COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES GEOLOGY AND GEOPHYSICS

RECORDS:

1966/128

CHEMICAL INVESTIGATIONS DURING THE YEAR 1958

compiled by

E. Woodhead

15928/65

CHEMICAL INVESTIGATIONS DURING THE YEAR, 1958.

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RECORDS 1966/128

INTRODUCTION

The Record consists of Reports completed by the chemical personnel of the Bureau Laboratory during 1958. The Reports are in chronological order.

CHEMICAL INVESTIGATIONS DURING THE YEAR, 1958.

JANUARY - DECEMBER

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Report No.1 8th January, 1958

58W/1

ASSAYS ON FIVE MANGANESE ORES FROM BALFOUR DOWNS, WEST AUSTRALIA.

by

J. R.Beevers

The figures previously given for assays on five manganese ores from Balfour Downs, W.A., have been checked and the results given by three different and independent methods are tabulated side by side with the original.

Sample No.	H_2O-	Mn by $FeSO_4$ persul-phate	Mn by As_2O_3 persul-phate	Mn by Bismu-thate	Mn by Color-imetric	Fe_2O_3	SiO_2	H_2O+
3345	0.5	34.1	32.6	33.5	34.5	20.7	8.2	11.3
3346	0.8	33.0	35.5	37.2	37.5	18.3	7.1	12.4
3347	1.1	33.1	34.8	38.7	37.5	18.3	7.0	13.3
3348	1.0	36.2	35.8	38.2	36.5	19.9	7.0	13.2
3349	0.8	32.9	33.5	33.6	34.5	20.7	8.1	12.0

The ammonium persulphate used in the persulphate oxidation methods is very unstable, and in the presence of moisture rapidly deteriorates in efficiency. It was found that the laboratory reagent used in the above persulphate oxidations was inferior in quality and this would account for the slightly lower figure by the persulphate oxidation methods.

However, the above fitures for percentage manganese are ostensibly of the same order and whichever set of figures is taken, none even apprcaches 50 - 55% Mn as might have been expected from previous information.

Lab.Nos.181-185

Report No. 2 45ACT/1

ANALYSIS OF A WATER SAMPLE FROM COOLARMON PONDS CREEK

by

S. Baker

Following are the results for the analysis of a sample of water ex Coolarmon Ponds Creek, submitted by S.E.R. Cameron.

Total Solids	920	p.p.m.
Sulphates (as SO_3)	159	"
Calcium (as CaO)	105	"
Magnesium (as MgO)	108	"
Chloride (as Ce)	305	"
pH	7.6	

Lab.No. 57/227

Report No.3

13th January, 1958
198PNG/1

PARTIAL ANALYSIS OF A ROCK SAMPLE FROM TERRITORY OF PAPUA AND NEW GUINEA.

by

S. Baker

The sample No. P.27, was submitted by J.E. Thompson, on December 24th, 1957. (Ref. G.1000).

Manganese (as MnO_2)	58.6% (previously reported as 57.4%).
Iron & Aluminium (Fe_2O_3 and Ae_2O_3)	8.1%
Moisture (105^oG)	3.2%
Combined water	12.1%
Silica (as SiO_1)	12.4%

In addition to the above, qualitative tests indicated the prsssure of lime, magnesia and some sodium and carbonate.

From the above it can be concluded that the manganese content of the sample submitted is 37% and not of the order of 57% as anticipated by J.E. Thompson.

Lab.No.57/204

Report No.4 14th January, 1958

1980/2

WATER CONTENT OF FIVE ROCK SAMPLES

by

S. Baker

Following are the results for the water determination on five rock samples submitted by K. Walker.

Sample No.	$-H_2O$ (105^oS)	$+H_2O$(850^oG)
7945	0.05%	1.33%
8000	not detected	0.55%
9578 B	not detected	0.34%
7902	not detected	0.66%
7911	0.21%	1.41%

Lab.No.57/228-232

Report No.5 20th January, 1958

ANALYSIS OF TWO ROCK SPECIMENS FROM THE ARNHEM BAY AREA. N.T.

by

J.R. Beevers

Two specimens were recently submitted for analysis by E.Gardner from the Arnhem Bay area of Northern Territory. The first of these samples was a ferruginous sandstone (B7663) and the other a kaolinised shale (B7667). Results of full analyses are -

	B 7663	B7667
H_2O-	n.d.	0.69
H_2O+	7.04	13.56
SiO_2	45.16	46.00
Fe_2O_3	40.96	1.34
Al_2O_3	6.22	36.25
TiO_2	0.60	3.20
MnO	Trace	Nil
CaO	0.17	0.12
MgO	Trace	Trace
S	0.08	0.10
P_2O_5	0.25	0.03

Lab.Nos.58/239-240

Report No.6. 24th January, 1958

97G/2

ANALYSIS OF WATER SAMPLE

By

S. Baker

Following are the results for the analysis of a water sample from the Sonospheric Prediction Station, Mount Stromlo, submitted by W.J. Perry.

Suspended Matter	80 p.p.m.
Total Dissolved Solids	238 p.p.m.
Silica (as SiO_2)	32 p.p.m.
Iron & Aluminium Oxide ($Fe_2O_3 + Al_2O_3$)	14 p.p.m.
Calcium (as CaO)	5.6 p.p.m.
Magnesium (as MgO)	20.3 p.p.m.
Chloride (as Cl)	18.4 p.p.m.
Carbonate (as CO_3)	nil
Bicarbonate (as HCO_3)	169. p.p.m.
pH	7.1

Lab.No.58/241

Report No.7. 24th January, 1958

ANALYSIS OF LIMESTONE SHALES

by

S. Baker

Following are the results for the analysis of eight limestone shales submitted by W.J. Perry.

Sample No.	
D.1, 2, 3	0.67% $CaCO_3$
D.4, 5, 6	0.90% "
D.7 - 8	not detected
D. 9	0.01% $CaCO_3$
D.10	0.03% "
D.11	0.03% "
D.12	0.1% "
D.13	not detected

Lab.No.57/219-226

Report No.8. 30th January, 1958.

ANALYSIS OF A SAMPLE OF BORE WATER FROM THE DIVISION OF SOILS

by

S. Baker

Following are the results for the analysis of a sample of bore water from the Division of Soils, submitted by G. Burton.

Total dissolved solids	1220 p.p.m.
Sulphate (as SO_3)	47 "
Silicon (as SiO_2)	20 "
Chloride (as Cl)	312 "
Iron, Aluminia (as $Fe_2O + Al_2O_3$)	6 "
Calcium (as CaO)	215 "
Magnesia (as MgO)	98 "
Carbonate	Nil
Bicarbonate (as HCO_3)	325 p.p.m.
pH	7.0 "

Lab.No.58/242

Report No.9. 10th February, 1958
63PNG/1

ANALYSIS OF FOUR SOIL SAMPLES FROM THE DIDANA RANGE, NEW GUINEA.

The results of the analyses of four soil samples from the Didana Range East of the Musa River, New Guinea, submitted by geologist, J.E. Thompson, are as follows:

Sample No.	SiO_2	Fe	Ni	Co
Wakioki No.1 (nickel only)	-	-	1.12%	-
Wakioki No.3 (nickel only)	-	-	1.36%	-
Wakioki No.2 (7 feet)	40.00%	17.45%	1.33%	nil
Wakioki No.2 (4 feet)	51.60%	9.23%	0.81%	nil

Lab.No.58/243, 4, 5, 6.

Report No.10. 17th February, 1958.
106Q/7.

