

AIMS

The area covered by EL 15/91 is considered to be a potential source of high purity silica sand.

It is being explored to establish quantities and grades of sand for use in glass making and other industries.

Important factors to be determined are:

1. Overall quantities available.
2. Relative content of silica and other minerals.
3. Grain size.

WORK FOR PERIOD**Materials Analysis**

Current exploration is aimed at establishing nature of silica content relating to suitability for sand blasting use.

During the period sampling was carried out under the control of Safety Systems International analysis.

Conclusions

Product information resulting from sample analysis is attached.

Quantities & Grading

During the year mechanical digging was carried out on the area based on 5050E 4900N.

Thirty six pits were excavated on a 100m grid over an area of 25 ha (Area plan attached). Pits were excavated to the base of sand deposits and one sample taken from each pit being representative of material at all depths of the deposit. Samples were individually tested for grading.

All work was carried out "in house".

Conclusions

The area surveyed indicated continuation of the existing known deposit over an extended area, measuring at 1.12 million tonnes per Sq Km. Variation in gradings persists with material being satisfactory for industrial purposes.

FUTURE EXPLORATION

This will extend the area currently surveyed to establish total quantities and to explore more suitable gradings.

EXPENDITURE FOR PERIOD

Field works	\$3,600
Grading & Analysis	\$2,800
Office and Administration	\$700
	<hr/>
	\$7,100

I Alan Gardner of Stornoway, RSD 245, Relbia, Tasmania being a Director of Stornoway Hewitt Pty Ltd, to solemnly and sincerely declare that the foregoing information is to the best of my knowledge and belief correct, and I make this solemn declaration consciously believing the same to be true and by virtue of the provisions of an Act of Parliament of Tasmania rendering persons making a false declaration punishable for wilful and corrupt perjury.

Declared at _____ in the state of Tasmania

this _____ day of _____ 19 _____

before me _____ J.P.
A Justice of the Peace

Signed _____
Alan Gardner

411005

Page 1 of 5
Date of Issue 22/04/97

PRODUCT INFORMATION SHEET

PRODUCT

COMPANY DETAILS

Inclusion reference to
I H S + W Feb 200

Emergency phone 03 8344 7250

IDENTIFICATION

Product name: industrial sand

Other names: quartz sand, silica sand

Manufactures product code: none allocated

UN number: none allocated

**Dangerous goods class and:
subsidiary risk** none allocated

Poisons schedule number: none allocated

Hazchem code: none allocated

Use: concrete, road base material, fill

PHYSICAL DESCRIPTION / PROPERTIES

Appearance: greyish white or white, granular, crushed or ground, no odour

Boiling point/melting point: 2280/1600 degrees Celsius

Vapour pressure: none

Specific gravity: 2.50 - 2.80

Flashpoint: non-flammable

Flammability limits: none

Solubility in water: insoluble

411006

Page 2 of 5
Date of Issue 22/04/97**OTHER PROPERTIES****Oxidising properties:**

Contact with fluorine, chlorine trifluoride, manganese trifluoride, oxygen difluoride and hydrofluoric acid can result in thermal outputs sufficient to cause fires.

Reactivity with common substances:

Silica will dissolve in hydrochloric acid and produce silicon tetrafluoride - a corrosive gas -

INGREDIENTS**Chemical name:**

Silica (crystalline - quartz) CAS number: 14808 - 60 - 7

Proportion:

> 99% crystalline free silica as alpha quartz.

HEALTH HAZARD INFORMATION

The use of industrial sand in itself is not a hazardous operation, however the respirable dust fraction (< 2.5 microns / PM2.5) is classified as hazardous to humans. Exposure to dust by-products can cause irritation and prolonged inhalation can have chronic health effects.

The respirable dust fraction of silica (crystalline - quartz) is classified under the Tasmanian Workplace Health & Safety regulations, schedule 2, as a hazardous substance for which medical examination is required as defined in regulation 81.

