—

Samples ~~of strata~~ and water supplies
have been*
will be*
left at the following trading place—

Mines Branch A/S.

Signature

*Strike out which does not apply.

For office use only—

Name of Bore— WS 4

Name of Property— Warrego

Description of Property— Mining.

Name of Owner— Peko Mines N.L.

Name of Contractor— Gorey & Cole Drillers

Name of Driller— Bruce Villiers

Date of Commencement— 4/12/69

Date of Completion— 5/12/69

Total Depth— 305 feet

Particulars of Casing— 20' / 8" ϕ
200. feet 6" ϕ

Particulars of Perforations or Screens— —

Water	1st Supply	2nd Supply	3rd Supply
Struck at	170	206.	
Standing Water Level			
Pumping Supply : G.P.H.		3,600gph.	
Duration of Pump Test		2 hrs.	
Water Level During Test			
Quality : Good, Fair or Bad		fair.	

N.T.A. 152

NORTHERN TERRITORY ADMINISTRATION—WATER RESOURCES BRANCH

WATER ANALYSIS

Sample No. ..... Date received in Laboratory 13/1/70

Time and date of sampling 20/12/69 - 30/12/69

Location and details Warrego Mine WS4, Gorey & Cole Drillers

Compiled at A. D. B. Alice Springs 40/285

Analysis in parts per million— p.p.m. (unless otherwise stated)—

Appearance	Taste and odour
Conductivity (Micromhos/cm²) at 25°C	pH 8.15
Total dissolved solids	Hardness, total 426
Suspended solids	Hardness, temporary 336
Total solids	Hardness, permanent 90

Anions—		Cations—	
Chloride	600	Sodium	480
Sulphate	372	Potassium	73
Nitrate	Not Determined	Calcium	53
Nitrite		Magnesium	71
Carbonate	Nil	Ammoniacal nitrogen	
Bicarbonate	410	Iron	
Fluoride	Not Determined	Aluminium	
Silica		Selenium	
Boron		Arsenic	
Alkalinity	NIL	Copper	
Turbidity		Lead	
Total Dissolved salts	-	Manganese	
Residue on evaporation	3000		

Analysed by Susan Best.

Date 2.2.70.

REMARKS: The sample, as analysed, is chemically unsuitable for human consumption due to the high dissolved salt content of the water.

N.T.A. 152

NORTHERN TERRITORY ADMINISTRATION—WATER RESOURCES BRANCH

WATER ANALYSIS

Sample No. ..... Date received in Laboratory 13/1/70

Time and date of sampling 20/12/69 - 30/12/69

Location and details Warrego Mine WS 4 Gorey & Coles Drillers 40/285.

Compiled at A.I.B. Alice Springs.

Analysis in parts per million— p.p.m. (unless otherwise stated)—

Appearance	Taste and odour
Conductivity (Micromhos/cm²) at 25°C	pH 8.5
Total dissolved solids	Hardness, total 428
Suspended solids	Hardness, temporary 336
Total solids	Hardness, permanent 92

Anions—

Chloride 600	
Sulphate 373	
Nitrate Not Determined	
Nitrite	
Carbonate 17	
Bicarbonate 375	
Fluoride Not Determined	
Silica	
Boron	
Alkalinity NIL	
Turbidity	
Total dissolved salts	
Residue on Evaporation 2200	

Cations—

Sodium 460	
Potassium 76	
Calcium 58	
Magnesium 69	
Ammoniacal nitrogen	
Iron	
Aluminium	
Selenium	
Arsenic	
Copper	
Lead	
Manganese	

Analysed by Susan Bell

Date 2-2-70

REMARKS: The sample, as analysed, is unsuitable for human consumption due to the high concentrations of sulphate and chloride dissolved in the water.

N.T.A. 152

NORTHERN TERRITORY ADMINISTRATION—WATER RESOURCES BRANCH

WATER ANALYSIS

Sample No. 70/0157 Date received in Laboratory 18/2/70

Time and date of sampling 5/12/69

Location and details Tennant Creek Warrego W.S.4 IN 40/285

R.N. 6859

Analysis in parts per million— p.p.m. (unless otherwise stated)—

Appearance		Taste and odour	
Conductivity (Micromhos/cm²) at 25°C	2900	pH	7.8
Total dissolved solids	1940	Hardness, total	440
Suspended solids		Hardness, temporary	334
Total solids		Hardness, permanent	106

Anions—		Cations—	
Chloride	640	Sodium	510
Sulphate	363	Potassium	85
Nitrate	37	Calcium	59
Nitrite		Magnesium	74
Carbonate		Ammoniacal nitrogen	
Bicarbonate	407	Iron	1.8
Fluoride	1.9	Aluminium	
Silica	31	Selenium	
Boron		Arsenic	
Alkalinity	334	Copper	
Turbidity		Lead	
Phosphate	1	Manganese	

Analysed by John B. Jones

Date 17/3/70

REMARKS: The sample as tested is chemically unsuitable for human consumption according to World Health Organisation drinking Water standards due to excessive dissolved solids. Suitable for stock.

N.T.A. 152

NORTHERN TERRITORY ADMINISTRATION—WATER RESOURCES BRANCH

WATER ANALYSIS

Sample No. 70/0175 Date received in Laboratory 18/2/70

Time and date of sampling 2030 hrs 20/12/69

Location and details Tennant Creek 16 miles West Warrego WS4

Temp. 90°F disch, 7000gph IN 40/285 R.N. 6859

Analysis in parts per million— p.p.m. (unless otherwise stated)—

Appearance		Taste and odour	
Conductivity (Micromhos/cm²) at 25°C	3100	pH	7.6
Total dissolved solids	1890	Hardness, total	420
Suspended solids		Hardness, temporary	336
Total solids		Hardness, permanent	84

Anions—		Cations—	
Chloride	640	Sodium	500
Sulphate	343	Potassium	84
Nitrate	33	Calcium	60
Nitrite		Magnesium	71
Carbonate		Ammoniacal nitrogen	
Bicarbonate	410	Iron	<0.1
Fluoride	2.0	Aluminium	
Silica	31	Selenium	
Boron		Arsenic	
Alkalinity	336	Copper	
Turbidity		Lead	
Phosphate	4	Manganese	

Analysed by John B. Jones

Date 18/3/70

REMARKS: The sample as tested is not suitable for human consumption according to World Health Organisation drinking water standards, due to excessive dissolved solids and fluoride. *Suitable for stock.*