ANALYSIS OF DOLOMITIC LIMESTONE FROM THE GEORGINA BASIN AREA, QUEENSLAND.

by

J.R. Beevers

Nine specimens of dolomitic limestone from the Georgina Basin area, Queensland, were recently submitted for analysis by J. Casey. A partial analysis resulted as follows:

Ref.No.	Insol in 2N. HCl %	Sol. in 2N.HCl			Ratio $\frac{\%CaCO_3}{\%MgCO_3}$
		Fe_2O_3 %	$CaCO_3$ %	$MgCO_3$ %	
B 535	16.50	0.97	43.23	38.90	1.11
B 515 M	2.23	0.14	95.23	-	-
B 525	18.51	0.03	72.73	-	-
B 534	17.19	0.03	48.73	33.44	1.46
B 516	5.95	0.02	91.73	-	-
W 22	1.07	0.09	54.23	45.54	1.19
B.132	4.24	0.10	52.23	41.59	1.26
G 14	1.03	0.40	53.20	43.84	1.21
B 510 b	12.21	0.07	82.23	-	-

Lab. Nos. 58/381-389

Lab. Report No.11. 17th February, 1966.
840/3

ANALYSIS OF LATERITE SOILS, PADDY'S CREEK ATEA. NORTH QUEENSLAND.

by

J.R. Beevers

A collection of laterite and lateritic soils collected during the 1957 field season in the Paddy's Creek Area of North Queensland, by D.A. White, have been assayed for Ni and Co on the polarograph with the following results:

Sample No.		Type	Ni%	Co%
I	A	Outcrop	Trace	Trace
	C	"	0.11	0.22
	E	"	0.10	0.21
	G	"	0.06	0.11
	I	"	0.11	0.15
	K	"	Trace	Trace
	M	"	0.12	Trace
	O	"	0.09	0.07
	P	"	Trace	Trace
	Q	Soil	0.07	Trace
	R	Serpentine	0.08	Trace
	S	Serpentine	0.08	Trace
II	A	Outcrop	Trace	Not detected
	C	"	"	Trace
	E	"	"	0.08
	G	"	0.06	0.04
	I	"	0.09	0.05
	M	"	0.10	0.09
	J	From Creek Bed	0.09	0.07
	K	"	0.14	Trace
	O	Outcrop	0.09	Trace
	Q	"	0.07	0.03
	R	"	0.06	0.04
	X	"	0.18	Trace
	S	Soil	0.14	Trace
III	A	Outcrop	0.10	0.09
	C	"	0.07	Trace
	E	"	0.10	0.10
	G	"	0.10	0.08
	I	"	0.06	0.08
	K	"	Trace	Trace
	M	Soil	0.27	Not detected
IV	1	Surface soil	0.25	Trace
	1	Depth 4'	0.33	Trace
	2	Surface soil	0.26	Not detected
	2	Depth 4'	0.33	Not detected
	4	Surface soil	0.19	0.05
	4	Depth 4'	0.18	0.07
	5	Surface soil	0.26	Trace
	5	Depth 4'	0.28	Trace
	7	Surface soil	0.12	Not detected
	7	Depth 4'	0.14	Trace
	9	Surface soil	0.26	0.08
	9	Depth 4'	0.24	Trace

(Cont. 2../

Lab.Report No.11. (Cont.)

Sample No.		Type	Ni%	Co%
IV (Cont.)	10	Surface soil	0.26	Not detected
	10	Depth 4'	0.20	Trace
	12	Surface soil	0.16	Not detected
	12	Depth 4'	0.19	Trace
	14	Surface soil	0.26	Trace
	14	Depth 4'	0.24	Trace
	16	Surface soil	0.25	Trace
	16	Depth 4'	0.32	Trace
	16	Outcrop	0.22	Trace
	17	Surface soil	0.29	0.07
	18	Surface soil	0.29	Trace
	18	Depth 4'	0.28	Trace
	20	Outcrop	0.21	Not detected
	23	Outcrop	0.34	Not detected
	24	Outcrop	0.33	Trace
	25	Outcrop	0.14	Trace
V	1	Outcrop	0.14	Trace
	2	Outcrop	0.18	Not detected
	3	Outcrop	0.12	Trace
	4	Outcrop	0.17	Trace
	5	Outcrop	0.42	Not detected
	6	Outcrop	0.20	Not detected
	8	Outcrop	0.20	Trace
	10	Outcrop	0.10	Not detected
VI	0	Surface soil	0.09	Trace
	0	Depth 4'	0.11	Trace
	1	Surface soil	0.09	Trace
	1	Depth 4'	0.13	Trace
	3	Surface soil	0.07	Trace
	3	Depth 4'	0.08	0.08
	4	Surface soil	0.07	Not detected
	5	Surface soil	Trace	Not detected
	5	Depth 4'	0.04	Not detected
	6	Surface soil	0.04	Trace
	6	Depth 4'	0.05	Not detected
	8	Surface soil	0.07	Not detected
	8	Depth 4'	0.08	Trace
	9	Surface soil	0.09	0.05
	9	Depth 4'	0.13	Not detected
	10	Surface soil	0.09	Trace
	10	Depth 4'	0.12	Trace
	11	Surface soil	0.17	0.06
	11	Depth 4'	0.18	Trace
VII	A	Outcrop	0.06	0.08
	B	Outcrop	0.08	0.23
	C	Outcrop	0.07	0.10

Lab.Nos. 58/271-360

Report No. 12. 17th February, 1958

ANALYSIS OF SOILS FROM THE GRAY CREEK AREA OF NORTH QUEENSLAND.

by

J.R. Beevers

Some laterite soils and adjacent rock types from the Gray Creek area of North Queensland, submitted by D. Green have recently been assayed for Ni and Co. Following are the results:

Ref. No.	Type	Ni%	Co%
D.G.1	Pisolitic Rock	0.09	Trace
D.G. 2	"	0.09	"
D.G. 3	"	0.18	"
D.G. 4	"	0.21	"
D.G. 5	"	0.09	"
D.G. 6	Laterite Soil	0.11	"
D.G. 7	"	0.06	"
D.G. 8	"	0.10	"
D.G. 9	"	0.12	"
D.G.10	"	0.04	"
D.G.11	"	0.14	"
D.G.12	"	0.06	"
D.G.13	"	0.07	"
D.G.14	"	0.11	0.05
D.G.15	"	0.05	Trace
D.G.16	"	0.03	"
D.G.17	"	0.11	0.06
D.G.18	Serpentine	0.20	Trace
D.G.19	"	0.20	0.08
D.G. 20	Leached Serpentine	0.09	0.06
D.G. 21	Soil	0.19	0.06
D.G. 22	Serpentine	0.12	Trace
D.G. 23	"	0.09	"
D.G. 24	Actinolite Schist	Not detected	Not detected

Lab. Nos. 58/247-270

Report No.13. 19th February, 1958

ANALYSIS OF GRANITE SAMPLES

by

S. Baker

Following are the results for the analysis of six samples of granite submitted by B. Walpole.

Lab.No.	58/371	58/372	58/373	58/374	58/375	58/376
Field No.	B.3276	B.3277	B.3280	B.3285	B.3286	B.4009
SiO_2	67.90	70.14	73.24	60.40	70.40	68.41
FeO^2	3.20	1.24	0.71	2.84	1,26	2.15
Fe_2O_3	0.63	1.27	0.88	1.99	1.57	1.32
TiO_2	0.40	0.25	0.20	0.35	0.34	0.33
Al_2O_3	15.81	15.70	13.96	17.21	15.18	17.26
CaO	1.78	0.90	0.70	4.02	1.53	0.56
MgO	0.86	1.26	0.68	3.60	1.16	0.96
MnO2	0.08	0.05	0.08	0.04	0.05	0.05
P_2O_5	0.16	0.20	0.45	0.08	0.16	0.09
K_2O	4.19	4.20	4.90	4.70	3.84	4.37
NO_2O	3.16	3.28	3.23	3.24	3.39	3.31
$H_2O(-)$	0.02	0.02	0.05	0.04	0.03	nil
$H_2O(+)$	0.91	0.92	0.37	0.92	0.63	0.85
Total	99.09	99.43	99.45	99.43	99.64	99.66

Lab.No.58/371-376.

Report No.14 21st February, 1958

1980/2

ANALYSIS OF SEVEN ROCK SAMPLES FROM DUCHESS, NORTH WEST QUEENSLAND.

by

S. Baker

Following are the corrected results for the analysis of seven rock samples taken near Duchess, N.W. Queensland, by K. Walker.

