

N.T.A. 152

NORTHERN TERRITORY ADMINISTRATION—WATER RESOURCES BRANCHWATER ANALYSIS

Sample No. 8087 Date received in Laboratory 21/6/66
 Time and date of sampling 2/6/66
 Location and details Cabbage Gum Bore 190E/90N second water - depth 135'
water level 40' R.N. 5401 I.N. 40/214

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

Appearance		Taste and odour	
Conductivity (Micromhos/cm ²)		pH	<u>7.75</u>
at 25°C	<u>817</u>	Hardness, total	<u>172</u>
Total dissolved solids	<u>511</u>	Hardness, temporary	<u>172</u>
Suspended solids		Hardness, permanent	<u>-</u>
Total solids			

Anions—

Chloride	<u>66</u>
Sulphate	<u>60</u>
Nitrate	<u>21</u>
Nitrite	
Carbonate	
Bicarbonate	<u>156</u>
Fluoride	<u>1.5</u>
Silica	
Boron	
Alkalinity	<u>256</u>
Turbidity	

Cations—

Sodium	<u>120</u>
Potassium	<u>28</u>
Calcium	<u>32</u>
Magnesium	<u>22</u>
Ammoniacal nitrogen	
Iron	<u>0.1</u>
Aluminium	
Selenium	
Arsenic	
Copper	
Lead	
Manganese	

Analysed by JW
 Date 22/6/66

REMARKS:

The sample as tested, is chemically suitable for human consumption. Fluoride is at the upper limit.

DUPLICATE

NORTHERN TERRITORY ADMINISTRATION—ANIMAL INDUSTRY BRANCH

WATER ANALYSIS #214

Origin of Water TENNANT CREEK..... Reference. SN. 61...../.....533.....
 ◆ samples: Bore 190-90..... Specimen Advice Note No.
 Date Sampled 10/3/61..... Date Received 17/3/61.....

Results in parts per million

HARDNESS (Calculated as CaCO₃)

"	Total	....	....	....	....	158
"	Temporary	....	....	....	....	158
"	Permanent	....	....	....	....	NIL
FREE ALKALI (Calculated as CaCO ₃)						87

CHLORIDE	....	....	....	....	....	55
SULPHATE	....	....	....	....	....	27
FLUORIDE	....	....	....	....	....	1.0
CALCIUM	....	....	....	....	....	27
BICARBONATE	....	....	....	....	....	299
CARBONATE	....	....	....	....	....	NIL
SODIUM	....	....	....	....	....	87
POTASSIUM	....	....	....	....	....	25
MAGNESIUM	....	....	....	....	....	21
NITRATE	....	....	....	....	....	28
NITRITE	....	....	....	....	....
AMMONIA	....	....	....	....	....
TOTAL DISSOLVED SALTS						570

pH
8.2

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 suitable for human consumption, except for ~~XXXX~~ infants under one year, where an alternative low-nitrate source would be desirable.

Signature

L.R. Murray

Date

18.4.61

6,250 ppm. equals approx. 1 oz. per gall.

E53/14 - 312

CABBAGE GUM GRID190/90

40/214

<u>Depth</u>	<u>Description</u>
0 - 3	Soil horizon; clear & rust coated, rounded to angular very fine to coarse quartz sand in a clay matrix. Some small crystalline - rock fragments. A rusty red clayey sand.
3 - 9	As 0 - 3' but contains many poorly rounded limestone grains of fine to medium sand size.
9 - 12	Quartz and limestone grains of fine to coarse sand sized and poorly rounded. Appear to be rounded grains of sandstone present. An orange-buff coloured clayey sand.
12 - 20	As 9 - 12' but with no limestone.
20 - 35	As 12 - 20', buff coloured.
36 - 40	As 12 - 20', buff coloured.
40 - 46	As 9 - 12', but with some limestone and buff coloured.
46 - 59	Missing
59 - 62	Very fine sand to small pebble angular to very well rounded (spherical grains) of milky and ferruginous quartz grains of white, yellow and brick red colours. Some small rock fragments of quartz cemented by ferruginous material. An orange-buff slightly clayey sand.
62 - 70	Sub angular to very well rounded, fine to medium sand sized milky quartz sand; with angular, medium sand sized grains of red to black ferruginous rock fragments, in a clay matrix. A greyish-orange-pink clayey sand.
70 - 75	As 62 - 70', but with fewer ferruginous grains.

- 75 - 78 Sub-rounded to rounded, medium to coarse grains of quartz sand in a clay matrix. A greyish yellow clayey sand.
- 78 - 86 As 75-78, but with angular fine quartz sand rock fragments.
- 86-89 As 75-78', but with much iron staining, and some chalcedony fragments. Colour is deeper.
- 89 - 91 A regular to sub-rounded, medium sand sized quartz grains. A light orange coloured sandy clay.
- 91 - 93 Sub-rounded to very well rounded medium to coarse sand sized particles of white and iron stained quartz. A light yellow sandy clay.
- 93 - 102 As 91-93', but a slightly browner colour.