HEALTH EFFECTS OF RESPIRABLE SILICA DUST (< 2.5 MICRONS /PM2.5)**Acute:**

Swallowed: no known effects

Skin : no known effects

Eye : dust can cause mechanical irritation

Inhalation: dust can cause irritation to nose and throat

Chronic:

Prolonged inhalation of crystalline silica respirable dust can cause silicosis. Silicosis in an advanced form is a severely disabling lung disease. Accelerated Silicosis is a more rapidly developing type of silicosis that occurs from exposure to high concentrations of respirable dust over several years. Acute silicosis is a more severe but very rare form of silicosis that may result from as little as a few months exposure to extremely high concentrations of respirable dust. Depending on the severity and duration of the exposure this disease can be fatal at between 1 and 10 years after first exposure.

411007

Page 3 of 5

Date of Issue 22/04/97

First aid

Swallowed: not applicable

Skin : not applicable

Eye : flush immediately with approved eye wash solution (water as a minimum), if irritation persists seek medical attention.

Inhalation: remove to fresh air, clear nose and throat, if breathing difficulty persists seek medical attention.

First aid : eye wash stations and approved eye wash solutions are facilities recommended

Advice to doctor

Exposure to respirable dust can aggravate pre-existing lung conditions such as asthma, bronchitis, emphysema, chronic obstructive pulmonary disease. Chronic symptoms resulting from over exposure can include, shortness of breath, wheezing, thickening and stiffness of skin, particularly in the fingers, difficulty in swallowing, chest pains, coughing.

PRECAUTIONS FOR USE

The use of industrial sand in itself is not a hazardous operation. The operational risks come from dust generated, particularly the respirable dust fraction.

Exposure standards

No interim value has been assigned by Worksafe Australia. The value recommended is based on US/ACGIH documentation.

TLV = 0.1 mg / m³ (8 IIR-TWA) as respirable dust.

Engineering controls

Where dust is likely to be generated isolate the work areas with suitable warning signs in accordance with AS1819. Provide adequate ventilation at the workplace with suitable dust collection mechanisms. Design buildings and equipment to minimise dust collection on walls, floors, sills, ledges and machinery. Storage facilities and handling equipment should be designed to minimise airborne dust and contain spillage.

Personnel protection

Where dust is visible respiratory protection must be worn complying with AS/NZ1715 and AS/NZ 1716.

Monitoring in accordance with AS 2985 should be conducted by a competent person to ensure the levels of free silica released as respirable dust, do not exceed the recommended TLV.

Flammability

Not flammable under conditions of use.

SAFE HANDLING INFORMATION**Storage and Transport**

Storage facilities and handling equipment should be designed to minimise airborne dust and to contain spillage. Warning signs to comply with AS1319 should be installed.

Keep transport containers covered at all times to minimise airborne dust.

Spills and disposal

Where dust is likely to be generated clean up the spillage immediately, material can be wetted to reduce airborne dust, or other dustless methods used. Respiratory protection is recommended in the immediate spill area. Place in closable containers for disposal. Dispose of waste material in accordance with applicable local, state, territory or federal laws and regulations.

Fire / explosion hazard

Hazchem code : none allocated

Flashpoint: non-flammable

Reactivity : silica will dissolve in hydrochloric acid and produce silicon tetrafluoride - a corrosive gas

Flammability limits : none

Decomposition products: contact with fluorine, chlorine trifluoride, manganese trifluoride, oxygen difluoride and hydrofluoric acid can result in thermal outputs sufficient to cause fires.

OTHER INFORMATION

Silica (crystalline) respirable dust (< 2.5 micron / PM2.5) has been identified by the WHO, International Agency for Research on Cancer and the US Governments National Toxicology Program as a Category 2A carcinogenic substance.

Category 2A is for substances for which there is a lesser degree of evidence in humans but sufficient evidence in animal tests, or degrees of evidence considered appropriate to this category (probable human carcinogen)