Sample No.	P_2O_5	Na_2O	K_2O	SiO_2	Al_2O_3
2867	0.07%	1.98%	0.47%	49.90%	-
9531	0.10"	2.65%	1.96%	50.87"	14.48%
2129a	0.13"	2.91"	0.85"	-	-
9595 coarse	0.07"	2.50"	0.55"	-	-
7748	0.08"	1.40"	0.49"	-	-
R3260	0.18"	2.94"	2.73"	-	-
9595 fine	0.05	2.56	0.55	-	-

Lab.No. 57/109-115.

Report No.15. 25th February, 1958
84Q/3.

ANALYSIS OF LATERITE DEPOTISTS PADDYS CREEK AREA. NORTHERN QUEENSLAND.

by

J.R.Beevers

Laterite deposits are formed over Serpentine in the Paddys Creek area, Northern Queensland. Here two types of laterite are represented:

1. Pisolitic laterite
2. Vesicular laterite

The pisolitic laterite is the more abundant and is represented by specimens A. B. C.D. and J. The pisolites contain iron and are embedded in a ferruginous or clayey matrix. The pisolites vary in size from about 1/32" in diameter (specimen J) to about 1/2" diameter (specimen C). specimens A, B & D, having intermediate sizes.

The Vesicular laterites are represented by specimens E, F, G, and H and generally consist of encrusted irregular channels which are probably filled with ferruginous and clayey material.

The above descriptions were supplied by D. White. Assays for Ni and Co on the specimens resulted:

		Ni%	Co%
A	Pisolitic	0.13	Trace
B	Pisolitic	0.06	0.16
C	Pisolitic	0.12	Trace
D	Pisolitic	0.50	0.33
E	Vesicular	0.27	Trace
F	Vesicular	0.28	Trace
G	Vesicular	0.11	Not detected
H	Vesicular	0.22	Trace
J	Pisolitic	0.48	Trace

The specimen D had a relatively high assay for Ni and Co and a full analysis was therefore carried out on the specimen to determine its exact composition.

Specimen D.		
	H_2O+	12.57 %
	SiO_2	20.92 %
	Al_2O_3	13.59 %
	Fe_2O_3	48.92 %
	TiO_2	0.19 %
	Cr_2O_3	1.27 %
	MnO_2	1.87 %
	Ni	0.50 %
	Co	0.33 %
	V_2O_5	Shown to be present by X-ray Data but only present in very small quantity.

Lab.Nos. 58/361-370

Report No.16.

5th March, 1958.
130ACT/1.

ANALYSIS OF A SAMPLE OF BORE WATER FROM HALL. A.C.T.

by

S. Baker

Following are the results for the analysis of a sample of bore water ex "Charnwood", Hall, A.C.T. (Lake George 052538) submitted by G. Burton.

Silica (SiO_2)	18.4	p.p.m.
Iron, Alumina ($Fe_2O_3 + Al_2O_3$)	3.6	"
Lime (CaO)	145	"
Magnesia	124	"
Chloride (Cl)	106	"
Sulphate (SO_3)	76	"
Bicarbonate (HCO_3)	577	"
Sodium (Na)	41	"
Potassium (K)	10	"
pH	6.8	"

Lab. No.58/396

Report No. 17.

11th March. 1966.
198NT/1.

ANALYSIS OF SIX ROCK SAMPLES

by

S. Baker

The samples were submitted by B.P. Walpole and their localities are as follows:

No.1133 - Cullen Granite, Edith Creek Crossing on Stuart Highway. D53/9 Mount Todd.

B3279 - Burton Creek Granite, five miles west of Finniss River Crossing. (Pt.1, Photo 380675, Run 11, Tumbling Waters).

4220 - Mount Goyder Syenite - two miles S.S.E. of Mount Bundey Homestead (Mount Bundey - 1:mile Sheet).

3273 - Hermit Hill Granite - thirty miles south-west of Daly River, along Daly River- Port Keats track. (Muldiva Creek 1-mile Sheet).

3283 - Cullen Granite - quarter mile wesr of Goodparla track, 1 mile passed the turn off. D52/8 Table Top.

3290 - Mount Bundey Granite - three miles north-east of old Battery in Mount Bundey Creek. (Mount Bundey 1-mile Sheet).

Lab.No.	58/392	58/391	58/390	58/393	58/394	58/395
Sample No.	1133	B3279	4220	3273	3283	3290
% SiO_2	72.94	71.58	59.76	73.58	71.30	71.16
% FeO.	2.10	1.49	1.52	0.98	1.43	1.09
% Fe_2O_3	0.51	0.39	5.38	0.76	1.19	1.59
% Al_2O_3	13.70	15.48	16.56	14.16	14.57	13.82
% TiO_2	0.03	0.10	0.15	0.05	0.08	0.09
% MnO	0.04	0.03	0.09	0.02	0.06	0.03
% CaO	0.66	1.78	2.14	0.82	0.76	1.45
% MgO	1.08	0.92	2.44	0.73	0.69	1.23
% K_2O	4.93	3.66	5.52	4.42	5.68	5.05
% Na_2O	2.54	4.03	4.98	3.29	3.13	3.71
% P_2O5	0.09	0.07	0.10	0.09	0.08	0.07
% H_2O (-)	0.04	nil	nil	0.03	nil	nil
% H_2O (+)	0.90	0.86	0.94	0.88	0.87	0.58
% Total	99.56	100.39	99.58	99.81	99.86	99.87

Lab. No.58/390-395

Lab. Report No.18.

14th March, 1958.
198NT/1

ANALYSIS OF SIX ROCK SAMPLES

by

S. Baker

The samples were submitted by B.P. Walpole and their localities are as follows:

B 1135 Nanambu Granite: Nanambu Creekm Mount Brookman 1-mile Sheet.

B 3272 Allia Creek Granite

B 3289 Tumbling Waters Granite. East of Goodwill Mine, Mount Tolmer 1- mile Sheet.

B 4325 Shoebridge Granite. Mount Shoebridge Stuart Highway.

B 3275 Burnside Granite. 2½ miles N.N.W. of Brocks Siding. Burnside 1 - Mile Sheet.

B 3278 Fenton Granite. 2½ miles east of south end of Fenton air strip. Tipperary 1-mile Sheet.

Lab. No.	58/408	58/406	58/407	58/409	58/480	58/411
Field No.	B3289	B4325	B3278	B3272	B3275	B1135
% SiO_2	74.68	70.42	72.82	60.30	71.96	69.00
% Al_2O_3	14.56	14.02	14.03	19.27	13.87	16.05
% Fe_2O_3	1.58	0.73	0.91	0.73	0.41	0.78
% FeO	0.37	1.55	1.83	5.66	1.35	1.09
% MgO	0.33	1.29	0.79	1.61	0.68	0.94
% CaO	0.48	1.63	0.87	3.54	1.07	1.25
% Na_2O	4.77	3.34	2.76	2.33	3.50	3.66
% K_2O	2.30	6.06	5.18	3.73	5.68	6.32
% H_2O4*	0.39	0.98	0.71	1.30	0.61	0.32
% H_2O+950°C	-	1.21	1.03	1.53	-	-
% H_2O (-)	Nil	0.02	nil	0.03	nil	nil
% TiO_2	0.05	0.25	0.30	0.85	0.30	0.20
% P_2O_5	0.05	0.10	0.07	0.12	0.07	0.10
% MnO	0.04	0.08	0.05	0.07	0.05	0.03
% Total	99.60	100.47	100.32	99.54	99.55	99.74

Lab. No. 58/406-411.

* Loss on ignitition 600°C.

Report No.19.