M. Freeman.

MJC/CM. 13/4/66.

R/30/9

31

To:

Engineer Ride,
Water Resources Branch,
ALICE SPRINGS.

Bore 190/90 Cabbage Gum.

Bore depth 146 feet
Casing 12" x 130' Slotted at (56-71), (86-101), (116-126)
Cement Block 4' x 3' x 1'6"
Gravell packed
Dated started 28/3/66.
Date Sampled 4/4/66.
S.W.L. 40 feet
Reg. 8 on File.

Penetration Rate.

Depth ft.	Run Start	Run End	Depth end	Time lost	Strokes per min
				mins	
26'	0740	0805	30' 6"	-	62
30' 6"	0810	0830	34'	2	
34'	0850	0900	36'	-	
36'	0915	0940	38'	-	
38'	0945	1005	40' 6"	-	
40' 6"	1010	1030	43'	-	
43'	1035	1045	44' 6"	-	
44' 6"	1100	1125	48' 6"	-	
48' 6"	1152	1200	52'	-	
52'	1210	1230	54' 6"	4	
54' 6"	1310	1315	55'	)drilling with bentonite	
55'	1330	1335	55' 6"		
55' 6"	1350	1400	56' 6"		
56' 6"	1430	1440	56' 10"		
56' 10"	0830	0920	62'		
62'	0925	0945	63' 6"		
63' 6"	0955	1020	65'		
65'	1030	1055	67' 6"		
67' 6"	1100	1115	70'	)Fall in more bentonite	
70'	1140	1150	70'		
70'	1330	1420	73'		
73'	1425	1520	74.8		
74' 8"	1525	1540	75'		
75'	1555	1630	76' 6"		
76' 6"	1635	1710	78' 6"		
78' 6"	0740	0825	80' 6"		
80' 6"	0835	0925	82' 6"		
82' 6"	0935	1025	84' 6"		
84' 6"	1045	1120	86' 6"		
86' 6"	1125	1215	89' 6"		
89' 6"	1350	1420	91' 6"		
91' 6"	1430	1445	93' 6"		
93' 6"	1450	1605	100' 6"		
100' 6"	1610	1640	104'		
104'	1650	1705	106'		

Penetration Cont'd.

30

106'	0800	0830	113'
113'	0840	0850	115'
115'	0900	0915	117'
117'	0940	1015	119'
119'	1040	1105	121'
121'	1115	1140	124'
124'	1200	1240	127'
127'	1415	1500	130'
130'	1545	1600	133'
133'	1615	1730	135'
135'	1030	1055	138'
138'	1115	1150	143'
143'	1200	1225	146'
146'	1235	1400	156' Fell in back to 146'

Strata.

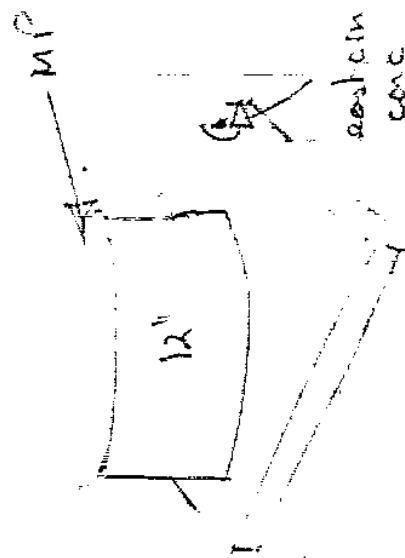
0	-	3	Red subsoil
3	-	9	Red clayey gravell
9	-	12	Gravelly yellow and brown clay
12	-	36	Grey siltstone
36	-	46	Red siltstone seepage water
46	-	59	Laterite and sand
59	-	62	Brown clay and laterite
62	-	70	Brown clay and laterite
70	-	75	White laterite
75	-	78	Sandstone or limestone
78	-	86	Sandstone or limestone water
86	-	89	Red and yellow clay
89	-	91	Red and yellow clay
91	-	93	White and yellow clay
93	-	104	White and yellow clay
104	-	130	Sand and Water
130	-	133	White and yellow clay
133	-	140	Yellow and brown clay
140	-	146	Gravell

The hole was reduced in size from 135' to 146' penetrating an area of gravell from 130' to 136' by using bentonite, the bore when cased was bailed for two hours until clean with a bailer tested yield of approximately 1,500 G.P.H. with a 4' drawdown.

BORE SURVEY INFORMATION

BORE NAME: 19c/90. R.N.: 5401. LOCATION: Cabbage Gum.