CONTACT POINT

The General Manager, 08 8344 7250

EXPLORATION LICENCE		15/91	Scottsdale		
Exploration Report		Oct-97			
Sample No.	North	East	Stripping Depth	Sand Depth	Underlying Layer
1	4900	5050	0.25	0.4	Clay
2	4900	5060	0.30	0.6	H Pan
3	4900	5070	0.00	0.9	H Pan
4	4900	5080	0.15	1.0	H Pan
5	4900	5090	0.00	0.2	H Pan
6	4900	5100	0.10	0.1	Clay
7	4890	5050	0.10	0.4	H Pan
8	4890	5060	0.25	1.6	Clay
9	4890	5070	0.30	1.0	Clay
10	4890	5080	0.25	1.1	H Pan
11	4890	5090	0.20	0.9	H Pan
12	4890	5100	0.05	1.8	Clay
13	4880	5050	0.20	1.3	Clay
14	4880	5060	0.00	0.0	-
15	4880	5070	0.05	0.4	H Pan
16	4880	5080	0.30	0.0	H Pan
17	4880	5090	0.10	0.4	H Pan
18	4880	5100	0.30	1.4	Clay
19	4870	5050	0.20	0.3	H Pan
20	4870	5060	0.15	0.8	H Pan
21	4870	5070	0.20	1.0	H Pan
22	4870	5080	0.00	0.0	-
23	4870	5090	0.00	0.0	-
24	4870	5100	0.00	0.0	-
25	4860	5050	0.05	0.1	Clay
26	4860	5060	0.00	1.1	Clay
27	4860	5070	0.00	0.7	Clay
28	4860	5080	0.30	1.0	H Pan
29	4860	5090	0.20	0.8	H Pan
30	4860	5100	0.25	0.7	Clay
31	4850	5050	0.25	1.6	Clay
32	4850	5060	0.05	1.2	Clay
33	4850	5070	0.05	0.7	Clay
34	4850	5080	0.25	1.3	H Pan
35	4850	5090	0.15	1.7	Clay
36	4850	5100	0.00	0.4	Clay
Average depth				<u>0.75</u>	Metre
Tonnes per Sq Km				<u>1,120,833</u>	

Sample No.	19	20	21	22	23	24	25	26	27
4.75	6%	4%	0%	5%	7%	8%	3%	6%	4%
2.36	13%	16%	24%	18%	17%	15%	16%	21%	20%
1.18	18%	16%	21%	13%	14%	13%	14%	19%	20%
0.600	20%	20%	21%	25%	27%	27%	21%	17%	27%
0.425	4%	11%	10%	8%	6%	8%	12%	7%	5%
0.300	13%	12%	5%	4%	4%	12%	15%	6%	13%
0.212	8%	6%	11%	6%	6%	2%	3%	6%	3%
0.150	6%	4%	2%	3%	6%	3%	6%	3%	4%
0.075	6%	5%	1%	7%	6%	3%	5%	7%	1%
Pan	8%	6%	4%	10%	8%	11%	6%	10%	4%
	100%	100%	100%	100%	100%	100%	100%	100%	100%

Sample No.	28	29	30	31	32	33	34	35	36
4.75	7%	5%	6%	4%	9%	8%	4%	3%	1%
2.36	19%	10%	9%	15%	7%	9%	7%	6%	11%
1.18	12%	21%	25%	19%	22%	15%	21%	20%	21%
0.600	20%	19%	14%	17%	24%	22%	25%	19%	24%
0.425	14%	9%	11%	6%	8%	11%	6%	12%	6%
0.300	3%	14%	10%	15%	8%	13%	11%	16%	16%
0.212	5%	8%	7%	3%	8%	6%	7%	7%	6%
0.150	5%	3%	5%	4%	1%	6%	6%	7%	3%
0.075	7%	5%	6%	6%	3%	5%	5%	6%	4%
Pan	9%	7%	8%	11%	9%	5%	6%	5%	8%
	100%	100%	100%	100%	100%	100%	100%	100%	100%

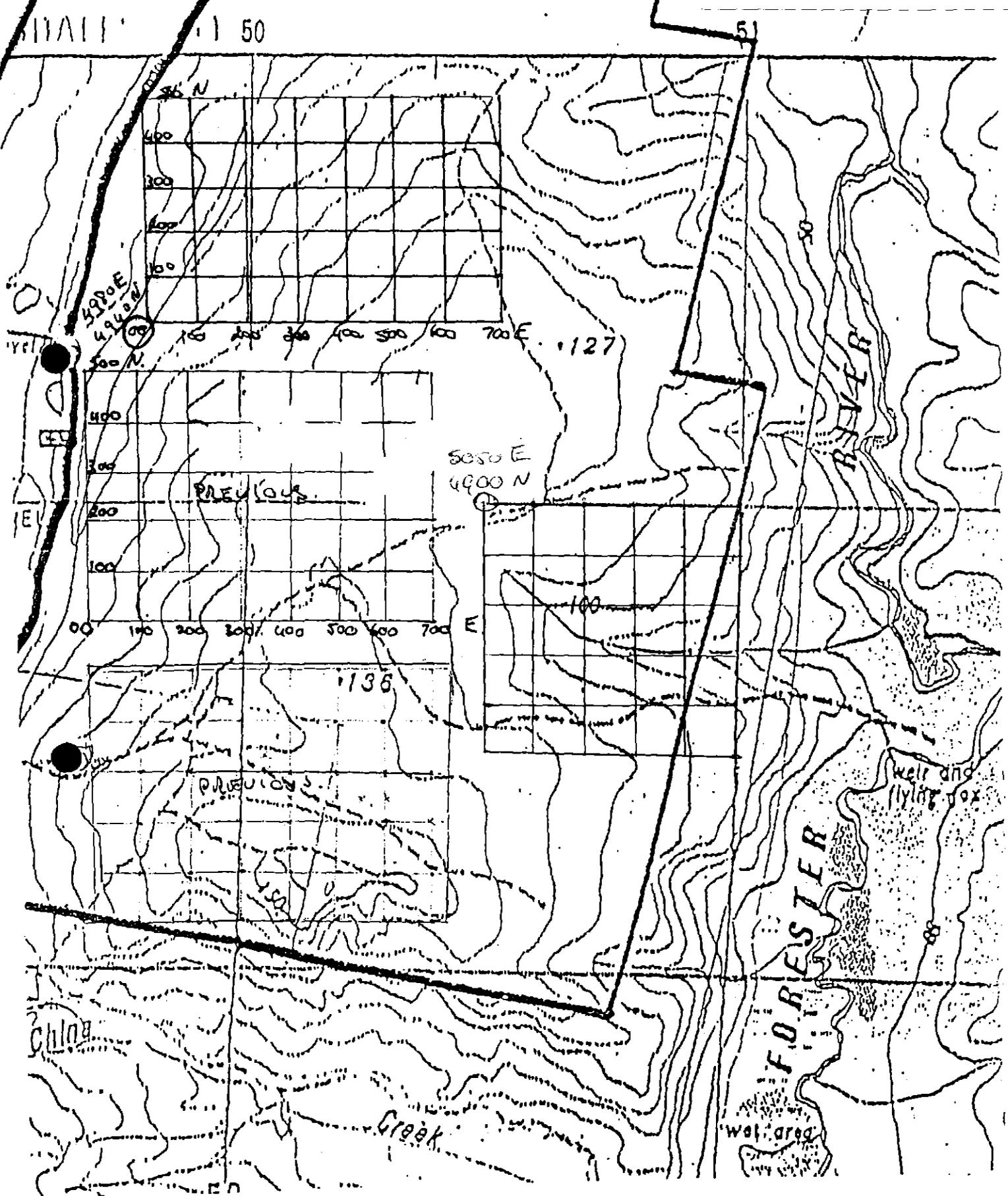
EXPLORATION LICENCE 15/91 Scottsdale
 Exploration Report Oct-97

Sample No.	1	2	3	4	5	6	7	8	9
4.75	9%	5%	8%	7%	5%	6%	3%	6%	4%
2.36	18%	10%	13%	9%	13%	11%	5%	22%	6%
1.18	21%	23%	19%	19%	22%	17%	18%	14%	21%
0.600	19%	23%	18%	26%	23%	15%	17%	15%	26%
0.425	8%	6%	12%	11%	7%	8%	14%	12%	9%
0.300	4%	11%	7%	7%	8%	19%	18%	13%	6%
0.212	4%	10%	3%	10%	5%	6%	9%	7%	8%
0.150	5%	5%	6%	5%	4%	4%	5%	1%	3%
0.075	1%	1%	1%	1%	6%	4%	1%	1%	5%
Pan	9%	7%	13%	5%	6%	11%	10%	9%	11%
	100%	100%	100%	100%	100%	100%	100%	100%	100%

Sample No.	10	11	12	13	14	15	16	17	18
4.75	7%	6%	0%	0%	6%	5%	1%	2%	3%
2.36	22%	11%	12%	17%	6%	15%	17%	22%	5%
1.18	14%	12%	21%	14%	22%	17%	22%	20%	28%
0.600	18%	20%	25%	19%	27%	17%	21%	16%	25%
0.425	10%	13%	13%	13%	11%	11%	13%	5%	6%
0.300	6%	16%	7%	12%	9%	16%	7%	11%	15%
0.212	4%	8%	6%	8%	2%	8%	4%	5%	4%
0.150	4%	6%	6%	4%	6%	2%	4%	6%	3%
0.075	6%	2%	6%	4%	6%	2%	3%	5%	3%
Pan	11%	7%	4%	8%	6%	9%	8%	10%	6%
	100%	100%	100%	100%	100%	100%	100%	100%	100%

TSDALE

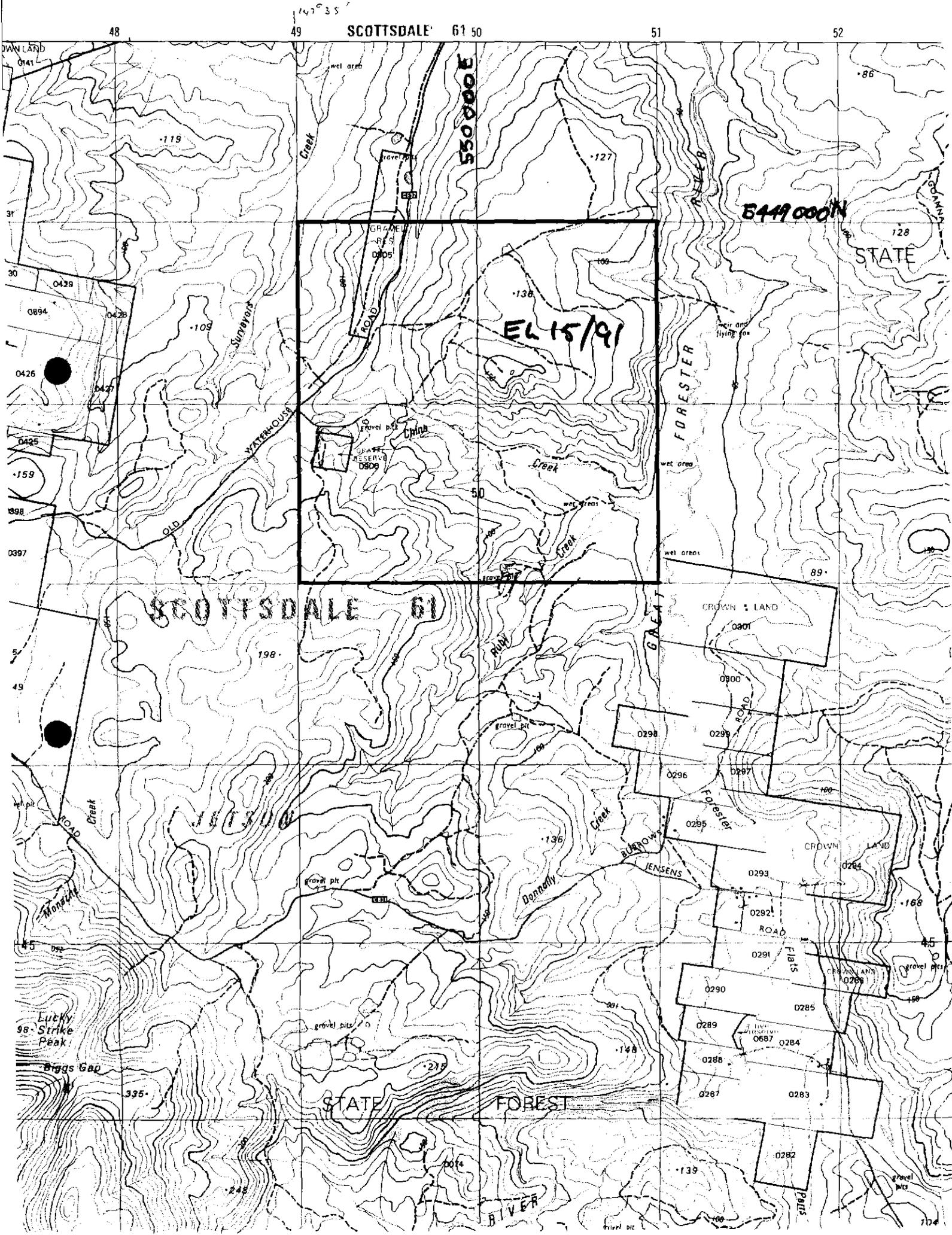
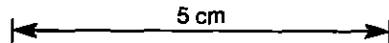
5 cm