24th March. 1966.
198NT/1

ANALYSIS OF SIX ROCK SAMPLES

by

S. Baker

The samples were submitted by B.P. Walpole and their localities are as follows:

1135 Nanambu Granite. Nanambu Creek, Mount Brpokman 1- mile Sheet.

3272 Allia Creek Granite

3289 Tumbling Waters Granite. East of Goodwill Mine, Mount Tolmer 1 - mile Sheet.

4325 Shoebridge Granite. Mount Shoebridge Stuart Highway.

3275 Burnside Granite. 2½ miles N.N.W. of Brocks Siding. Burnside 1-mile Sheet.

3278 Fenton Granite. 2½ miles east of south end of Fenton air strip. Tipperary 1-Mile Sheet.

Lab. No. / Field No.	58/408 B3289	58/406 P4325	58/407 B3278	58/409 B3272	58/410 B3275	58/411 B1135
% SiO_2	74.68	70.42	72.82	60.30	71.96	69.00
% Al_2O_3	14.56	14.02	14.03	19.27	13.87	16.05
% Fe_2O_3	1.58	0.73	0.91	0.73	0.41	0.78
% FeO	0.37	1.55	1.83	5.66	1.35	1.09
% MgO	0.33	1.29	0.79	1.61	0.68	0.94
% CaO	0.48	1.63	0.87	3.54	1.07	1.25
% Na_2O	4.77	3.34	2.76	2.33	3.50	3.66
% K_2O	2.30	6.06	5.18	3.73	5.68	6.32
% N_2O+*	0.39	0.98	0.71	1.30	0.61	0.32
% H_2O -	nil	0.02	nil	0.03	nil	nil
% TiO_2	0.05	0.25	0.30	0.85	0.30	0.20
% P_2O_5	0.05	0.10	0.07	0.12	0.07	0.10
% MnO	0.04	0.08	0.05	0.07	0.05	0.03
% Total	99.60	100.47	100.32	99.54	99.55	99.74

* Loss on ignition 600°C.

Lab. No.58/406-411.

Report No.20

25th March. 1958
120ACT/1

ANALYSIS OF A WATER SAMPLE FROM HALL. A.C.T.

by S. Baker

Following are the results for the analysis of a water sample ex "Brooklamd", Hall, A.C.T., submitted by G. Burton.

		Milliequivalents/litre.
Total dissolved solids	300 p.p.m.	-
Sulphate	not detected	-
Chloride (Cl)	110 p.p.m.	3.11
Silica (SiO_2)	14.0 p.p.m.	-
Iron + Aluminia ($Fe_2O_3 + Al_2O_3$)	7.0 "	-
Lime (CaO)	45.5 "	1.62
Magnesia (MgO)	43.6. "	2.16
Sodium (Na)	31.0 "	1.35
Potassium (K)	5.0 "	0.12
Bicarbonate (HCO_3^-)	200 "	3.28
pH	6.4	-

Lab.No. 58/997.

Report No.21

25th March. 1958

ANALYSIS OF THREE LIMESTONE SAMPLES

by

S. Baker

Following are the results for the analysis of three samples of limestone submitted by G. Thomas.

	MAC I	F.17.195	F.17.197
Insoluble material	7.74%	12.08%	3.16%
$CaCO_3$	49.04%	34.22%	52.24%
$MgCO_3$	39.74%	47.51%	43.81%
mol. Ratio $\frac{CaCO_3}{MgCO_3}$	1.03	0.60	0.99

Lab. No.58/403-405

Report No.22.

27th March. 1966.
84NT/B-10.

ANALYSIS OF A DRILL CORE FROM THE WATERHOUSE NO.2 PROSPECT. N. TERRITORY.

by

J.R. Beevers

A drill core submitted by the Geophysical Section from the Waterhouse No.2 prospect, N.T. has been assayed for various minerals with the following results:

Ash on Air Dried Sample. 91.6%

Major elements:	Fe	5.26%
	S	3.47%
Minor elements:	Cu	460 p.p.m.
	Pb	140 "
	Zn	920 "
	Ni	74 "
	Co	Not detected

Lab. No.58/425

Report No.23

1st April, 1958
84G/1

ANALYSIS OF RADIOACTIVE ORE SAMPLES

by

J.R. Beevers

Some radioactive ore samples submitted by B.Walpole have recently been analysed for uranium content on the polarograph. The thorium content has been determined gravimetrically.

Sample No.	UO_2	ThO_2	Pb
B 7728	65.7%	0.16%	-
B 7729	86.4%	0.08%	6.22%
B 7730	81.0%	0.20%	-

Lab. Nos. 57/160, 161, 162

Report No.24

10th April, 1958
198NT/1

ANALYSIS OF SIX ROCK SAMPLES

by

S. Baker

The samples were submitted by B.P. Walpole and their localities are as follows:

3968 - McKinlay Granite, Burrundie, Run 2, Photo 75, Pt.1.

3970 - McKinlay Granite, Burrundie, Run 2, Photo 75, Pt.3.

3975 - Price's Spring Granite, Burrundie, Run 1, Photo 54, Pt. 5.

3281 - Rum Jungle Granite, west of Railway Track, three-quarter of a mile from Fitch Track.

4324 - Waterhouse Granite, 3 miles south-west of Stapleton Homestead.

4621 - Burton Creek Granite, Fog Bay, Run 2, Photo 5093, Pt. 1.

Lab. No. Field No.	58/429 3968	58/427 3970	58/432 3975	58/428 B3281	58/431 B4324	58/430 B4621
SiO_2	67.04	67.72	69.92	69.62	72.61	73.51
Al_2O_3	16.42	15.51	15.08	14.35	14.20	14.49
Fe_2O_3	0.29	0.96	0.91	1.09	0.56	0.53
FeO	2.61	2.58	2.20	2.20	0.93	0.96
MgO	0.96	1.09	1.14	1.40	1.00	1.05
CaO	1.91	1.51	1.64	0.80	0.42	1.17
Na_2O	3.07	3.05	2.65	2.67	3.29	2.97
K_2O	5.31	5.37	5.18	6.19	5.43	3.98
loss on ignition	1.40	1.08	0.77	0.23	0.84	0.53
H_2O (105°C)	0.02	0.03	nil	0.04	nil	nil
TiO_2	0.50	0.48	0.45	0.61	0.15	0.21
P_2O_5	0.22	0.19	0.18	0.25	0.05	0.04
MnO	0.10	0.09	0.05	0.04	0.03	0.02
Total	99.85	99.66	100.17	99.49	99.51	99.46

Lab. No. 58/427-432

Report No25

23rd April, 1958

198NT/1

CHEMICAL ANALYSIS OF SIX ROCK SAMPLES

by

S. Baker

The samples were submitted by B.P. Walpole. and their localities are as follows:

Granodiorite	B 2997	- Hermit Hill Complex - Muldiva Creek.
Granodiorite	B 2973	- Litchfield Granite - Mount Litchfield South, on old road.
Granite	B 3274	- Litchfield Granite
Microgranite	B 3288	- Middle Creek Granite - Mount Evelyn 1 mile Sheet.
Lencoadamellite	3915	- Nanambu Granite - Alligator River, Run 1, Photo 5007.
Adamellite	3999	- Shoebridge Granite - Tipperary. Run 1. Photo 5047. Point 3.

Lab. No.	58/433	58/435	58/434	58/436	58/437	58/438
Field No.	B2973	B3274	3915	3999	B2997	B3288
% SiO_2	74.00	75.00	76.86	70.88	68.20	75.26
% Al_2O_3	14.06	13.71	12.39	15.00	16.53	12.05
% Fe_2O_3	1.28	0.87	0.96	1.80	1.27	1.40
% FeO	1.29	0.37	0.36	0.89	3.10	1.18
% MgO	0.41	0.27	0.13	0.74	1.47	0.20
% CaO	2.28	0.64	0.79	1.27	2.12	0.58
% Na_2O	4.35	2.23	2.44	3.29	2.01	2.97
% K_2O	1.26	5.81	5.43	4.48	4.11	5.31
% H_2O ($105^\circ C$)	nil	nil	nil	nil	0.01	nil
% loss on ignition	0.35	0.68	0.50	0.75	0.66	0.48
% TiO_2	0.22	0.10	0.07	0.26	0.47	0.07
% P_2O_5	0.03	0.03	0.02	0.03	0.01	0.04
% MnO	0.03	0.04	0.02	0.03	0.07	0.02
Total	99.56	99.75	99.97	99.42	100.03	99.56

Lab.No. 58/433-438

Report No. 26

29th April, 1966.
106Q/7

ANALYSIS OF A SAMPLE OF BANDED LIMESTONE FROM THE BOULLA AREA, QUEENSLAND.

by

A. McClure

Following is the result of the analysis of a sample of banded limestone from the Boulia area, Queensland. This was recently submitted by R.R. Vine.