VERTICAL

POINT	R.L.	DATUM	LEVEL BOOK NO.	DATE	REMARKS	SKETCH
MP.	323.553	AMD	5/13	10/7/82	top of 12" casing.	
Av GL.	323.310	"	"	"		
Conc.	323.445	"	"	"	East crn. of conc around bore	
SP.	323.592				SSP	

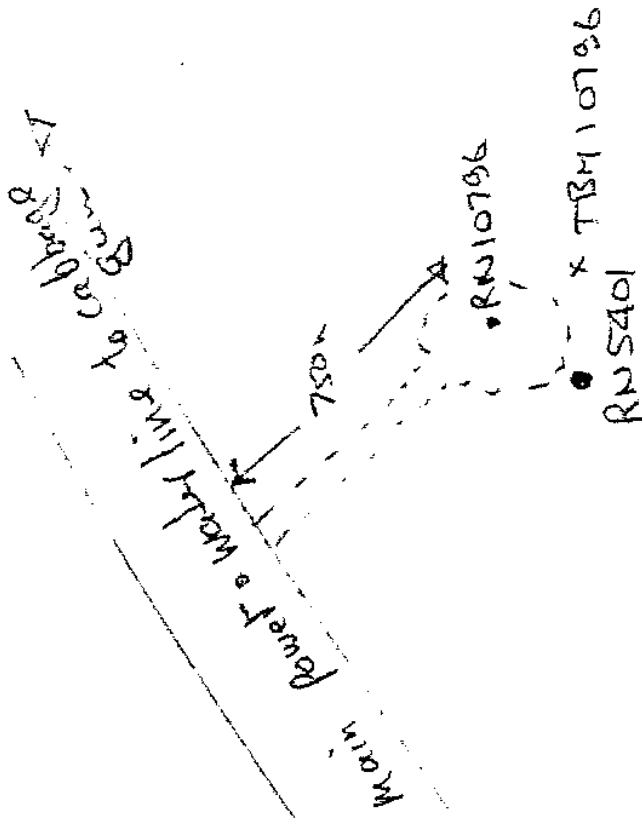
HORIZONTAL

WORKING	CO-ORDINATES EASTING	GRID	FIELD BOOK NO.	DATE	REMARKS.
1810668.151	412296.236	AMG.		9/8/82	converted from old grid ref.

NEAREST BENCH MARK: NAME: TBM10796 LOCATION:

ASSOCIATED DRAWINGS:

Particulars of B.M. SSP.



UNITED STATES WATER RESOURCES BRANCH

SE 53-12
193523

BORE DATA SHEET

190/90 of Grid Ref.

NAME12" RECORDER

LOCALITYCARRAGE GUN BASIN

DEPTH146 ft.

CASINGS9 lengths 12" welded joint to 130 ft

PERFORATIONS1/8 slots 56-71-86-101-116-126

SCREENS

LOCATION

CONTRACTORV.R.B.

DRILLERH.J. COSTELLO

DATE STARTED28.3.66.

DATE FINISHED4.4.66.

INDEX No.40/214

REG. No.5401

FILE No.

WATER

STRATA SECTION

AQUIFERS

DEPTH STRUCK.....48'6" 65 86'6" 135-147

~~STANDING WATER LEVEL.....40'~~

PUMP TEST G.P.H.....Not Tested Yet.

DRAWDOWN LEVEL..

PUMP LEVEL.....

DURATION OF TEST HOURS...

R.L. S.W.L.....

WATER TEMPERATURE °C

TRANSMISSIBILITY.....

STORAGE COEFF.....

ANALYSES

BINOMIAL CLASSIFICATION.....

T.D.S.....

CONDUCTIVITY.....

TOTAL HARDNESS.....

CHLORIDE.....

BICARBONATE.....

CARBONATE.....

SULPHATE.....

NITRATE.....

FLUORIDE.....

SODIUM.....

POTASSIUM.....

CALCIUM.....

MAGNESIUM.....

REG. ANAL. No.....

EQUIPMENT

REMARKS TAGGED JUNE 1974 CB

DEPTH FEET

CASING

AQU.

SEC.

STRATA

Red sub soil

Red gravelly clay

Yellow & brown gravelly clay

Grey siltstone

Red siltstone

Brown clay & laterite or limestn.

Limestone

Sandstone or limestone

Red and yellow clay

White and yellow clay

Gravel and sand

Clayey gravel

N.T.A. WATER RESOURCES BRANCH

RN005401

BORE DATA SHEET

190/90 of Grid Ref.

NAME 12" RECORDER

INDEX No.

40/214

LOCALITY CABBAGE GUM BASIN

REG. No. ...

5401

DEPTH 146 ft.

FILE No. ...

CASINGS 9 lengths 12" welded joint to 130 ft PERFORATIONS 1/8 slots 56-71-86-101-116-126
SCREENS

LOCATION / / E N SURFACE R.L. B M R.L. DATUM

CONTRACTOR W.R.B. DRILLER M.J. COSTELLO DATE STARTED 28.3.66. DATE FINISHED 4.4.66.

