

APPENDIX 7

TSP Monitoring Results



I1531

October 19, 2001

Mr Mike Druce
CSR Limited
PO Box 312
Taree NSW 2430

CSR Jandra Quarry- Total Suspended Particulate Analytical Results

Dear Mike,

HLA-Envirosciences was commissioned by CSR Limited to carry out Total Suspended Particulate (TSP) sampling at the CSR's Jandra Quarry located near Taree on the mid north coast of NSW.

A single High Volume Air Sampler (HVAS) was used over a three week period for one week rotation at the sites Joes, Yala2 and Jones (See **Figure 1**). One sample was collected every 24hours by the HVAS 7 days per week.

TSP sampling was conducted in accordance with Australian Standard AS2724.3-1984 "Ambient Air – Particulate Matter Determination of Total Suspended Particles High Volume Air Sampler – Gravimetric Method" and the sampler at each location was positioned according to Australian Standard AS2922-1987 "Ambient Air – Guide for the Siting of Sampling Units."

Suspended particulate monitoring data has historically been assessed against the USEPA 24hr-average guideline limit of $260 \mu\text{g}/\text{m}^3$. While this guideline has since been superseded by the annual-average limit of $90 \mu\text{g}/\text{m}^3$, as quoted in the recommended NHMRC Ambient Air Quality Goals, it provides a good indication of air quality performance during this short monitoring program.

Figures 2 to 4 present the daily TSP determinations at each of the three sampling sites. **Tables 1 to 3** indicate daily TSP determinations and site averages for the sampling locations.

The average TSP determination at site Joes was $73 \mu\text{g}/\text{m}^3$ and is considered to be moderate. The result falls below both the recommended annual average of $90 \mu\text{g}/\text{m}^3$ and the 24hr-average limit of $260 \mu\text{g}/\text{m}^3$. This determination is believed to have been elevated due to a grass fire in the immediate vicinity the week prior to monitoring. Ash from this fire is believed to be a factor in the higher TSP than was determined at the Jones and Yala2.

Average TSP at sites Yala2 and Jones were determined to be $39 \mu\text{g}/\text{m}^3$ and $35 \mu\text{g}/\text{m}^3$ respectively. These results are considered to be low and both fall well under annual and 24hr TSP limits.

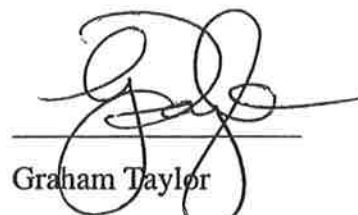
If you have any queries please don't hesitate to contact the Newcastle office on (02) 49680044.

Your faithfully,

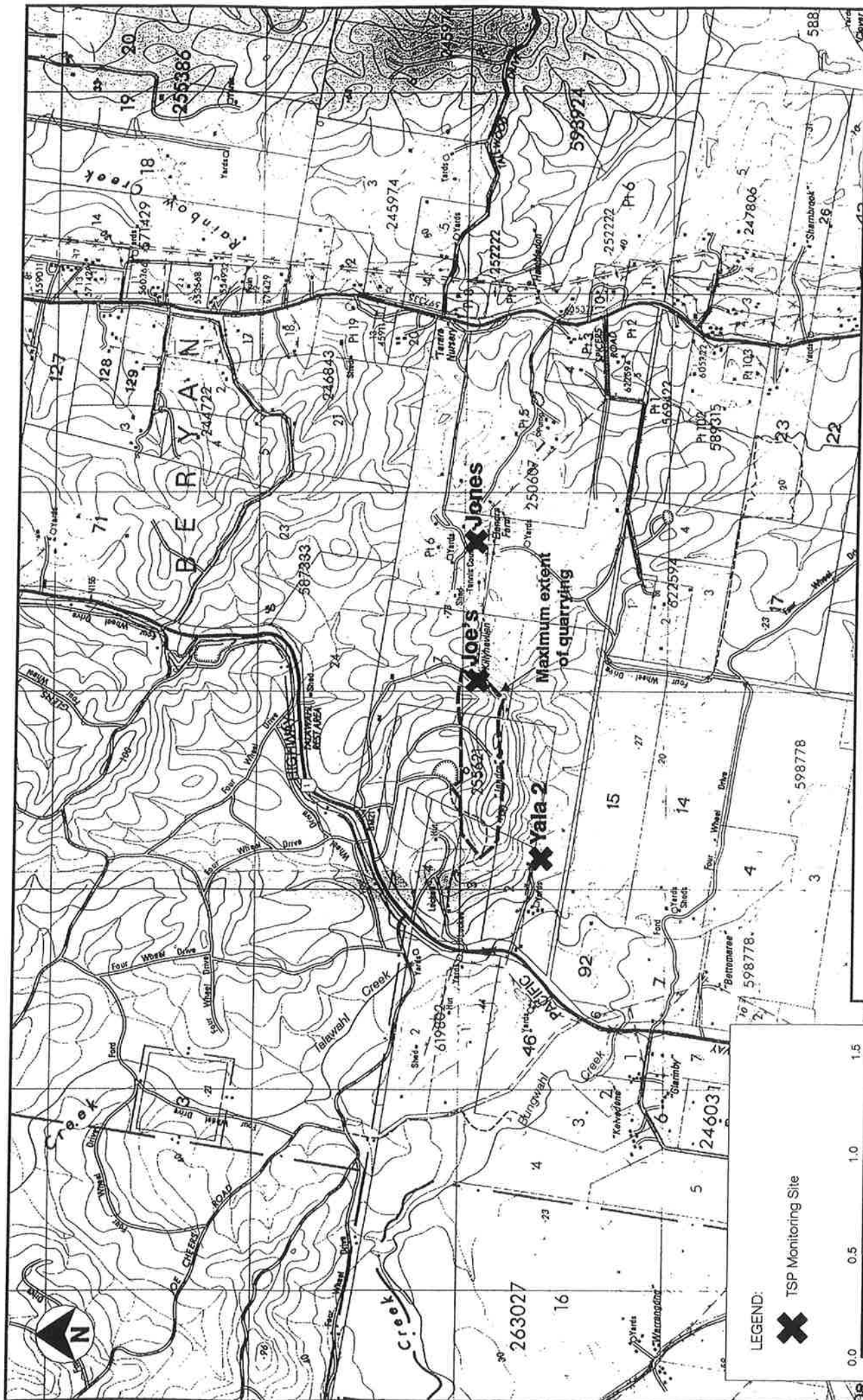
HLA Envirosciences Pty Limited



Daniel Calderwood
Environmental Officer



Graham Taylor
Principal, Industrial Environment



HLA-Envirosciences Pty Limited

18 Warabrook Boulevard
Warabrook, NSW
(02) 4968-0044

TSP MONITORING LOCATIONS

FIGURE

1

NOTE: Base map source 1:25 000 Nablac Topographical Map 9333-HN

DRAWN

PROJECT - TASK NUMBER

11531

APPROVED

DATE

October 2001

TABLE 1. CSR-LIMITED JANDRA QUARRY, TAREE
TOTAL SUSPENDED PARTICULATES SITE JOES

SAMPLING SITE	DATE	TSP ($\mu\text{g}/\text{m}^3$)	TSP(mg/paper)
Joes	21/8/01	77	121
Joes	22/8/01	71	109
Joes	23/8/01	65	103
Joes	24/8/01	89	165
Joes	25/8/01	86	133
Joes	26/8/01	62	95.8
Joes	27/8/01	61	99.4
AVERAGE		73	118

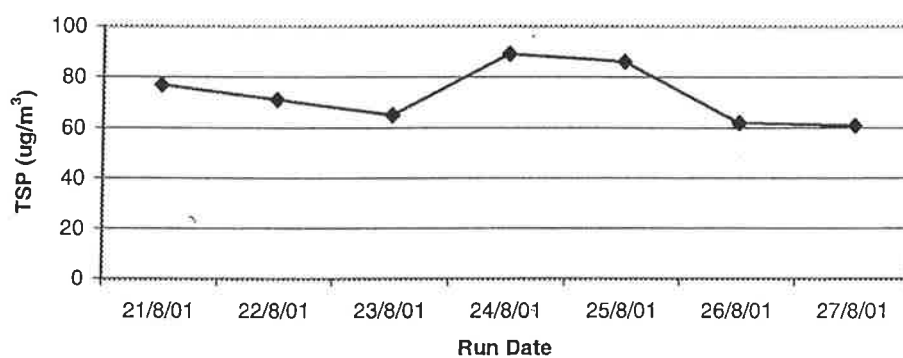
TABLE 2. CSR-LIMITED JANDRA QUARRY, TAREE
TOTAL SUSPENDED PARTICULATES SITE YALA2

SAMPLING SITE	DATE	TSP ($\mu\text{g}/\text{m}^3$)	TSP(mg/paper)
Yala2	28/8/01	43	63.1
Yala2	29/8/01	21	34.9
Yala2	30/8/01	50	79.6
Yala2	31/8/01	42	62.8
Yala2	1/9/01	46	73
Yala2	2/9/01	37	59.0
Yala2	3/9/01	35	54.9
AVERAGE		39	61

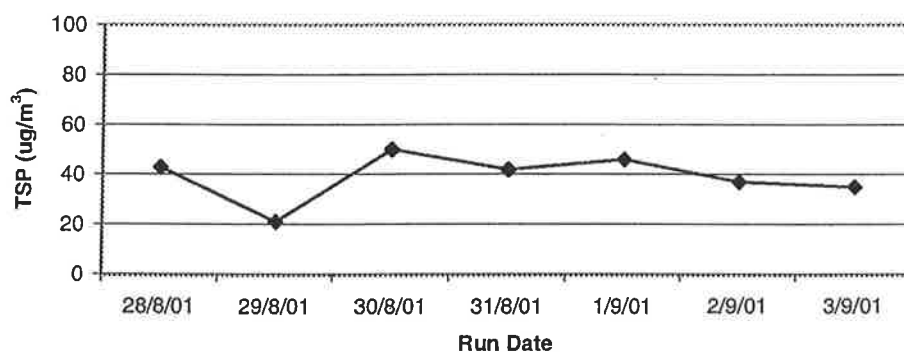
TABLE 3. CSR-LIMITED JANDRA QUARRY, TAREE
TOTAL SUSPENDED PARTICULATES SITE JONES

SAMPLING SITE	DATE	TSP ($\mu\text{g}/\text{m}^3$)	TSP(mg/paper)
Jones	4/9/01	31	52.2
Jones	5/9/01	37	61.5
Jones	6/9/01	59	91.7
Jones	9/9/01	41	78.1
Jones	10/9/01	22	33.6
Jones	11/9/01	28	43.2
Jones	12/9/01	28	46.7
AVERAGE		35	58

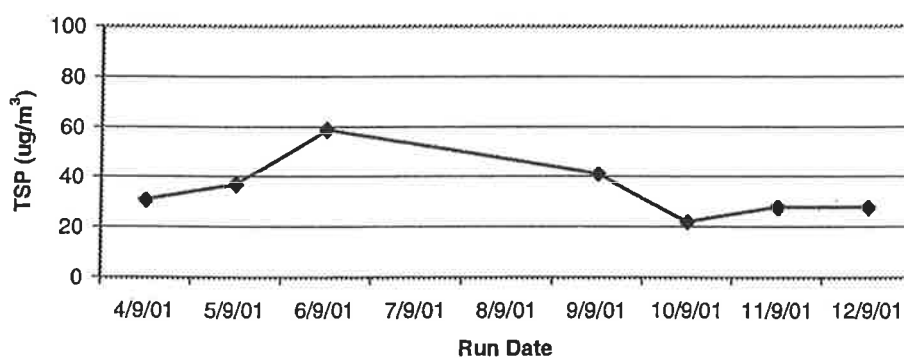
**Figure 2. CSR Jandra Quarry
Total Suspended Particulates
Joes 21/8/01 - 27/8/01**



**Figure 3. CSR Jandra Quarry
Total Suspended Particulates
Yala2 28/8/01 - 3/9/01**



**Figure 4. CSR Jandra Quarry
Total Suspended Particulates
Jones 4/9/01 - 12/9/01**





Certificate of Analysis

LABORATORY REPORT NO: NE4452

CLIENT REFERENCE: I1531

CLIENT: HLA ENVIROSCIENCES PTY LIMITED
PO BOX 73
HRMC WARABROOK NSW 2310

ATTENTION: Mr Daniel Calderwood

DATE REPORTED: 05/10/01

DATE RECEIVED: 25/09/01

TITLE: High Volume Air Sampling Analysis

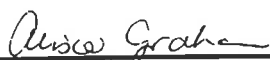
SAMPLES: 21 HVAS Papers

Please find results for the above samples.

Please do not hesitate to contact us if we can be of assistance.

Yours faithfully

Australian Laboratory Services Pty Ltd



Authorising Chemist

TITLE: High Volume Air Sampling Analysis

SAMPLES: 21 HVAS Papers

CLIENT: HLA ENVIROSCIENCES PTY LIMITED

REPORT NO: NE4452

Laboratory Identification	Date of Operation	Sampler Location	Paper Number	TSP (mg/paper)
NE4452/01	21/8/01	Joes	475	121
NE4452/02	22/8/01	Joes	476	109
NE4452/03	23/8/01	Joes	477	103
NE4452/04	24/8/01	Joes	478	165
NE4452/05	25/8/01	Joes	479	133
NE4452/06	26/8/01	Joes	480	95.8
NE4452/07	27/8/01	Joes	481	99.4
NE4452/08	28/8/01	Yala2	1463	63.1
NE4452/09	29/8/01	Yala2	1464	34.9
NE4452/10	30/8/01	Yala2	1465	79.6
NE4452/11	31/8/01	Yala2	1466	62.8
NE4452/12	1/9/01	Yala2	1467	73.0
NE4452/13	2/9/01	Yala2	1468	59.0
NE4452/14	3/9/01	Yala2	1469	54.9
NE4452/15	4/9/01	Jones	1470	52.2
NE4452/16	5/9/01	Jones	1471	61.5
NE4452/17	6/9/01	Jones	1472	91.7
NE4452/18	9/9/01	Jones	3571	78.1
NE4452/19	10/9/01	Jones	3572	33.6
NE4452/20	11/9/01	Jones	3573	43.2
NE4452/21	12/9/01	Jones	3574	46.7
Method Number				EA143

Total Suspended Particulates were determined over a 24hr sampling period.
Sampled by client. LOR 0.1mg/paper.
Sampling and Analysis were conducted in accordance with AS2724.3-1984


Authorising Chemist



Certificate of Analysis

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PO BOX 73
HRMC WARABROOK NSW 2310

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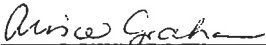
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CLIENT: HLA ENVIROSCIENCES PTY LIMITED

REPORT NO: NE4452NN

Laboratory Identification	Date of Operation	Sampler Location	Paper Number	TSP ($\mu\text{g}/\text{m}^3$)
NE4452/01	21/8/01	Joes	475	77
NE4452/02	22/8/01	Joes	476	71
NE4452/03	23/8/01	Joes	477	65
NE4452/04	24/8/01	Joes	478	89
NE4452/05	25/8/01	Joes	479	86
NE4452/06	26/8/01	Joes	480	62
NE4452/07	27/8/01	Joes	481	61
NE4452/08	28/8/01	Yala2	1463	43
NE4452/09	29/8/01	Yala2	1464	21
NE4452/10	30/8/01	Yala2	1465	50
NE4452/11	31/8/01	Yala2	1466	42
NE4452/12	1/9/01	Yala2	1467	46
NE4452/13	2/9/01	Yala2	1468	37
NE4452/14	3/9/01	Yala2	1469	35
NE4452/15	4/9/01	Jones	1470	31
NE4452/16	5/9/01	Jones	1471	37
NE4452/17	6/9/01	Jones	1472	59
NE4452/18	9/9/01	Jones	3571	41
NE4452/19	10/9/01	Jones	3572	22
NE4452/20	11/9/01	Jones	3573	28
NE4452/21	12/9/01	Jones	3574	28
Method Number				EA143

Total Suspended Particulates were determined over a 24hr sampling period.
Sampled by client. LOR $1\mu\text{g}/\text{m}^3$.
Sampling and Analysis were conducted in accordance with AS2724.3-1984



Authorising Chemist