Sample No. B.261

	Insolubles (ignited at 8000°)	$CaCO_3$	$MgCO_3$	Loss at 105°C
Light band	8.00%	90.36%	1.59%	0.06%
Brown band	9.96%	79.67%	8.58%	0.12%

Report No. 27

29th April, 1958.
198PNG/1

NICKEL ASSAY ON A PERIDOTITE BRECCIA

by

S. Baker

Following is the result for the determination of nickel on a sample of Peridotite breccia weighing approximately 300 g., submitted by J.E. Thompson.

Field No.	Locality	Ni
P. 146	Eastern end of Didana Range, Northern District, Didana.	0.71%

Lab.No. 58/440

Report No. 28

1st May, 1966.
45ACT

ANALYSIS OF A SAMPLE OF BORE WATER FROM NARRABUNDAH. A.C.T.

by

S.BBaker

Following are the results for the analysis of a sample of bore water from Mr. G. Pini, Narrabundah, submitted by J. Burton.

		Milliequ./litre
Total solids	390 p.p.m.	-
SiO_2	17.2 "	-
Iron & Alumina ($Fe_2O_3 + Al_2O_3$)	2.0 "	-
CaO	66.4 "	2.35
MgO	37.0 "	1.84
Na	32.6 "	1.42
K	3.0 "	0.08
Bicarbonate (HCO_3)	260. "	4.26
Cl	46.0 "	1.30
pH	6.6	-

Lab.No.58/441

Report No. 29

9th May, 1958

ANALYSIS OF FOUR MANGANESE ORE SAMPLES FROM CALVERT HILL. N.T.

by

S. Baker

Following are the results for the analysis of four samples of a manganese ore from Calvert Hill, N.T. submitted by J.Firman.

Sample No.	9026	9027	9028	9029
Manganese (Mn)	32.9%	31.0%	29.9%	38.5%

Lab. No. 58/442-445

Report No. 30

21st May, 1966.
120NT/9

ANALYSIS OF A GLAUCONITE SANDSTONE SAMPLE

by

A. McClure

A sample of glauconitic sandstone (No.1403) collected by J.B.Firman in the Settlement Creek Valley, Calvert Hills area, Northern Territory, was submitted by W. Dallwitz for potash and phosphate analysis. The results obtained are:

K_2O	P_2O_5
2.57%	0.47%

Report No. 31

27th May, 1958

ANALYSIS OF PHOSPHATE SAMPLES FROM THE SOLOMON ISLANDS.

by

A. McClure

Phosphate samples from the Solomon Islands have been analysed, with the following results:

Sample No.	P_2O_5%	Sample No.	P_2O_5%
N3C	25.0	G8B	28.6
G3B	0.7	GW3E	25.1
G2B	0.4	GW3C	25.0
G7E	31.3	GW5A	21.9
MW3F	33.2	N10B	16.7
K5A	21.6	N4A	24.4
M4B	25.9	GW4A	25.4
G7D	25.4	H7B	22.3
G7B	24.8	A2A	18.4
N3D	35.2	K6B	19.4
A5B	29.1	GW5C	21.4
G8C	34.2	K8C	34.6
G11F	24.3	GW3D	25.2
G11D	23.0	G5C	7.7
G10D	34.4	H5B	25.6
H2C	1.7	GW5B	21.9
K7A	19.7	N10A	17.2
K10A	24.1		

All samples were dried at 110°C.

Report No.32 27th May, 1958

ANALYSIS OF PHOSPHATE SAMPLES FROM THE SOLOMON ISLANDS.

by

A. McClure

Following are the results of the phosphate analysis of some samples from the Solomon Islands:

Sample No.	P_2O_5
K4B	23.3%
M5B	24.2%
N9B	26.0%
G6D	0.6%
GW6B	24.4%
G3A	4.4%
N8C	34.9%
MW5A	0.5%
N10C	17.9%
N9C	33.3%
G10B	24.7%
N3A	22.8%
G11E	24.6%
N4B	26.4%
N3B	24.5%
G11C	22.0%
G11G	24.4%
N10D	16.7%
N7B	29.2%
N9A	24.1%
G2A	17.1%
G12B	0.4%
GW3A	20.8%
G5B	19.0%

All samples were dried at 110°C before weighing.

Report No.33 30th May, 1958

PHOSPHATE DETERMINATIONS ON SAMPLES FROM THE SOLOMON ISLANDS.

by A. McClure

Following are results for phosphate determinations on samples from the Solomon Islands. All results refer to samples dried at 110°C.

Sample No.	P_2O_5%	Sample No.	P_2O_5%
NW2D	27.6	M4C	33.7
P2C	24.8	N3B	26.1
MW2C	26.1	M3A	24.1
G9A	36.9	N8B	28.7
G11A	20.0	G9B	26.1
M4A	24.8	G9D	35.6
N5B	26.0	G4B	less than 0.5
MW3E	24.9	D5A	24.3
P3A	26.0	A4B	25.6
H5A	25.8	G4A	7.4
N6A	26.5	G8D	18.4
K9A	26.2	H6B	27.3
K11A	12.1	G1QE	36.9
K10B	15.8	G1N2A	17.3
G6A	11.5	GW2B	11.3
H2B	17.3	K4A	8.5
K11B	13.4	GW2C	12.6
GW3F	17.8	G11A	12.1

Report No.34 30th May, 1958.

ANALYSIS OF PHOSPHATE SAMPLES FROM THE SOLOMON ISLANDS.

by

A. McClure

The following results are for the phosphate analysis of twenty-four samples from the Solomon Islands

Sample No.	P_2O_5%	Sample No.	P_2O_5%
G7F	39.2	P2A	23.3
A5C	30.2	MW3C	26.2
H4A	23.8	A3B	25.6
H7A	20.9	H6A	24.8
P2B	24.6	K9D	26.8
G10E	37.9	GW4C	35.1
MW3B	25.8	A3A	24.8
H5C	26.5	A4D	26.0
P2D	25.5	A2B	19.3
A4E	26.4	K8B	32.4
K10C	27.0	H6C	26.4
G5A	19.4	K12A	15.2

All samples were drued at 110°C.

Lab. No. 58/448

Report No.35 2nd June, 1958

ANALYSIS OF TWO WATER SAMPLES

by

S. Baker

Following are the results for the analysis of two water samples submitted by G.M. Burton.

	No.2		No.3	
Dissolved solids	940 p.p.m.		290 p.p.m.	
Silicon (SiO_2)	32 "		69 "	
Iron + alluminia	7 "		4 "	
Calcium (Ca)	80.7 "	(3.95 milliequiv/litre)	26.2 "	(1.28 milligramme/litre.
Magnesium (Mg)	46.3 "	(3.81 ")	10.8 "	(0.88 ")
Sodium (Na)	173. "	(7.52 ")	25.8 "	(1.1 ")
Potassium (K)	3 "	(0.08 ")	1. "	(0.03 ")
Chlorine (Cl)	321 "	(9.05 ")	26.6 "	(0.75 ")
Bicarbonate	396 "	(6.5 ")	165. "	(2.70 ")
pH	7.1		7.3	

Note: Sample No.2 ex Mr.Hyles' Bore, Gulla.
Sample No.3 ex Mr.J.J. Goslett's Bore.

Lab. No. 58/446, 447.

Report No.36 6th June, 1958

PHOSPHATE DETERMINATION ON SAMPLES FROM THE SOLOMON ISLANDS.

by

S. Baker

Following are the results for the phosphate determination on samples submitted from the Solomon Islands.