SURVEY MAP

SCOTTSDALE

411013



147° 35'

48 49 SCOTTSDALE 61 50 51 52

5449 000 N

550 000 E

EL 15/91

SCOTTSDALE 61

STATE FOREST

RIVER

STATE

FORESTER

GALEA

BURNOW

TENSENS

ROAD

ROAD

ROAD

ROAD

ROAD

ROAD

ROAD

OWN LAND

0429

0894

0428

0426

0425

0427

0425

0159

0398

0397

0397

0397

0397

0397

0397

0397

0397

0397

0397

0397

0397

0397

0397

0397

0397

0397

0397

0397

0397

0397

0397

0397

0397

0397

0397

0397

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141

0141</

EXPLORATION LICENCE		15/91	Scottsdale			
Exploration Report		Oct-95				
Sample No.	North	East	Stripping Depth	Sand Depth	Underlying Layer	
1	00	00	0.15	0.3	Clay	
2	100	00	0.30	1.6	H Pan	
3	200	00	0.05	0.1	H Pan	
4	300	00	0.20	1.5	Clay	
5	400	00	0.10	1.2	Clay	
6	500	00	0.30	1.1	H Pan	
7	00	100	0.20	1.7	Clay	
8	100	100	0.20	1.6	H Pan	
9	200	100	0.05	1.2	H Pan	
10	300	100	0.00	0.3	H Pan	
11	400	100	0.10	0.8	Clay	
12	500	100	0.15	1.1	H Pan	
13	00	200	0.05	0.6	Clay	
14	100	200	0.00	0.0	H Pan	
15	200	200	0.20	0.6	Clay	
16	300	200	0.25	1.4	H Pan	
17	400	200	0.30	1.2	H Pan	
18	500	200	0.30	0.4	H Pan	
19	00	300	0.05	0.8	Clay	
20	100	300	0.00	1.3	Clay	
21	200	300	0.30	1.7	H Pan	
22	300	300	0.00	0.0	Clay	
23	400	300	0.00	0.0	Clay	
24	500	300	0.00	0.0	H Pan	
25	00	400	0.00	0.0	H Pan	
26	100	400	0.00	0.5	Clay	
27	200	400	0.05	0.3	Clay	
28	300	400	0.25	1.4	Clay	
29	400	400	0.05	0.3	H Pan	
30	500	400	0.25	0.8	H Pan	
31	00	500	0.00	0.3	Clay	
32	100	500	0.05	0.8	H Pan	
33	200	500	0.30	0.5	H Pan	
34	300	500	0.15	0.5	Clay	
35	400	500	0.30	1.6	H Pan	
36	500	500	0.15	1.6	H Pan	
37	00	600	0.05	1.7	H Pan	
38	100	600	0.15	0.7	H Pan	
39	200	600	0.00	1.8	H Pan	
40	300	600	0.20	0.8	H Pan	
41	400	600	0.30	0.4	H Pan	
42	500	600	0.10	0.9	H Pan	
43	00	700	0.25	1.2	H Pan	
44	100	700	0.30	1.1	H Pan	
45	200	700	0.00	0.8	H Pan	
46	300	700	0.30	0.3	H Pan	
47	400	700	0.30	1.0	H Pan	
48	500	700	0.05	1.4	H Pan	
			Average depth	0.86 Metre		
			Tonnes per Sq Km	1,287,500		

EXPLORATION LICENCE		15/91			Scottsdale				
Exploration Report		Oct-95							
Sample No.	1	2	3	4	5	6	7	8	9
4.75	0%	3%	5%	4%	7%	5%	4%	3%	6%
2.36	15%	22%	11%	18%	7%	4%	7%	18%	16%
1.18	22%	23%	22%	19%	13%	23%	16%	20%	18%
0.600	33%	14%	21%	16%	25%	28%	32%	23%	19%
0.425	6%	7%	7%	10%	8%	11%	9%	7%	7%
0.300	6%	9%	10%	15%	16%	11%	11%	13%	16%
0.212	3%	6%	10%	7%	8%	9%	3%	4%	7%
0.150	2%	5%	1%	5%	1%	3%	1%	3%	4%
0.075	1%	3%	5%	3%	7%	1%	8%	1%	4%
Pan	12%	10%	8%	4%	9%	6%	9%	9%	3%
	100%	100%	100%	100%	100%	100%	100%	100%	100%
Sample No.	10	11	12	13	14	15	16	17	18
4.75	0%	2%	0%	5%	4%	2%	5%	6%	9%
2.36	18%	11%	6%	18%	20%	12%	11%	17%	12%
1.18	22%	15%	19%	13%	13%	21%	20%	18%	16%
0.600	26%	20%	28%	23%	23%	19%	31%	20%	26%
0.425	6%	8%	12%	8%	8%	7%	8%	10%	5%
0.300	4%	14%	6%	9%	10%	16%	8%	8%	9%
0.212	4%	7%	10%	8%	6%	7%	3%	6%	9%
0.150	6%	3%	6%	4%	4%	3%	7%	6%	2%
0.075	2%	7%	8%	4%	2%	3%	3%	1%	7%
Pan	11%	13%	6%	8%	10%	9%	4%	8%	7%
	100%	100%	100%	100%	100%	100%	100%	100%	100%

Sample No.	19	20	21	22	23	24	25	26	27
4.75	9%	3%	1%	7%	7%	0%	9%	4%	3%
2.36	22%	11%	7%	13%	10%	4%	4%	6%	8%
1.18	14%	21%	22%	18%	23%	23%	23%	17%	22%
0.600	22%	29%	23%	28%	18%	23%	17%	24%	14%
0.425	11%	5%	7%	10%	8%	14%	15%	11%	13%
0.300	5%	6%	13%	5%	15%	14%	15%	6%	14%
0.212	2%	6%	9%	6%	6%	3%	3%	6%	9%
0.150	6%	5%	4%	3%	3%	2%	1%	7%	6%
0.075	4%	3%	7%	1%	1%	5%	2%	10%	3%
Pan	5%	9%	7%	10%	8%	11%	11%	10%	10%
	100%	100%	100%	100%	100%	100%	100%	100%	100%

Sample No.	28	29	30	31	32	33	34	35	36
4.75	7%	6%	3%	5%	5%	6%	1%	8%	6%
2.36	10%	14%	15%	20%	17%	20%	12%	14%	16%
1.18	20%	21%	19%	13%	17%	14%	13%	13%	18%
0.600	22%	19%	24%	23%	19%	25%	29%	21%	18%
0.425	13%	12%	9%	14%	6%	9%	6%	7%	10%
0.300	5%	9%	4%	4%	14%	11%	15%	16%	7%
0.212	4%	3%	8%	4%	5%	4%	4%	9%	8%
0.150	5%	3%	7%	7%	5%	3%	3%	4%	5%
0.075	5%	3%	1%	2%	4%	1%	6%	3%	3%
Pan	8%	10%	11%	10%	8%	7%	11%	6%	9%
	100%	100%	100%	100%	100%	100%	100%	100%	100%

Sample No.	37	38	39	40	41	42	43	44	45
4.75	3%	5%	0%	8%	2%	8%	9%	3%	6%
2.36	8%	3%	17%	6%	24%	14%	4%	5%	16%
1.18	20%	14%	21%	17%	31%	20%	21%	25%	13%
0.600	25%	14%	24%	25%	30%	27%	21%	21%	18%
0.425	9%	6%	5%	5%	14%	13%	12%	9%	7%
0.300	3%	7%	17%	16%	14%	4%	3%	17%	7%
0.212	5%	7%	5%	3%	11%	3%	10%	3%	8%
0.150	6%	4%	1%	7%	1%	1%	4%	5%	3%
0.075	3%	2%	7%	1%	1%	5%	1%	5%	2%
Pan	9%	10%	4%	4%	13%	4%	12%	12%	7%
	90%	72%	101%	90%	143%	98%	97%	104%	87%

Sample No.	46	47	48
4.75	0%	7%	9%
2.36	15%	5%	22%
1.18	10%	18%	16%
0.600	19%	15%	17%
0.425	4%	9%	12%
0.300	6%	11%	6%
0.212	3%	7%	10%
0.150	3%	2%	4%
0.075	3%	4%	4%
Pan	5%	4%	12%
	69%	83%	110%