

ANNUAL REPORT  
FOR PERIOD ENDING 27.6.89.  
ON  
EXPLORATION LICENCE NO. 4968  
ALEXANDRIA STATION, NORTHERN TERRITORY  
BY  
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## SUMMARY

Exploration of the tenement area continued, including field examination and investigative drilling, using a truck mounted Hydrapower plant, owned and operated by W. Fick of Darwin. Forty holes were drilled totalling 162.3 metres.

The drilling outlined the approximate limits of the gypsum deposit. The gypsum may occur as one relatively thick layer or in two layers separated by a narrow clay band usually nearing its limits.

The drilling programme is now probably complete and the approximate limits of the deposit have been identified.

## INTRODUCTION

A test drilling programme, completed during the previous period ending 16.6.88., failed to define the limits of the gypsum deposit currently being mined.

The current exploratory drilling programme was constructed to complete outlining of the limits of the gypsum deposit in the vicinity of the Six Mile Waterhole.

## WORK DONE

Staff from Northern Cement Pty Ltd. and the writer flew from Darwin down to the licence area to continue field investigations into the gypsum deposit.

Whilst in the field, a drill pattern was laid out for subsequent exploratory drilling and the position of future claims outlined.

Drilling was completed by 28.4.89. Holes were logged initially by Mr. Fick in the field and subsequently by staff from Northern Cement Pty Limited.

The holes logged by Northern Cement have been used for this report.

## RESULTS

The most recent drilling programme has outlined an irregular shaped gypsum resource. Its greatest length extends for 2.4 kms along a north easterly trend. Its greatest width is 1.5 kms, its least width is 500 metres. Its maximum thickness is 3.5 metres, but the average would be of the order of 1.75 metres. The north western and south eastern boundaries are very irregular.

## CONCLUSIONS

Exploration of EL No. 4968 has results in the discovery of the first significant and economically viable gypsum deposit in the Northern Territory.

Recent drilling has defined the economic limits of the deposit, outlining a resource that is estimated to contain over one million cubic metres of gypsum within its boundaries.

At this stage, no further drilling appears to be warranted.

The gypsum resource is sufficient to meet the company's needs, at its present rate of consumption, for the foreseeable future.

## RECOMMENDATIONS

Analyse the drilling samples to better define the boundaries of the gypsum deposit.

## EXPENDITURE FOR 1988/89

|                       |           |
|-----------------------|-----------|
| Drilling costs        | 6515.20   |
| Logging costs         | 200.00    |
| Consultant's expenses | 1600.00   |
|                       | <hr/>     |
|                       | \$8315.20 |
|                       | <hr/>     |

## PROPOSED PROGRAMME AND ANTICIPATED EXPENDITURE FOR 1989/90

The proposed programme for 1989/90 is the analyses of drilling hole samples taken to define the boundaries of the gypsum deposit. The estimated expenditure of this programme will be in the region of \$3000.

APPENDIX I

DRILL LOGS

EL 4968 ALEXANDRIA, NORTHERN TERRITORY

NORTHERN CEMENT PTY LIMITED

DRILL RIG:           Hydrapower  
HOLE SIZE:           4.5"  
HOLE ANGLE:         Vertical  
DRILLED BY:         W. Fick  
SAMPLED BY:         W. Fick  
LOGGED BY:           P.L. Watters

| <u>COORDS</u> | <u>DEPTH</u>                        | <u>DRILLING LOG</u>  |
|---------------|-------------------------------------|--|
| 24E 10N       | 1.55 - 3.0                          | Clay/ Gypsum mixture   |
| 24E 8N        | 2.5 - 3.0                           | Gypsum with significant clay   |
| 24E 6N        | 2.4 - 3.0                           | Clay   |
| 22E 6N        | 2.5 - 3.0                           | Gypsum/ clay mixture   |
| 20E 6N        | 2.0 - 2.4                           | Gypsum/ clay mixture   |
| 18E 6N        | 1.0 - 1.4<br>2.1 - 3.0              | Gypsum/ clay mixture<br>Clay   |
| 18E 4N        | 2.1 - 3.2<br>3.2 - 4.2              | Gypsum/ clay mixture<br>Gypsum   |
| 18E 2N        | 3.1 - 3.6<br>3.6 - 4.6<br>4.6 - 5.6 | Gypsum/ clay mixture<br>Gypsum with minor clay<br>Gypsum/ clay mixture |
| 18E 00N       | 2.0 - 2.3<br>2.8 - 4.8<br>4.8 - 5.8 | Gypsum/ clay mixture<br>Gypsum<br>Gypsum with significant clay         |
| 18E 2S        | 3.3 - 3.45                          | Gypsum/ clay mixture   |
| 16E 4N        | 1.0 - 2.0                           | Gypsum (very pure)   |
| 16E 2N        | 1.1 - 2.6                           | Gypsum   |

| <u>COORDS</u> | <u>DEPTH</u>                        | <u>DRILLING LOG</u>   |
|---------------|-------------------------------------|---|
| 16E 2S        | 2.8 - 3.5<br>3.5 - 4.0              | Clay<br>Gypsum/ clay mixture  |
| 14E 2N        | 1.4 - 2.1<br>3.0 - 3.5<br>3.5 - 4.0 | Gypsum/ clay mixture<br>Gypsum<br>Gypsum/ clay mixture              |
| 14E 00N       | 1.0 - 1.5<br>1.5 - 2.5              | Gypsum/ clay mixture<br>Gypsum with minor to significant clay       |
| 14E 2S        | 2.3 - 3.3<br>3.3 - 3.9              | Gypsum with significant clay<br>Gypsum/ clay mixture                |
| 12E 00N       | 1.8 - 3.3                           | Clay  |
| 12E 2S        | 2.0 - 3.2                           | Clay  |
| 10E 2N        | 1.8 - 2.8                           | Gypsum  |
| 10E 00N       | 2.3 - 3.4                           | Gypsum/ clay mixture  |
| 8E 2N         | 1.1 - 2.6                           | Gypsum with minor clay  |
| 8E 00N        | 1.4 - 2.4<br>2.4 - 2.9              | Gypsum with minor clay<br>Gypsum/ clay mixture                      |
| 6E 2N         | 1.2 - 1.7<br>1.7 - 3.2<br>3.2 - 4.3 | Gypsum with minor clay<br>Gypsum<br>Gypsum with clay contamination  |
| 6E 00N        | 1.7 - 2.2<br>2.2 - 3.2<br>3.2 - 3.7 | Gypsum with minor clay<br>Gypsum<br>Gypsum with minor clay          |
| 6E 2S         | 1.55 - 3.05<br>3.05 - 6.05          | Gypsum with minor clay<br>Limestone                                 |
| 6E 4S         | 2.0 - 4.5                           | Limestone   |
| 4E 00N        | 2.8 - 6.3                           | Limestone (good quality)  |
| 4E 2S         | 1.4 - 2.9<br>2.9 - 4.4              | Gypsum/ clay mixture<br>Gypsum with minor clay                      |
| 4E 4S         | 1.85 - 3.35                         | Gypsum/ clay mixture  |
| 2E 00N        | 1.0 - 3.0<br>3.0 - 4.5              | Gypsum with significant clay contaminations<br>Clay/ gypsum mixture |

| <u>COORDS</u> | <u>DEPTH</u> | <u>DRILLING LOG</u>                   |
|---------------|--------------|---------------------------------------|
| 2E 2S         | 1.05 - 4.0   | Gypsum with minor to significant clay |
|               | 4.0 - 4.5    | Clay/ gypsum mixture                  |
| 2E 4S         | 1.8 - 2.8    | Mixture clay and gypsum               |
|               | 2.8 - 3.8    | Gypsum with minor clay                |
|               | 3.8 - 4.3    | Minimal gypsum with clay              |

SUMMARY OF USABLE GYPSUM DEPTHS

| <u>COORDS</u> | <u>GYPSUM DEPTH (m)</u> | <u>COMMENTS</u> |
|---------------|-------------------------|-----------------|
| 24E 10N       | 0                       |                 |
| 24E 8N        | 0                       |                 |
| 24E 6N        | 0                       |                 |
| 22E 6N        | 0                       |                 |
| 20E 6N        | 0                       |                 |
| 20E 4N        | 0                       |                 |
| 20E 2N        | 0                       |                 |
| 20E 00N       | 0                       |                 |
| 20E 2S        | 0                       |                 |
| 18E 6N        | 0                       |                 |
| 18E 4N        | 1.0                     | Good quality    |
| 18E 2N        | 1.0                     | Contaminated    |
| 18E 00N       | 2.0                     | Good quality    |
| 18E 2S        | 0                       |                 |
| 18E 4S        | 0                       |                 |
| 16E 4N        | 1.0                     | Good quality    |
| 16E 2N        | 1.5                     | Good quality    |
| 16E 00N       | 0                       |                 |
| 16E 2S        | 0                       |                 |
| 16E 4S        | 0                       |                 |

| <u>COORDS</u> | <u>GYPSUM DEPTH (m)</u> | <u>COMMENTS</u> |
|---------------|-------------------------|-----------------|
| 14E 2N        | 0.5                     | Contaminated    |
| 14E 00N       | 0                       |                 |
| 14E 2S        | 0                       |                 |
| 14E 4S        | 0                       |                 |
| 12E 00N       | 0                       |                 |
| 12E 2S        | 0                       |                 |
| 10E 2N        | 1.0                     | Contaminated    |
| 10E 00N       | 0                       |                 |
| 8E 2N         | 1.5                     | Contaminated    |
| 8E 00N        | 1.0                     | Contaminated    |
| 6E 2N         | 1.5                     | Contaminated    |
| 6E 00N        | 1.0                     | Contaminated    |
| 6E 2S         | 1.5                     | Marginal        |
| 6E 4S         | 0                       |                 |
| 4E 00N        | 0                       |                 |
| 4E 2S         | 1.5                     | Marginal        |
| 4E 4S         | 0                       |                 |
| 2E 00N        | 0                       |                 |
| 2E 2S         | 2.9                     | Marginal        |
| 2E 4S         | 1.0                     | Marginal        |

Explanation of comments:

Good quality - clean usable gypsum  
Contaminated - clay contamination but usable gypsum  
Marginal - heavier clay contamination & probably not usable.