WATER

STRATA SECTION

AQUIFERS	DEPTH FEET	CASING	AQU.	SEC.	STRATA
DEPTH STRUCK	48'6"	65	86'6"	115-117	Red sub soil
AQUIFER DEPTH				130 ft	Red gravelly clay
STANDING WATER LEVEL	40'				Yellow & brown gravelly clay
PUMP TEST G.P.H.	Not Tested Yet.				Grey siltstone
DRAWDOWN LEVEL..					
PUMP LEVEL					Red siltstone
ION HOURS ...					
R.L. S.W.L.					Brown clay & laterite or limestn.
WATER TEMPERATURE °C					
TRANSMISSIBILITY					
STORAGE COEFF.....					
ANALYSES	19-4-66	19-4-66	21-6-66		Limestone
BINOMIAL CLASSIFICATION					Sandstone or limestone
T.D.S.	TOTAL 1018	TOTAL 1237	SUITABLE HUMAN CONSUMPTION 511	480	Red and yellow clay
CONDUCTIVITY	625	890	817	738	White and yellow clay
TOTAL HARDNESS	TEMP 188	TEMP 156	TEMP 172	TEMP 172	
CHLORIDE	40	59	66	59	
BICARBONATE	170	224	156	157	
CARBONATE	0	0	0	0	Gravel and sand
SULPHATE	15	35	60	40	
NITRATE	19	30.5	21	25	Clayey gravel
FLUORIDE	0.8	0.9	1.5	1.5	
SODIUM	90	163	120	112	
POTASSIUM	26	29	28	24.5	
CALCIUM	33	27	32	30	
MAGNESIUM	25	21	22	24	
ALKALINITY	278	368	256	258	
pH	6.85	6.90	7.75	7.65	
IRON	1.5	4.2	0.1	0.1	
REG. ANAL. No.....	17456	17457	17714	17715	
EQUIPMENT					

NORTHERN TERRITORY ADMINISTRATION

WATER RESOURCES BRANCH.

- 9 MAY 1966

W A T E R A N A L Y S I S

Sample No. 7834 Date Received in Laboratory 19.4.66
Time and Date of Sampling 28.3.66
Location and Details Cabbage Gum Bore No 190/90
... Taken at 130 ft.

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

Appearance.....	Taste & Odour.....
Conductivity (Micromhos/cm ²) at 25°C <u>890</u>	pH.....
Total Dissolved Solids.....	Hardness, Total.....
Suspended Solids.....	Hardness, Temporary.....
Total Solids <u>1737</u>	Hardness, Permanent.....

Anions

Chloride	<u>59</u>
Sulphate	<u>35</u>
Nitrate	
Nitrate	<u>30.5</u>
Carbonate	<u>0</u>
Bicarbonate	<u>224</u>
Fluoride	<u>0.9</u>
Silica	
Boron	
Alkalinity	<u>368</u>

Cations

Sodium	<u>163</u>
Potassium	<u>29</u>
Calcium	<u>27</u>
Magnesium	<u>21</u>
Ammoniacal Nitrogen	
Iron	<u>4.2</u>
Aluminium	
Selenium	
Arsenic	
Copper	
Lead	
Manganese	

Analysed by L. Bay
Date 5.5.66

REMARKS:

NORTHERN TERRITORY ADMINISTRATION

WATER RESOURCES BRANCH.

- 9 MAY 1966

W A T E R A N A L Y S I S

Sample No. 7833 Date Received in Laboratory 19.4.66
 Time and Date of Sampling 23.3.66
 Location and Details Cabbage Gum Bore No. 190/90
Taken at 4.6 ft.

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

Appearance.....	Taste & Odour.....
Conductivity (Micromhos/cm ²) at 25°C..... <u>625</u>	pH..... <u>6.85</u>
Total Dissolved Solids.....	Hardness, Total... <u>188</u>
Suspended Solids.....	Hardness, Temporary... <u>188</u>
Total Solids..... <u>1018</u>	Hardness, Permanent... <u>0</u>

Anions

Chloride..... 40
 Sulphate..... 15
 Nitrate.....
 Nitrate..... 19
 Carbonate..... 0
 Bicarbonate... 170
 Fluoride..... 0.8
 Silica.....
 Boron.....
 Alkalinity... 278

Cations

Sodium..... 90
 Potassium... 26
 Calcium..... 33
 Magnesium... 25
 Ammoniacal Nitrogen.....
 Iron..... 1.5
 Aluminium.....
 Selenium.....
 Arsenic.....
 Copper.....
 Lead.....
 Manganese.....

Analysed by... b. Bay
 Date... 5.5.66

REMARKS: