ICI AUSTRALIA LIMITED -

AUSTRALIAN FERTILIZERS LIMITED

THIRD ANNUAL REPORT

EXPLORATION LICENCE 1084 - ALROY

MOUNT ISA

D.O'N. HACKETT

March 1979

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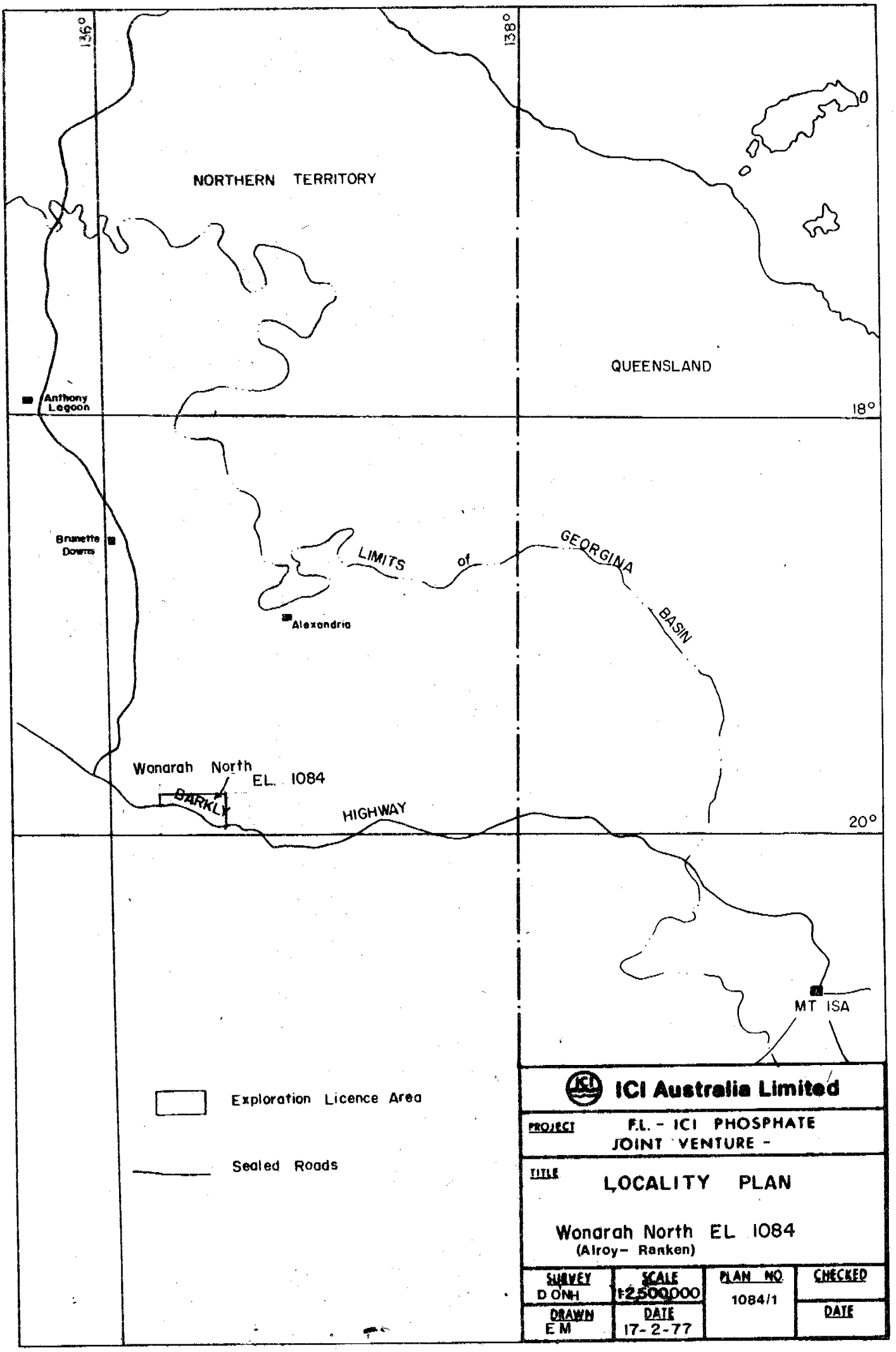

ICI Australia Limited

PROJECT: F.L. - ICI PHOSPHATE JOINT VENTURE -

TITLE: LOCALITY PLAN

Wonarah North EL 1084
(Alroy- Ranken)

SURVEY	SCALE	PLAN NO	CHECKED
D ONH	1:2,500,000	1084/1	
DRAWN	DATE		DATE
E M	17-2-77		

1.0 Introduction

E.L. 1084 was originally granted to I.C.I. Australia Limited and Australian Fertilizers Limited on 5th May 1976 - the Licence was renewed a year later in toto and with a 50% reduction in the exploration area in 1978. The area held under the licence in 1978 comprised 484 square kilometres adjacent to and to the north of the Barkly Highway between Dalmore Downs and Barry Caves Roadhouse.

Exploration on the E.L. was delayed until 1978 when the southern licence application 1083 (held up under the Woodward Report) was granted.

Four drill holes for 240 metres completed the initial exploration programme for the year.

Exploration expenditure totalled $13,222 for the year.

2.0 Previous Information

The regional geology of the area is summarised on the 1:250,000 Geological Series Sheets SE 53-15-ALROY and SE 53-16-RANKEN published by the B.M.R. (1966).

The regional stratigraphy is described in B.M.R. Bulletin No.111 'The Stratigraphy of the Georgina Basin' by K.G. Smith (1972).

Between 1968 and 1970 IMC Development Corporation drilled 139 exploratory holes totalling 18733 feet (5710 metres) on Prospecting Authorities. 2161. Wonarah as part of a wider exploration programme for phosphate rock over the Barkly Tableland. The drilling indicated the presence of some 669 x 10^6 short tons of in situ phosphate rock averaging 15.7% P_2O_5 at a cut off of 10% P_2O_5. The drilling revealed no direct shipping grade material (+ 32% P_2O_5) and the bulk of the indicated resource lies under 40-50 netres of overburden.

Beneficiation testing was down by I.M.C. on selected rotary drill cuttings - this preliminary flotation testing indicated that a 70 B.P.L. concentrate could be recovered at 80 - 85 percent recovery of the +20 micron material - additionally the R_2O_3 was greatly reduced in the concentrate.

3.0 Geology

The area under the exploration licence is largely devoid of identifiable outcrop, the surface being covered by sand and 'billy' (gray silcrete). Outcrops elsewhere in the area suggest a sequence similar to the Middle Cambrian Inca Formation. The Upper Portion of the Wonarah Beds occurs as a finely and evenly laminated siltstone/shale sequence that is lithologically indistinguishable from the Inca Formation.

The lower portions of the Wonarah Beds do not outcrop but from drilling appear to be a bedded sequence of shales and siltstones with minor chert. The sequence is normally phosphatic to a greater or lesser extent and contains a number of irregular or discontinuous beds of a higher phosphate content.

The general stratigraphy is discussed in 'The Wonarah Phosphate Deposit, Georgina Basin' N.T. by Howard and Perrino (1976).

4.0 Exploration

Exploration was conducted jointly with work under the adjacent E.L. 1083. Studies of the IMC Development CO's work indicated that the eastern edge of the Wonarah deposit had the greatest potential for the development of a mineable deposit in that the grades tended to have greater consistency and over a large area the overburden ratio appeared more favourable.

In E.L. 1084, it was decided to concentrate on the area around IMC's drill-hole W122, which gave an intersection of 16.8 metres at 15.2% P_2O_5 from 44.2 metres to 61 metres. W122 was located more than 2 kilometres from any other IMC hole.

4.1 Drilling & Assaying

Four rotary/percussion holes for 240 metres were emitted in May 1978, a fifth hole being abandoned when the drill rig broke down. Drilling was done using a Sehramm R42 with auxiliary compressor.

The drill hole locations are shown on the accompanying plans, 1083/2, 1083/4 and interpretive cross-sections on plan 1083/3. Drill hole logs and detailed assay data are in the appendices.

During drilling samples taken over one metre intervals were spot-tested for phosphorus with an acid solution of ammonium vanado-molybdate. When a positive reaction was obtained samples for assay were collected at 0.5 metre intervals. Positive samples were assayed under field conditions for phosphorus using a mini spectrophotometer.

All samples assaying greater than 8% P_2O_5 were re-assayed for P_2O_5, Al_2O_5 and Fe_2O_3 at the Port Kembla Laboratories of Australian Fertilizers Limited.

None of the holes were completed into pre-Middle Cambrian formations. Return air circulation was lost in phosphatic material at depth below 55 metres. Present thinking is that the deep leaching has left a highly porous rock at these depths which absorbs the air forced down the drill

5.0 Results

The drilling results are summarised below on Table 1.

Compared with W122 the drilling indicates the vanable nature of the phosphatic unit as to both thickness, and grade over the distances measured. This compares unfavourably with the greater continuity observed some five kilometres to the south in E.L.1083. However the spacing of the exploratory holes in this area is such that the narrow-ribbon type development of the better grades of phosphate found in the W119, W154, W65, W2, belt could well have been missed in this drilling.

TABLE 1

DRILLING SUMMARY E.L. 1084 - WONARAH MAY 1978

Hole No.	Total Depth Metres	Depth to top of phosphate unit	+ 10% P_2O_5			% P_2O_5	Finished in	Comments
			Top	Bottom	Thickness			
			m	m	m			
W156	64	55	55.5	61	5.5	16.95	Phosphatic siltstone (8.0%)	
W157	57	39	49 55.5	49.5 56.5	0.5 1.0	10.2 10.9	Siltstone & trace shert (8.6% P_2O_5)	
W158	59	50	50.5 55.5 (50.5	53.5 57.5 57.5	3.0 2.0 7.0	18.8 13.1 14.1)	Cherty siltstone (7.7% P_2O_5)	
W159	55	36	43 51	46 53	3.0 2.0	13.3 17.0	Cherty Siltstone (10.8% P_2O_5)	1 metre sampling hole drilled whilst raining
W160	5	-	-	-	-	-	Cherty Siltstone	Rig broke down

REFERENCES

1. IMC (1968 (a)) Annual Report P.A. 2161 'WONARAH' N.T. Mines Dept. Open file CR 68/32

2. IMC (1970) Annual Report P.A 2161 'WONARAH' IBID CR 70/40

3. McClintock W.O (1970) Georgina Basin Phosphate Project Beneficiation Tests of Wonarah Drill Hole Samples. IMC Development Corp. IBIC CR 70/82

4. Howard P.F. & Perrino F.A. (1976). The Geology of the Wonarah Phosphate Deposit - Northern Territory Econ. Geol. of Aust. & Papua N.Guinea Vol.4 Industrial Minerals.

5. Howard P.F. & Hough M.J. (1979) - 'On the Geochemistry and Origin of the D Tree, Wonarah and Sherria Creek Phosphorite Deposits of the Georgina Basin, Northern Australia (in press)

6. ICI Australia Ltd. (1978) Annual report E.L 1083 - ALROY.

APPENDIX I

DRILL LOGS

W 156
W 157
W 158
W 159
W 160

ICI Australia Limited

DRILLING DATA SHEET

HOLE No. W156

Area E.L. 1084 - WONARAH NORTH — Project Code NT 18

Plan Ref ..... Contractor AIR DRILLING PTY LTD — Started 9-5-78

Drill SCHRAMM — Method ROTARY/PERCUSSION — Finished 10-5-78

Petrographic Rep Rotary 0-11.75, 18-56.9 — Total Depth 64 metres

Assay Rep Hammer 11.75-18, 56.9-60 — Logged by D. Hackett

SAMPLE INTERVAL metres FROM	TO	STRATIGRAPHY	LITHOLOGY	~~SHAPIRO~~ FIELD TEST (% P_2O_5) 0-2	2-5	5-10	10-20	20+	A.F.L. ASSAYS (%) P_2O_5	Fe_2O_3	AL_2O_3	CO_2		PETROGRAPHY RESULTS AND COMMENTS
0	1.5	C2	Redsand + gravel.											
1.5	15	Emw	Siltstone with clunky beds.											-ve AVM
15	34.5		Siltstone with trace chert											-ve AVM
34.5	35		Siltstone + chert.											-ve AVM
35	47.5		Siltstone											-ve AVM
47.5	55		Siltstone + chert.											-ve AVM
55	55.5		Buff siltstone.			5.2								+ve AVM
55.5	56					19.0			16.8	6.0	4.3			
56	56.5		Siltstone & trace chert			16.7			15.6	8.7	4.3			
56.5	57		30% chert			14.7			13.2	8.2	3.6			
57	57.5		30%			16.1			12.3	5.3	2.9			
57.5	58		5%			17.6			16.1	8.9	3.2			
58	58.5		5%			14.7			13.9	10.4	3.7			
58.5	59		5%			16.0			14.9	14.5	4.1			
59	59.5		<5%			19.5			16.9	10.5	3.7			
59.5	60		<5%			20+			24.2	5.5	3.1			
60	60.5		<5%			20+			25.8	5.4	3.3			
60.5	61		<5%			18.2			16.8	5.4	4.0			
61	61.5		Siltstone			8.9			9.0	4.4	4.9			
61.5	62					10.2			8.5	4.0	4.5			
62	62.5					12.0			9.9	7.2	3.5			
62.5	63					11.4			9.5	7.2	3.2			
63	63.5					11.4			9.7	9.3	3.1			
63.5	64					8.2			8.0	7.2	4.4			
			Lost circulation at 64 m -						Hole abandoned.					

ICI 5758

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DRILLING DATA SHEET

HOLE No. W.157

Area E.L. 1084 - WONARAN NORTH — Project Code NT 18

Plan Ref ..... — Contractor AIR DRILLING PTY LTD — Started 10 - 5 - 78

Drill Schramm P42 — Method ROTARY — Finished 10 - 5 - 78

Petrographic Rep ..... — Total Depth 57 metres

Assay Rep ..... — Logged by D. Hackett.

SAMPLE INTERVAL metres FROM	TO	STRATIGRAPHY	LITHOLOGY	~~SHAPIRO~~ FIELD TEST (% P_2O_5) 0–2	2–5	5–10	10–20	20+	A.F.L. ASSAYS (%) P_2O_5	Fe_2O_3	AL_2O_3	CO_2		PETROGRAPHY RESULTS AND COMMENTS
0	1	C_2	Sand and siderite.											
1	2	Emw	silty sandstone											
2	8		Siltstone and chert											
8	11.5		Siltstone, shale, chert											
11.5	14.5		Black chert & siltstone											-ve AVM
14.5	18		Siltstone, shale and											-ve AVM
			black chert.											-ve AVM
18	22		Siltstone and chert											-ve AVM
22	34.5		Grey siltstone											-ve AVM
34.5	39		Siltstone + chert											-ve AVM
39	39.5		Siltstone + trace chert			4.1								+ve AVM.
39.5	40		trace.			7.3								
40	40.5		10%			5.1								
40.5	41		15%			4.0								
41	41.5		10%			5.6								
41.5	42		5%			9.2			7.0	1.1	6.0			
42	42.5		5%			9.7			7.6	1.3	6.3			
42.5	43		10%			8.7			5.8	1.1	4.4			
43	43.5		5%			6.9								
43.5	44		10%			5.3								
44	44.5		20%			5.9								
44.5	45		15%			4.2								
45	45.5		15%			4.4								
45.5	46		5%			3.9								
46	46.5		5%			3.3								
46.5	47		5%			4.2								
47	47.5		5%			3.3								
47.5	48		5%			3.9								
48	48.5		5%			6.2								
48.5	49		<5%			7.4								
49	49.5		<5%			11.1			10.2	2.7	4.2			
49.5	50		<5%			5.8								
50	50.5		<5%			4.9								
50.5	51		<5%			2.9								
51	51.5		Tr			3.4								
51.5	52		Tr			3.9								
52	52.5		Tr.			2.9								
52.5	53		Tr			4.5								
53	53.5		Tr			4.9								
53.5	54		Tr			4.5								

ICI Australia Limited

DRILLING DATA SHEET

HOLE No. W157

Area ..... Project Code .....

Plan Ref ..... Contractor ..... Started .....

Drill ..... Method ..... Finished .....

Petrographic Rep ..... Total Depth 57 metres

Assay Rep ..... Logged by .....

SAMPLE INTERVAL metres FROM	TO	STRATIGRAPHY	LITHOLOGY	~~SHAPIRO~~ FIELD TEST (% P_2O_5) 0–2	2–5	5–10	10–20	20+	A.F.L. ASSAYS (%) P_2O_5	Fe_2O_3	Al_2O_3	CO_2	PETROGRAPHY RESULTS AND COMMENTS
54	54.5	Emw	Siltstone & trace chert			3.6							tue AVM.
54.5	55					9.4			8.6	8.4	7.3		
55	55.5					9.4			6.9	12.2	8.2		
55.5	56					14.2			10.8	2.6	9.3		
56	56.5					14.2			11.0	2.3	5.6		
56.5	57					9.2			8.6	2.3	4.2		
			Lost circulation at 57 m. – Hole abandoned.										

ICI Australia Limited

DRILLING DATA SHEET

HOLE No. W 158

Area E.L. 1084 – WONARAH S. NORTH

Project Code NT 18

Plan Ref

Contractor A.I.R. DRILLING Pty Ltd.

Started 10 - 5 - 78

Drill Schramm

Method Rotary

Finished 10 - 5 - 78

Petrographic Rep

Total Depth 59 metres

Assay Rep

Logged by D. O'N. HACKETT

SAMPLE INTERVAL metres FROM	TO	STRATIGRAPHY	LITHOLOGY	FIELD TEST (% P_2O_5) 0–2	2–5	5–10	10–20	20+	A.F.L. ASSAYS (%) P_2O_5	Fe_2O_3	AL_2O_3	CO_2	PETROGRAPHY RESULTS AND COMMENTS
0	3·5	C_z	Red sand.										
3·5	4·5	Emw	Silicified siltstone										
4·5	10		Interbedded siltstone & chert.										- ve AVM
10	23		Siltstone + trace chert										- ve AVM
23	27		Siltstone / chert										- ve AVM
27	42		Siltstone + occasional cherty bands										- ve AVM
42	50		Siltstone + chert										- ve AVM
50	50·5		Yellow brown siltstone			9·8			7·7	2·5	8·8		
50·5	51		with 10 - 30% chert.		>20				28·4	2·4	4·9		
51	51·5				>20				20·2	2·1	4·2		
51·5	52				>20				19·5	1·7	4·1		
52	52·5					15·7			16·0	1·5	5·3		
52·5	53				>20				14·7	1·2	6·4		
53	53·5					17·1			14·0	1·0	5·9		
53·5	54					9·1			8·1	3·2	4·9		
54	54·5					11·2			7·7	3·0	5·6		
54·5	55					10·6			9·1	2·1	3·9		
55	55·5					10·6			8·6	2·1	3·9		
55·5	56					6·2			12·1	2·2	5·2		
56	56·5					8·0			14·8	2·6	5·3		
56·5	57					6·8			14·7	2·8	4·9		
57	57·5					6·1			10·8	2·4	5·9		
57·5	58					5·2			9·9	2·4	6·5		
58	58·5					4·6			8·7	2·4	7·0		
58·5	59					4·0			7·7	2·5	7·0		
			Lost circulation at 59 m – hole abandoned.										

ICI 5758

ICI Australia Limited

DRILLING DATA SHEET

HOLE No. W.159

Area E.L. 1084 - WONARAH NORTH

Project Code NT 18

Plan Ref

Contractor AIR DRILLING PTY LTD

Started 11-5-78

Drill SCHRAMM P42

Method ROTARY

Finished 11-5-78

Petrographic Rep

Total Depth 55 metres

Assay Rep

Logged by D. O'N. HACKETT

SAMPLE INTERVAL metres FROM	TO	STRATIGRAPHY	LITHOLOGY	~~SHAPIRO~~ FIELD TEST (% P_2O_5) 0-2	2-5	5-10	10-20	20+	A.F.L. ASSAYS (%) P_2O_5	Fe_2O_3	Al_2O_3	CO_2		PETROGRAPHY RESULTS AND COMMENTS
0	2.5	Cz	Red sand.											
2.5	10.5		Lateritic clay											
10.5	12.5	Emw (?)	Yellow clayey siltstone.											-ve AVM.
12.5	14		Silcrete.											-ve AVM.
14	19.5	Emw	Pallid siltstone											-ve AVM
19.5	22.5		Clay.											-ve AVM
22.5	28		Mauve+white siltstone											-ve AVM
28	31		Siltstone.											v. weak +ve AVM.
31	36		Siltstone + chert.											" " "
36	37		Cream siltstone and			3.9			6.4	0.7	4.6			weak +ve AVM.
37	38		pale grey chert.			3.2								(colour very
38	39					2.9								slow to
39	40		Cream siltstone.			2.5								develope
40	41					2.6								but often quite
41	42					6.0								strong when
42	43					10.9			8.2	0.5	5.7			fully developed)
43	44					14.4			11.6	0.6	4.2			
44	45					14.8			12.5	0.6	4.0.			
45	46		Buff siltstone.			19.5			15.7	1.0	3.1			
46	47					12.2			8.3	1.5	4.3			
47	48		+ 5% chert			7.4								
48	49		10% chert			7.9								
49	50		25%			9.3			7.0	5.7	5.2			poor clearing
50	51		Yellow brown siltstone.			10.4			6.9	9.2	5.8			of hole.
51	52					>20			18.5	3.4	3.4			
52	53		Buff siltstone + 10% chert.			20.1			15.4	1.8	3.3			
53	54		15%			10.9			7.7	6.6	3.9			
54	55					14.4			10.8	7.4	4.1			
			Air circulation lost at 55m - hole abandoned.											

ICI 5758

ICI Australia Limited

DRILLING DATA SHEET

HOLE No. W.160

Area EL 1084 - WONARAH NORTH.

Project Code NT.18

Plan Ref .....

Contractor AIR DRILLING PTY LTD

Started 11 - 5 - 78

Drill SCHRAMM P42

Method ROTARY

Finished 11 - 5 - 78

Petrographic Rep .....

Total Depth 5 metres

Assay Rep .....

Logged by D. Hackett

SAMPLE INTERVAL metres FROM	TO	STRATIGRAPHY	LITHOLOGY	SHAPIRO FIELD TEST (% P_2O_5) 0 2	2 5	5 10	10 20	20 +	A.F.L. ASSAYS (%) P_2O_5	Fe_2O_3	AL_2O_3	CO_2		PETROGRAPHY RESULTS AND COMMENTS
0	1	Cz	Sand & scree.											
1	4		Silcrete, sand, gravel											
4	5	Ewn	Chert + siltstone											-ve A.V.M.
			At 5 m. - the auxiliary compressor broke down and the hole was abandoned.											

APPENDIX II

ASSAY SHEETS

Distribution 1. ~~Field Offi~~ MT ISA
2. ~~File~~ M. PEDEMONT
3. ~~Head Office~~ MT ISA.
4. Spare

Distribution 1. ~~Field~~ cc MT ISA.
2. ~~Laboratory~~ M. PEDEMONT.
3. ~~Head Office~~ MT ISA.
4. Spare

Project PHOSPHATE Area WONARAH Job Code

Originating Officer D. HACKETT Originating Office MT ISA, QLD

Assay Instructions ASSAY FOR P_2O_5, Al_2O_3, Fe_2O_3

Laboratory AFL PORT KEMBLA No. of Samples 135 Batch No. 27

Date despatched By whom G. THOMAS Mode AIR CARGO Consignment Note No.

Laboratory AFL PORT KEMBLA

Batch No. 27 No. of Samples 135

Assay Instructions ASSAY FOR P_2O_5, Al_2O_3, Fe_2O_3

Results to:- KI AUSTRALIA Po Box 1334 MT ISA.

Invoice to: - " " "

SAMPLE NUMBER	SAMPLE TYPE (E.G. CORE, DRILL CUTTINGS, ETC.)	SAMPLE LOCATION				SAMPLE DESCRIPTION AND COMMENTS	SAMPLE NUMBER	ASSAY			
		HOLE NO.	FROM M	TO M	INTERVAL M				% P_2O_5	% Fe_2O_3	% Al_2O_3
1580	"	W156	55·5	56	·5	Siltstone	" 1580		16.8	·6.0	4.3
1581	"	"	56	56·5	·5	"	" 1581		15.6	8.7	4.3
" 1582	"	"	56·5	57	·5	Siltstone & Face chert.	" 1582		13.2	8.2	3.6
" 1583	"	"	57	57·5	·5	" 30% "	" 1583		12.3	5.3	2.9
" 1584	"	"	57·5	58	·5	" 30% "	" 1584		16.1	8.9	3.2
" 1585	"	"	58	58·5	·5	" 5% "	" 1585		13.9	10.4	3.7
" 1586	"	"	58·5	59	·5	" 5% "	" 1586		14.9	14.5	4.1
" 1587	"	"	59	59·5	·5	" 5% "	" 1587		16.9	10.5	3.7
" 1588	"	"	59·5	60	·5	" <5%	" 1588		24.2	5.5	3.1
" 1589	"	"	60	60·5	·5	" <5% "	" 1589		25.8	5.4	3.3
" 1590	"	"	60·5	61	·5	" <5% "	" 1590		16.8	5.4	4.0
" 1591	"	"	61	61·5	·5	" <5% "	" 1591		8.0	4.4	4.9
" 1592	"	"	61·5	62	·5	Siltstone.	" 1592		8.5	4.0	4.5
" 1593	"	"	62	62·5	·5	"	" 1593		9.9	7.2	3.5
" 1594	"	"	62·5	63	·5	"	" 1594		9.5	7.2	3.2
							LIMIT OF DETECTION				

I 5884 ICI Australia Limited ASSAY SUBMISSION FORM 0407

ICI Australia Limited SAMPLE SUBMISSION FORM 0407

Distribution 1. ~~Field Off~~ ISA
2. ~~File~~ M. PEDEMONT
3. ~~Head Office~~ MT ISA
4. Spare

Project PHOSPHATE **Area** WONARAH **Job Code**

Originating Officer D. HACKETT Originating Office MT ISA, QLD.

Assay Instructions ASSAY FOR P_2O_5, Al_2O_3, Fe_2O_3

Laboratory AFL PORT KEMBLA No. of Samples 135 Batch No. 27

Date despatched By whom G. THOMAS Mode AIR CARGO Consignment Note No.

SAMPLE NUMBER	SAMPLE TYPE (E.G. CORE, DRILL CUTTINGS, ETC.)	SAMPLE LOCATION				SAMPLE DESCRIPTION AND COMMENTS
		HOLE NO.	FROM M	TO M	INTERVAL M	
NTP 1595	DRILL CUTTINGS	W156	63	63·5	·5	Siltstone
1596	"	"	63·5	64	·5	Siltstone
1597	"	W157	41·5	42	·5	Siltstone and 5% chert.
1598	"	"	42	42·5	·5	" 5% "
1599	"	"	42·5	43	·5	" 10% "
1600	"	"	49	49·5	·5	" < 5% "
1601	"	"	54·5	55	·5	" Trace "
1602	"	"	55	55·5	·5	" trace "
1603	"	"	55·5	56	·5	" Trace "
1604	"	"	56	56·5	·5	" trace "
1605	"	"	56·5	57	·5	" trace "
1606	"	W158	50	50·5	·5	Siltstone with 10 - 30% chert
1607	"	"	50·5	51	·5	
1608	"	"	51	51·5	·5	
1609	"	"	51·5	52	·5	
1610	"	"	52	52·5	·5	

ICI 5884 ICI Australia Limited ASSAY SUBMISSION FORM 0408

Distribution 1. ~~Field~~ ge MT ISA,
2. ~~Laboratory~~ M. PEDEMONT
3. ~~Head Office~~ MT ISA.
4. Spare

Laboratory AFL PORT KEMBLA.

Batch No. 27 No. of Samples 135

Assay Instructions ASSAY FOR P_2O_5, Al_2O_3 Fe_2O_3

Results to:- ICI AUSTRALIA LTD P.O. BOX 1334, MT ISA.

Invoice to: - " " "

SAMPLE NUMBER		ASSAY % P_2O_5	ASSAY % Fe_2O_3	ASSAY % Al_2O_3	
NTP 1595		9.7	9.3	3.1	
" 1596		8.0	7.2	4.4	
" 1597		7.0	1.1	6.0	
" 1598		7.6	1.3	6.3	
" 1599		5.8	1.1	4.4	
" 1600		10.2	2.7	4.2	
" 1601		8.6	8.4	7.3	
" 1602		6.9	12.2	8.2	
" 1603		10.8	2.6	9.3	
" 1604	✓	11.0	2.3	5.6	
" 1605	✓	8.6	2.3	4.2	
" 1606	✓	7.7	2.5	8.8	
" 1607		28.4	2.4	4.9	
" 1608		20.2	2.1	4.2	
" 1609		19.5	1.7	4.1	
" 1610		16.0	1.5	5.3	
LIMIT OF DETECTION					

ICI SAMPLE SUBMISSION FORM 0408

Distribution 1. ~~Field Office~~ MT ISA
2. ~~File~~ N. PEDEMONT
3. ~~Head Office~~ MT ISA
4. Spare

Project PHOSPHATE Area WONARAH Job Code

Originating Officer D HACKETT Originating Office MT ISA, QLD.

Assay Instructions ASSAY FOR P_2O_5, Al_2O_3, Fe_2O_3

Laboratory AFL PORT KEMBLA No. of Samples 135 Batch No. 27

Date despatched By whom G THOMAS Mode AIR CARGO Consignment Note No.

SAMPLE NUMBER	SAMPLE TYPE (E.G. CORE, DRILL CUTTINGS, ETC.)	SAMPLE LOCATION				SAMPLE DESCRIPTION AND COMMENTS
		HOLE NO.	FROM M	TO M	INTERVAL M	
NTP 1611	DRILL CUTTINGS	W158	52·5	53	·5	Siltstone with 10 - 30% chert
" 1612	"	"	53	53·5	·5	
" 1613	"	"	53·5	54	·5	
" 1614	"	"	54	54·5	·5	
" 1615	"	"	54·5	55	·5	
" 1616	"	"	55	55·5	·5	
" 1617	"	"	55·5	56	·5	
" 1618	"	"	56	56·5	·5	
" 1619	"	"	56·5	57	·5	
" 1620	"	"	57	57·5	·5	
" 1621	"	"	57·5	58	·5	
" 1622	"	"	58	58·5	·5	
" 1623	"	"	58·5	59	·5	
" 1624	"	W159	36	37	1	Siltstone with 20% chert
" 1625	"	"	42	43	1	Siltstone
1626	"	"	43	44	1	"

ICI 5884 ICI Australia Limited ASSAY SUBMISSION FORM 0409

Distribution 1. ~~Field~~ see MT ISA
2. ~~Laboratory~~ M. PEDEMONT
3. ~~Head Office~~ MT ISA.
4. Spare

Laboratory [redacted] AFL PORT KEMBLA

Batch No. 27 No. of Samples 135

Assay Instructions ASSAY FOR P_2O_5, Al_2O_3, Fe_2O_3

Results to:- ICI AUSTRALIA LTD PO BOX 1334 MT ISA,

Invoice to: - " " "

SAMPLE NUMBER	ASSAY % P_2O_5	% Fe_2O_3	% Al_2O_3
NTP 1611	14.7	1.2	6.4
" 1612	14.0	1.0	5.9
" 1613	8.1	3.2	4.9
" 1614	7.7	3.0	5.6
" 1615	9.1	2.1	3.9
" 1616	8.6	2.1	3.9
" 1617	12.1	2.2	5.2
" 1618	14.8	2.6	5.3
" 1619	14.7	2.8	4.9
" 1620	10.8	2.4	5.9
" 1621	9.9	2.4	6.5
" 1622	8.7	2.4	7.0
" 1623	7.7	2.5	7.0
" 1624	6.4	0.7	4.6
" 1625	8.2	0.5	5.7
" 1626	11.6	0.6	4.2
LIMIT OF DETECTION			

ICI Australia Limited SAMPLE SUBMISSION FORM 0409

Distribution 1. ~~Field Office~~ MT ISA
2. ~~File~~ M. PEDEMONT
3. ~~Head Office~~ MT ISA
4. Spare

Project PHOSPHATE Area WONARAH Job Code

Originating Officer D. HACKETT Originating Office MT ISA, QLD

Assay Instructions ASSAY FOR P_2O_5, Al_2O_3, Fe_2O_3,

Laboratory AFL PORT KEMBLA No. of Samples 135 Batch No. 27

Date despatched _____ By whom G. THOMAS. Mode AIR CARGO Consignment Note No. _____

SAMPLE NUMBER	SAMPLE TYPE (E.G. CORE, DRILL CUTTINGS, ETC.)	SAMPLE LOCATION				SAMPLE DESCRIPTION AND COMMENTS
		HOLE NO.	FROM M	TO M	INTERVAL M	
NTP 1627	DRILL CUTTINGS.	W159	44	45	1	Siltstone
" 1628	"	"	45	46	1	"
" 1629	"	"	46	47	1	"
" 1630	"	"	49	50	1	Siltstone and 25% chert
" 1631	"	"	50	51	1	Siltstone
" 1632	"	"	51	52	1	"
" 1633	"	"	52	53	1	Siltstone and 10% chert
" 1634	"	"	53	54	1	" 15% "
" 1635	"	"	54	55	1	" 15% "

ICI 5884 ICI Australia Limited ASSAY SUBMISSION FORM 0410

Distribution 1. ~~Field~~ MT ISA
2. ~~Laboratory~~ M. PEDEMONT
3. ~~Head Office~~ MT ISA
4. Spare

Laboratory AFL PORT KEMBLA

Batch No. 27 No. of Samples 135

Assay Instructions ASSAY FOR P_2O_5, Al_2O_3, Fe_2O_3

Results to:- ICI AUSTRALIA LTD PO BOX 1334, MT ISA.

Invoice to: - " " " "

SAMPLE NUMBER	ASSAY			
		% P_2O_5	% Fe_2O_3	% Al_2O_3	
NTP 1627		12.4	0.6	4.0	
1628		15.7	1.0	3.1	
1629		8.3	1.5	4.3	
1630		7.0	5.7	5.2	
1631		6.9	9.2	5.8	
1632		18.5	3.4	3.4	
1633		15.4	1.8	3.3	
1634		7.7	6.6	3.9	
1635		10.8	7.4	4.1	
LIMIT OF DETECTION					

ICI Australia Limited SAMPLE SUBMISSION FORM 0410

Volca

36 30'

EL 1084

EL boundary = Barkly Highway

20°00

EL 1083

° IMC

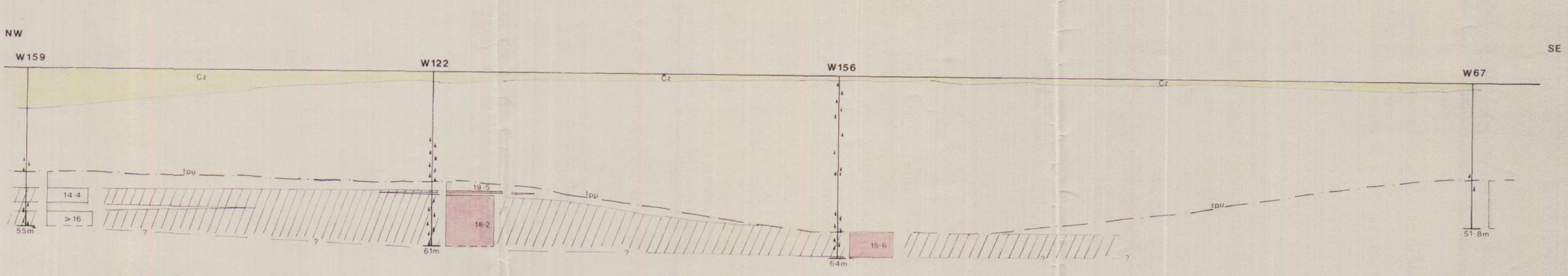
♦ Drill holes 1978
W 151 - 160

ICI Australia Limited

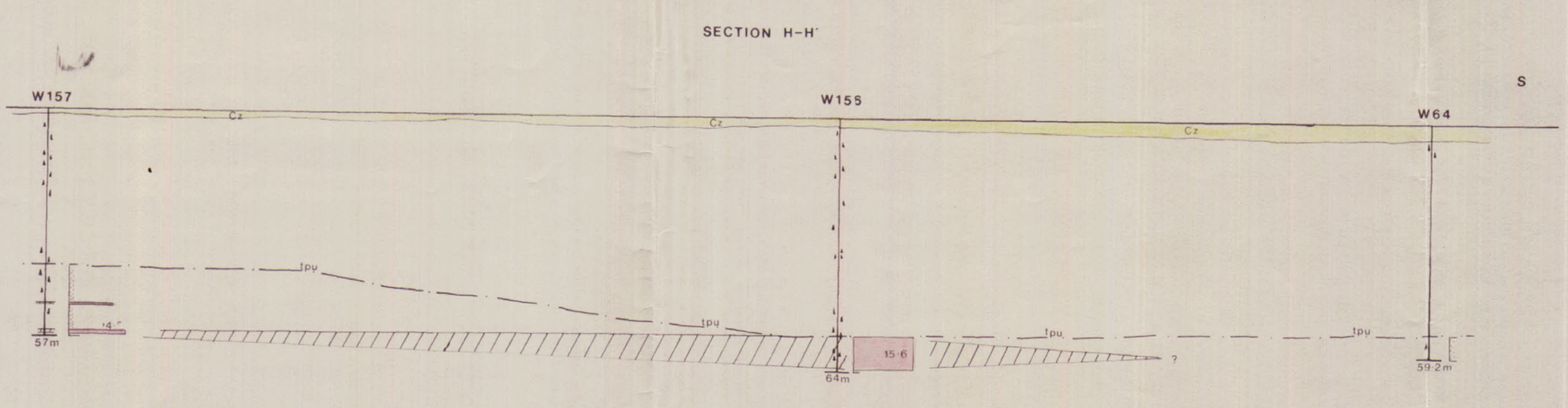
PROJECT	A.F.L. - ICI PHOSPHATE JOINT VENTURE -
TITLE	EL 1083 + 1084 WONARAH AREA Drill hole locations

SURVEY	SCALE	PLAN NO	CHECKED
DO'N H	1:250,000	1083/2	
DRAWN	DATE		DATE
E M	28/2/78		

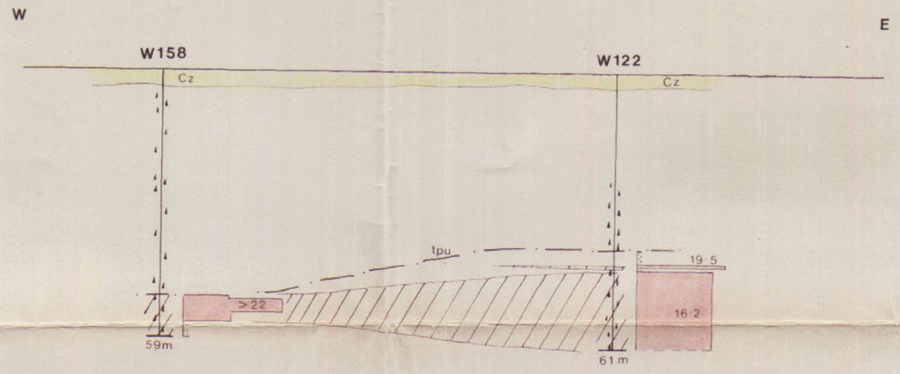
SECTION F–F'



SECTION H–H'



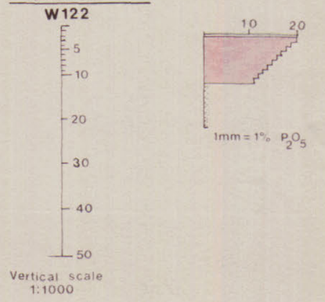
SECTION G–G'



KEY

- Cz — Residual clay, sand, gravel, silcrete
- Siltstone
- Siltstone and chert
- Sandstone
- Volcanics
- tpu — Top of phosphatic unit
- >1% P_2O_5

Drill holes



ICI Australia Limited			
PROJECT: A.F.L. – ICI PHOSPHATE JOINT VENTURE –			
TITLE: **E.L. 1084 Wonarah North** Interpretive Geological Sections May 1978 Drilling			
SURVEY: DONH	SCALE: 1:10000	PLAN NO.: 1084/3	CHECKED:
DRAWN: DONH	DATE: MAY 1978		DATE:

W159
55·0m
16m
42·47·5m at 14·4%
50·55·5m at >16%

W157
57m
39·5m
55·5-56·5
1m at 14·5%

W159
59m
50m
50·5-55·5m
5·5m at >15%

W122(est)
61m
38·7m
44·2-61m
16·8m a 15·2%

W160
5m

W156
64m
55m
55·5-63·5m
8m a 15·6%

W 123
58·7 m

KEY

Hole number
Depth
Depth to top of phosphate unit
Assay data

Holes Proposed 1979

W63
47·2m
38·9m
41·2-42·7m
1·5m a 11%

W64
59·2m
53·4m

W67
51·8m
35·1m
16·7m a <10%

W2
53·4m
34·3m
44·2-49·5m
5·3m a 19·5%

W62
53·4m
35·8m
41·9-45m
3·1m a 12·5%

W65
50·3m
32m
43·5-50·3m
6·8m a 20·9%

W66
61m
45·7m
49·5-52·6m
3·05m a 18·25%

EL1084

W154
40·5m
26m
35·5-40·5m
15m a >20%(Inferred)

W155
53m
27m
43-53m
10m a >15%

BARRY CAVES

EL1083

W118
48·8m
37·35m
41·9-42·7m, 0·76m a 17·9%
38·1-38·9m, 0·76m a 10·8%

W119
57·9m
42·4m
45·51·1m, 6·1 a 20·2%
56·4-57·9m; 1·5 a 21·8%

W120A
56·4m
52·6m

W151
54m
39m
44·5-54m
9·5m a 17·54%

W152
66·5m
53·0m
55·5-60·5m
5m a 14·05%

W23
61·0m
45·7m
48·8-49·5m
0·76m a 12·2%

W153
60·0m
49·5m
49-57·5m
8·5m a 14·9%

136°30'

F F'
H H'
G G'
E E'
B B'
C C'
A A'
D D'

ICI Australia Limited

PROJECT A.F.L. - ICI PHOSPHATE JOINT VENTURE -

TITLE ELs 1083 & 1084 WONARAH INDEX PLAN TO DRILL HOLE LOCATIONS AND GEOLOGICAL SECTIONS WITH ASSAY SUMMARY

SURVEY	SCALE	PLAN NO.	CHECKED
DO'NH	1:25000	1083/4	
DRAWN	DATE		DATE
DO'NH	5/78		