Sample No.	P_2O_5%	Sample No.	P_2O_5%
K6A	18.4	G10A	19.1
K11C	23.6	P4B	21.0
MW3A	22.6	N6B	28.6
GW6A	18.2	G9A	19.1
K8A	22.8	G7G	21.5
H2A	20.6	P2F	17.3
K11E	23.6	MW2B	23.4
M5A	21.7	K9C	23.0
P5C	27.1	G10G	23.2
A3C	24.9	P2E	22.6
H4B	23.6	K9B	22.6
MW2A	23.9	P4A	22.1
H1A	21.7	GW6B	16.9
M3C	24.5	G7A	20.8
P5D	32.1	M5C	22.3
K11D	22.1	A4C	21.5
H3A	21.0	N5A	22.1
GW4B	31.7	G9C	23.4
N7A	20.8	G12A	12.1
K12B	17.1	A4F	23.6
G6B	24.3	MW3D	24.1
H7G	17.8	G11B	19.7
N8A	19.5	G8A	22.1
P5B	25.8	N5C	25.1
		A4A	20.8
		A5A	20.6

Lab.No. 58/448.

Report No.37 12th June, 1966.

CARBON DIOXIDE DETERMINATION OF THREE BRICK SHALE SAMPLES FROM THE DEAKIN PIT.

130ACT/1

by

S.Baker

Following are results for carbon dioxide determination on samples of Brick Shale from the Deakin Pit, submitted by D.E. Gardner.

Sample No.	S1	(35' - 65')	.. 1.9% CO_2
"	S2	(65' - 100')	.. not detected
"	S3	(50' - 51')	.. 5.25% CO_2

Lab. No.58/458

Report No. 38 22nd July, 1958

DETERMINATION OF CARBON DIOXIDE CONTENT OF FOUR SHALE SAMPLES

by

S. Baker

Following are the results for the carbondioxide determination on samples of shale submitted by D.E. Gardner.

Sample	Percent CO_2
I	0.9
II	0.3
III	5.8
IV	10.9

Lab. No.58/464

Report No.39 28th July, 1958

ANALYSIS OF LATERITIC SOIL SAMPLES

by

S.Baker

In accordance withJ.E. Thompson's request, six samples of lateritic soil were analysed for nickel so as to compare the results obtained with those of Mr.Macfarlane. It is considered that the agreement obtained is satisfactory.

Sample No.	Percent Ni	
SPR 16 Hole 25, 3' - 6'	0.82	(0.84)*
" 6' - 9'	0.55	(0.82)
" 9' - 12'	1.17	(1.24)
" 12' - 15'	1.76	(2.02)
" 15' - 18'	1.86	(1.93)
" 18' - 21'	2.64	(2.58)

* The results in brackets are those of Mr.Macfarlane.

Lab. No. 58/462

Report No.40 28th July, 1958
45ACT/1.

ANALYSIS OF WATER SAMPLES FROM THE A.C.T.

by

W.J. Thomas

The samples were submitted by E.G. Wilson.

	Sample 1.		Sample 2.	
Dissolved solids (105°C)	ppm. 2025	m.e./1	ppm. 878	m.e./1
Calcium	218	10.9	147	7.4
Magnesium	146	12.1	52	4.3
Sodium	226	10.0	69	3.0
Bicarbonate	646	10.8	486	8.1
Sulphate	490	10.9	86	1.8
Chlorine	413	11.4	161	4.6
pH	7.27		7.48	

58/460 No.1 Hall: R. Brown.
58/461 No.2 Gunghalin : Cavanagh.

Report No.41 14th August, 1958

CARBON DIOXIDE CONTENT OF A BRICK SHALE SAMPLE

by

S. Baker

A sample of brick shale subnitted by D.E. Gardner contained 0.05% carbon dioxide.

Lab. No. 58/467.

Report No.42. 22nd August, 1958
45ACT/1.

ANALYSIS OF A BORE WATER SAMPLE FROM "THE VALLEY", BUNGENDORE. N.S.W.

by

W.J. Thomas

Following are the results of the analyses of a water sample submitted by G.M. Burton.

Dissolved solid (105°C).	272 p.p.m.	Milli equiv/litre
Calcium	19	0.95
Magnesium	12	1.00
Sodium	64	2.78
Chlorine	94	2.65
Bicarbonate	90	1.50
Sulphate	33	0.69
pH	7.2	

The sample is from F.H. Braund's bore, "The Valley" Bungendore.

Lab.No.58/465

Report No.43 25th August, 1958.
58W/1

ANALYSIS OF MANGANESE ORE. SAMPLES FROM BALFOUR DOWNS. W. A.

by

S. Baker

Following are the results for the analysis of samples of manganese ore submitted by L.de la Hunty, Balfour Downs, Western Australia.

Sample No.	Percent Manganese (as Na)
98401	45.3
98403	50.3
98404	38.2
98405	40.9
98406	36.8
98407	43.1
98409	44.5
98409	40.9
98410	38.2
98412	38.7
98413	35.7
98414	39.0
98415	36.5
98416	42.3
98417	38.7
98418	30.2
98419	41,7
98420 (shales)	13.2
98421 (shales)	13.2

2. On a further four samples containing a fair amount of soil of the +¼inch mesh fraction was assayed for manganese.

Sample No.	+¼ inch mesh fraction	Per cent Manganese
98402	39% of total sample.	36.2
98411	73% "	17.3
98422	26.5% "	36.8
98423	37.5% "	24.2

Lab.No.58/470-492.

Report No.44. 29th August, 1958
131G/1

LITHIUM ANALYSIS ON SAMPLES FROM FERGUSSON ISLAND, PAPUA - NEW GUINEA.

by

S. Baker

Following are results for lithium determination on two water samples and one solid sample, submitted by G.Kretzschmar from Fergusson Island - Papua New Guinea, Section 'Amali-Amali' No.1 area, Fagalulu.

	Lithium (as Li)
Water sample, bottle 1, 2, 3.	0.33 p.p.m.
" bottle 4, 5.	5. p.p.m.
Solid sample	10. p.p.m.

Lab.No.58/413

Report No.45

15th September, 1958
64NT/1

PHOSPHATE ANALYSIS ON THREE PHOSPHATE SAMPLES FROM DARWIN. N.TERRITORY.

by

S. Baker

Following are results for phosphate determination on three samples, submitted by N.J. Mackay, Darwin.

Sample No.	Percent P_2O_5
2612	4.0
2620	not detected
2627	10.1

Lab. No.58/507.

Report No.46

18th September, 1958
38PNG/1

DETERMINATION OF SULPHATE AND POTASSIUM ON FOUR SAMPLES FROM T.P.N.G.

by

S. Baker

Following are the results for determination of sulphur and potassium on samples submitted by N. Hirsch and K. Verwaal.

Sample No.	Percent sulphur
1	97.0
2	83.0
3	50.0
4	32.0

Sample No.3 was described as "Kalium' contained 1.0% potassium.

Apart from the sulphur present, sample No.4 is essentially water-soluble. The agueous solution obtained contains a fair amount of iron-sulphate.

Lab.No.58/508.

Report No.47

13th October, 1958
1530/1

ANALYSIS OF SAMPLES FROM THE NAMOONA AREA, NORTHERN TERRITORY.

by

W.J. Thomas

Geochemical samples from the North Grid, Anomaly B, Namoona Land Prospects, N.T., submitted by W.N. Thomas, Enterprise Exploration Co.Pty.Ltd., were analysed for lead with the following results.

Sample No.	Pb p.p.m.	Sample No.	Pb p.p.m.
32211	110	32231	350
12	120	32	220
13	2400	33	1600
14	220	34	200
15	150	35	140
16	110	36	180
17	100	37	500
18	500	38	230
19	1000	39	180
32220	330	32240	280
21	1500	41	170
22	460	42	No sample
23	780	43	80
24	240	44	250
25	120	45	530
26	310	46	340
27	380	47	310
28	360	48	720
29	850	49	160
32230	200		

Report No.48

21st October. 1958

ANALYSIS OF WATER SAMPLE FROM A.C.T.

45ACT/1

by

W.J. Thomas

The results of the analysis of a water sample from Hall 1, R.H.Brown, Hall, submitted by E.G. Wilson on 22/8/58, are as follows:

Total solids (105°C)	1968	p.p.m.	
Calcium	262	"	13.1
Magnesium	154	"	12.9
Sodium	146	"	6.3
Chloride	390	"	11.0
Sulphate	495	"	10.3
Bicarbonate	654	"	10.9
pH	7.3		

Copper not detected.

Lab.No.58/503

Report No. 49

22nd October, 1958
45ACT/1

ANALYSIS OF WATER SAMPLE FROM COPPER MINE, HALL. A.C.T.

by

W.J. Thomas

The results of the analysis of a water sample from Copper Mine, Hall, submitted by E.G. Wilson on 21/8/58, are as follows:

Total solids (105°C)	89	p.p.m.	
Calcium	12	"	Milli equivalents/litre 0.6
Magnesium	5	"	0.4
Sodium	4	"	0.2
Chloride	3	"	0.1
Sulphate	24.	"	0.5
Bircarbonate	18	"	0.4
pH 6.4			
Copper	2.	"	

Lab.No.58/494

Report No.50

22nd October, 1958

ANALYSIS OF A WATER SAMPLE FROM PINEY CREEK, STROMLO. A.C.T.

byW.J. Thomas

The results of the analysis of a water sample from Stromlo 1, R.B.C. Tanner, Piney Creek, submitted by E.G. Wilson on 26th August, 1958, are as follows:

Total solids (105°)	1470	p.p.m	Milli equivalents/litre
Calcium	214	"	10.7
Magnesium	99	"	8.3
Sodium	47	"	2.0
Chloride	276	"	7.8
Sulphate	169	"	3.5
Bicarbonate	660	"	11.0
pH	6.7		

Lab.No.58/495

Report No.51

22nd October, 1958
45ACT/1

ANALYSIS OF WATER SAMPLE FROM LAKE GEORGE

by

W.J. Thomas

The results of the analysis of a water sample from Lake George 302628 Read, submitted by E.G. Wilson on 29/8/58, are as follows:

Total solids (105°C)	1230 p.p.m.	Milli equivalents/litre
Calcium	77 "	3.8
Magnesium	65 "	5.4
Sodium	293 "	12.7
Chloride	392 "	11.0
Sulphate	65 "	1.4
Bicarbonate	600 "	10.0
pH	7.3	

Lab. No.58/494

Report No. 52

23rd October,, 1958
45ACT/1

ANALYSIS OF A WATER SAMPLE FROM MICHELAGO I

by

W.J. Thomas

The results of the analysis of a water sample from Michelago 1, T.Lawler, "Rock Forrest", submitted by E.G. Wilson on 19/8/58, are as follows:

Total solids (105°C)	1054 p.p.m.	Milli equivalents/litre
Calcium	164 "	8.2
Magnesium	56 "	4.7
Sodium	150 "	6.5
Chloride	234 "	6.4
Sulphate	19 "	0.4
Bicarbonate	738 "	12.3
pH	7.2	

Lab. No.58/496

Report No.53. 23rd October, 1958
45ACT/1

ANALYSIS OF A WATER SAMPLE FROM MICHELAGO 2.

by

W.J. Thomas

The results of the analysis of a water sample from Michelago, T.Lawler, off Cooma Road, Michelago, submitted by E.G. Wilson on 19/8/58 are as follows:

Total solids (105°C)	765 p.p.m.	Milli equivalents/litre
Calcium	112 "	5.6
Magnesium	60 "	5.0
Sodium	46 "	2.0
Chloride	138 "	3.9
Sulphate	11 "	0.2
Bicarbonate	504 "	8.4
pH	7.8	

Lab.No.58/497

Report No.54. 23rd October, 1958
45ACT/1.

ANALYSIS OF A WATER SAMPLE FROM LANYAN 2. WILLLAMSDALE

by

W.J. Thomas

The results of the analysis of a water sample from Lanyan 2, B. Moore, "Burroburroo" Williamsdale, submitted by E.G.Wilson on 19/8/58, are as follows:

Total solids (105°C)	1980 p.p.m.	Milli equivalents/litre
Calcium	208 "	10.4
Magnesium	117 "	9.8
Sodium	197 "	8.6
Chloride	574 "	16.2
Sulphate	-	-
Bicarbonate	744 "	12.4
pH	7.2	

Lab.No.58/498

Report No.55 — 23rd October, 1958
45ACT/1

ANALYSIS OF A WATER SAMPLE FROM HALL 3. NEAR "FAIRVIEW" HALL.

by

W.J. Thomas

The results of the analysis of a water sample from Hall 3, M.Southwell, near "Fairview", Hall, submitted by E.G.Wilson, on 20/8/58, are as follows:

Total solids (105°C).	3832 p.p.m.	Milli equivalents/litre
Calcium	527 "	26.3
Magnesium	284 "	23.7
Sodium	130 "	5.7
Chloride	500 "	14.1
Sulphate	1465 "	30.5
Bicarbonate	648 "	10.8
pH	7.0	

Lab.No.58/499

Report No.56 — 23rd October, 1958
45ACT/1.

ANALYSIS OF A WATER SAMPLE FROM "WATTLE PARK", HALL

by

W.J. Thomas

The results of the analysis of a water sample from S.J.Southwell, "Wattle Park", Hall, submitted by E.G.Wilson on 20/8/58, are as follows:

Total solids (105°C)	1499 p.p.m.	Milli equivalents/litre
Calcium	203 "	10.1
Magnesium	112 "	9.3
Sodium	145 "	6.3
Chloride	432 "	12.2
Sulphate	98 "	2.0
Bicarbonate	702 "	11.7
pH 7.3		

Lab.No.58/540

Report No.57 23rd October, 1958

ANALYSIS OF A WATER SAMPLE FROM SURVEYORS HILL. HALL.

by

W.J.Thomas

The results of the analysis of a water sample from Hall 6, J.J. Goslett, Surveyors Hill, Hall, submitted by E.G. Wilson on 20/8/58, are as follows:

Total dissolved solids (105°C).		375 p.p.m.	Milli equivalents/litre
Calcium		67 p.p.m.	3.4
Magnesium		26 "	2.2
Sodium		33 "	1.4
Chloride		30 "	0.8
Sulphate		13 "	0.3
Bicarbonate		330 "	5.5
pH	7.3		

Lab. No.58/501

Report No.58 23rd October, 1958
45ACT/1

ANALYSIS OF A WATER SAMPLE FROM CITY 1. JERRABOMBERRA AVENUE.

by

W.J. Thomas

The results of the analysis of a water sample from City 1, H.V. Fitzhardinge, Jerrabomberra Avenue, submitted on 29/8/58, by E.G. Wilson, are as follows:

Total solids (105°)		293 p.p.m.	Milli equivalents/litre
Calcium		34 "	1.7
Magnesium		20 "	1.7
Sodium		37 "	1.6
Chloride		32 "	0.9
Sulphate		18 "	0.4
Bicarbonate		216 "	3.6
pH	7.8		

Lab.No.58/344

Report No.59

28th October, 1958
45PNG/1

ANALYSIS OF A WATER SAMPLE FROM ST.MARGARETS HOSPITAL. PORT MORESBY.

by

W.J. Thomas

The results of the analysis of a water sample from St.Margarets Hospital, Port Moresby, submitted by W.R. Lyster on 9th September,1958, are as follows:

Total solids (105°C)		130 p.p.m.	Mille equivalents/litre
Calcium		16 "	0.8
Magnesium		8 "	0.7
Sodium		10 "	0.4
Bicarbonate		72 "	1.2
Sulphate		18 "	0.4
Chloride		8 "	0.2
Nitrate		not detected	
pH	7.8		

Lab. No.58/506

Report No.60

28th October, 1958

ANALYSIS OF A WATER SAMPLE FROM WALLAL DOWNS, CANNING BASIN

by

W.J. Thomas

The results of the analysis of a water sample from Wallal Downs, Canning Basin, B.M.R.4 submitted by M.Pulley as part of the Stratigraphic Drilling Programme 1958 are as follows:

Total solids (105°C)		1023 p.p.m.	Mille equivalents/litre
Calcium		47 "	2.4
Magnesium		31 "	2.6
Sodium		227 "	10.0
Bicarbonate		78 "	1.3
Sulphate		103 "	2.1
Chloride		402 "	11.3
Nitrate		not detected	
pH	7.3		

Lab. No.58/521

Report No. 61

10th November, 1958
198PNG/1

ANALYSIS OF TWO ROCK SAMPLES FROM T.P.N.G.

by

S. Baker

Following are results for the analysis of two rock samples submitted by J.E. Thompson.

Sample No.	P.195	P.196
SiO_2	53.78	33.0
Al_2O_3	2.36	2.04
Fe_2O_3	5.09	7.92
FeO	2.95	1.06
MgO	34.64	44.37
CaO	0.05	0.10
Na_2O	0.70	0.65
K_2O	0.12	0.11
H_2O (105°C)	0.03	0.34
Loss on igneition (1000°C)	0.97	10.90
TiO_2	0.10	0.10
P_2O_5	0.03	0.04
MnO	0.07	0.05
Ni (Chromatographic)	0.01	0.15
Cr	0.10	not detected
Total	100.89	100.68

Lab. 58/512, 513

Report No.62

10th November, 1958

ANALYSIS OF ROCK SAMPLES FROM THE NEWCASTLE RANGE. QUEENSLAND.

by

S. Baker

Following are the results for the analysis of rock samples from the Newcastle Range, Queensland, submitted by C. Branch.

Sample No.	B255	B282	B289	B272	B4128	B274.
SiO_2	73.38	74.72	74.06	74.48	70.40	75.66
Al_2O_3	12.17	9.96	12.80	14.80	16.95	14.29
Fe_2O_3	2.80	3.50	1.86	1.05	1.00	0.06
FeO	0.41	1.36	0.90	0.46	0.31	0.40
MgO	0.72	0.45	0.38	0.08	0.12	0.10
CaO	0.60	0.70	1.00	0.99	1.40	0.47
Na_2O	3.39	3.60	3.92	4.40	6.06	4.67
K_2O	4.99	4.55	4.93	2.44	2.10	2.97
H_2O (105°)	0.11	0.17	0.05	0.01	0.06	0.11
Loss on ignition 1000°C)	0.72	0.72	0.60	0.83	0.81	0.55
TiO_2	0.19	0.11	0.12	0.01	0.20	0.01
P_2O_5	0.02	0.06	0.02	0.01	0.05	0.03
MnO	0.04	0.07	0.03	0.08	0.06	0.09
Total	99.54	99.97	100.67	99.64	99.52	99.41

Lab.No.58/514, 515, 517, 518, 519, 520.

Report No.63 17th November, 1958

198PNG/1

DETERMINATION OF CHROMIUM AND IRON CONTENT OF TWO MAGNETIC CONCENTRATES FROM T.P.N.G.

by

S. Baker

Following are results for chromium and iron determination on magnetic concentrates of two samples submitted by J. Thomspon.

Sample No.	Cr_2O_3	Fe_2O_3
201 A	58.7%	17.8%
201 B	56.9%	23.8%

Lab. No. 58/528, 529

Report No.64 26th November, 1958

ANALYSIS OF ROCK SAMPLE FROM THE NEWCASTLE RANGE. QUEENSLAND.

by S. Baker

Following are the results for the analysis of a rock sample from the Newcastle Range, Queensland, submitted by C. Branch.

Sample No. B 293.

SiO_2	49.72 %
Al_2O_3	16.75 %
Fe_2O_3	4.94 %
FeO	1.44 %
MgO	1.32 %
CaO	12.04 %
Na_2O	3.18 %
K_2O	1.20 %
H_2O (105°C)	0.02 %
loss on ignition at 1000°C (excluding CO_2)	4.83 %
CO_2	3.50 %
TiO_2	0.38 %
MnO^2	0.10
SO_4	trace
Cr_2O_3	trace
P_2O_5	0.03
Total	99.55

Lab.No. 58/516

Report No. 65

26th November, 1958
58W/1

ANALYSIS OF MANGANESE ORES FROM RIPON HILLS. W. A.

by W.J. Thomas

The results of the analysis of manganese ores from Ripon Hills, Western Australia, submitted by L.de la Hunty, are as follows:

Sample No.	% Manganese (as Mn).
98464	44.0
65	35.4
66	3.8
67	31.6
68	21.9
69	20.01
70	42.7
71	35.2
72	15.1
73	32.7
74	45.2
75	50.0
76	determination not required
77	47.2
78	44.2
79	30.9
80	20.2
81	43.8
82	16.9
83	29.0
84	42.2
85	45.2
86	30.0
87	20.2
88	38.7

Lab.No.58/537

Report No. 66

5th December, 1958
58W/1

ANALYSIS OF MANGANESE ORES FROM RIPON HILLS WESTERN AUSTRALIA.

by

W.J. Thomas

The results of the analyses of manganese ores, from Ripon Hills, West Australia, submitted by L.de la Hunty, are as follows:

	% Manganese (as Mn)		% Manganese (as Mn)
98489	16.5	1327	31.6
90	27.5	1328	37.7
91	35.2	1329	17.6
92	18.2	1330	22.6
93	29.2	1331	20.4
95	24.8	1332	36.3
98500	53.0	1333	50.0
1301	39.3	1334	34.9
1302	49.0	1335	28.9
1303	38.5	1337	38.9
1304	32.4	1338	41.2
1305	49.8	1339	35.2
1306	28.4	1340	32.2
1307	58.0	1342	41.8
1308	52.3	1343	31.9
1309	37.7	1344	31.9
1310	less than 10%	1345	33.1
1312	49.5	1346	33.4
1313	51.5	1347	34.6
1314	56.3	1348	38.9
1315	35.3	1349	19.1
1316	44.4	1350	36.7
1318	32.6	1351	23.4
1319	31.9	1352	33.0
1320	40.5	1353	16.1
1321	33.7	1355	56.8
1322	26.2	1357	54.7
1324	29.7	1358	62.4
1325	31.4		
1326	40.2		

Report No.67 16th December 1958

ANALYSIS OF WATER SAMPLES FROM A.P.C. NEW GUINEA.

by

W.J. Thomas

The results of the analysis of water samples from A.P.C. New Guinea (Puri No.1), submitted by M. Konecki, are as follows:

1. Well: A.P.C. Puri No.1
   Drill stem test No.1
   Interval tested 8471-8897'
   Sample collected from drill pipe 30 stands above retaining value.

2. Well: A.P.C. Puri No.1
   Drill stem test No.3
   Interval tested 7450-7551'
   Sample collected from base of drill pipe.

3. Well; A.P.C. Puri No.1
   Drill stem test No.4
   Interval tested 7450-7750'
   Sample collected from drill pipe, immediately above retaining value.

1.	Total solids (105°C)	64,400	p.p.m.	Milli equivalents/litre
	Calcium	686	"	34.5
	Magnesium	104	"	8.7
	Sodium	23.380	"	1016.5
	Iron	310	"	5.6
	Bicarbonate	3,000	"	50.6
	Chloride	36,040	"	1015.0
	Sulphate	484	"	9.3
	pH 6.9			
2.	Total solids (105°C)	73,700	"	
	Calcium	1,150	"	57.5
	Magnesium	221	"	18.4
	Sodium	29,180	"	1268.8
	Iron	181	"	3.2
	Bicarbonate	2,100	"	35.0
	Chloride	45,625	"	1285.0
	Sulphate	1,395	"	29.1
	pH 6.8			
3.	Total solids (105°C)	49,500	"	
	Calcium	514	"	25.7
	Magnesium	78	"	6.5
	Sodium	16,600	"	721.7
	Iron	73	"	1.3
	Bicarbonate	1,400	"	23.3
	Chloride	25,335	"	713.7
	Sulphate	858	"	17.9
	pH 5.9			

All of the samples are highly discoloured by organic matter which is not extracted when shaken with immiscible solvents.

Lab.No.58/546