



**Parsons
Brinckerhoff
Australia
Pty Limited**

ABN 80 078 004 798

Level 5
503 Murray Street
PERTH WA 6000
PO Box 7181
CLOISTERS SQUARE WA 6850
Australia
Telephone +61 8 9489 9700
Facsimile +61 8 9489 9777
Email perth@pb.com.au

Certified to ISO 9001; ISO 14001;
AS/NZS 4801

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Catherine Finch
Environmental Advisor
CSBP Limited
PO Box 355
KWINANA WA 6966

Dear Catherine

Audit Report: Dust - December 2009 Final Remediation Works for the former Cresco site, Bayswater (Assessment No 1477) Conformance to Ministerial Conditions

Parsons Brinckerhoff (PB) is pleased to provide the following monthly report, detailing the results of the December dust monitoring at the Bayswater CSBP, former Cresco site, including High Volume Air Sampler (HVAS), Tapered Element Oscillating Microbalance (TEOM) and dust deposition gauge results. This report covers data collected between 1 December 2009 and 31 December 2009.

1. Background

This monitoring program has been undertaken to assist in assessing the potential environmental risks associated with dust generation from the remediation of the former Cresco site in Bayswater. A Dust Management Plan has been prepared by Parsons Brinckerhoff (PB) on behalf of CSBP in fulfilment of environmental management commitments as outlined in the *Final Remediation Works for the Former Cresco Site, Bayswater* (Assessment No. 1477).

This monthly report documents the results from the two HVAS units, eight dust deposition gauges and the TEOM for December 2009 and specifically relates to the management strategies outlined in the Dust Management Plan, and environmental commitments as set by the EPA. The specific strategies include:

- visual monitoring at the source of any potential dust generating activities by site supervisor;
- automated continuous monitoring of dust concentrations at two selected locations on the boundary of the site using a combination of total suspended solids (TSP) monitoring (HVAS) and monitoring PM10 fractions (TEOM) (locations as shown in Figure 1); and
- dust deposition gauges, positioned at 8 on and off-site locations (locations as shown in Figure 1).

Active site works (remediation) concluded on 22 November 2009, with only some minor works occurring in December. Dust monitoring ceased on 23 December 2009 and will not be required until redevelopment of the site commences. At such time, a site specific dust management plan will be developed for site redevelopment.

2. Monitoring results

2.1 High Volume Air Samplers

Figure 2.1 shows the 24-hour dust concentrations from the Cresco and WFI HVAS monitors. The data points for the respective dates relate to the 24 hour period commencing from approximately 8 am on the previous day of the sample date.

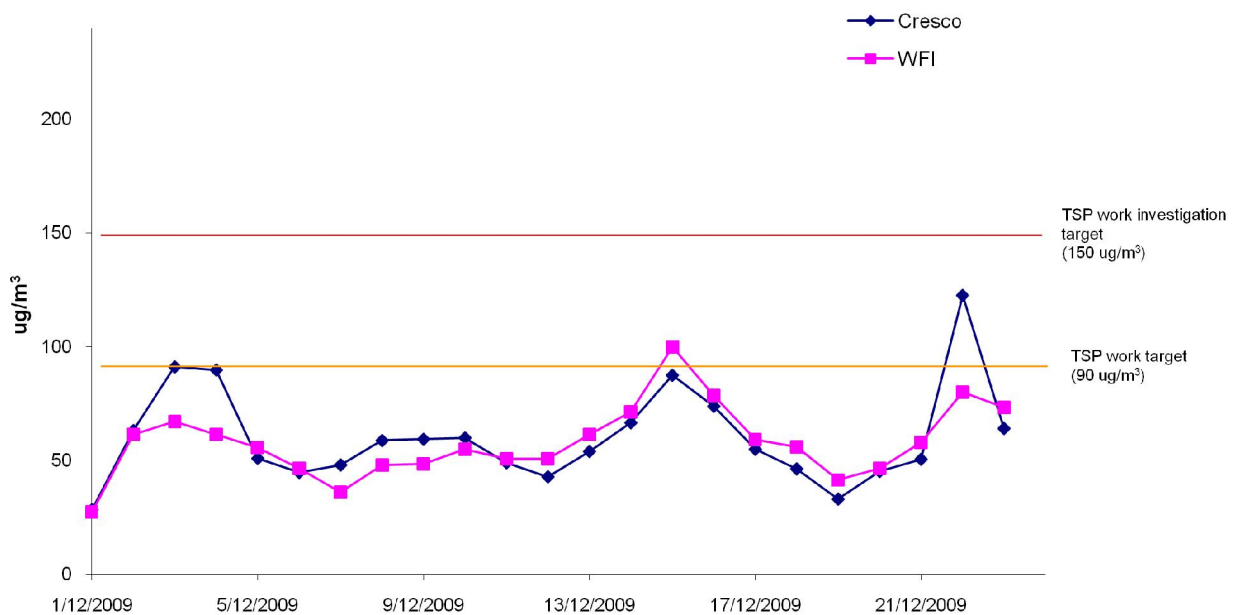


FIGURE 2.1
Dust concentration recorded by HVAS located at Cresco and WFI sites

2.1.1 Work Practise Investigation Target Exceedences

The TSP Work Practise Investigation Target ($150 \mu\text{g}/\text{m}^3$) was not triggered during December 2009.

2.1.2 Work Target Exceedences

The Cresco TSP Work Target ($90 \mu\text{g}/\text{m}^3$) was triggered on 2 occasions during December, on the 3 and 22 of December 2009. The WFI TSP Work Target ($90 \mu\text{g}/\text{m}^3$) was triggered on 1 occasion in December, the 15 of December 2009. These dates relate to the 24 hour period commencing from approximately 8 am on the previous day of the sample date.

On the 3 December the HVAS at the Cresco site recorded a dust concentration of $91.2 \mu\text{g}/\text{m}^3$, triggering the TSP Work Target ($90 \mu\text{g}/\text{m}^3$). The wind direction on this day was predominantly easterly and a gentle breeze with an occasional moderate breeze recorded. No active soil remediation was being conducted on site at the time of this exceedence. Open areas had been covered with hydro mulch.

On the 15 December the HVAS at the WFI site recorded a dust concentration of $100.0 \mu\text{g}/\text{m}^3$, triggering the TSP Work Target ($90 \mu\text{g}/\text{m}^3$). The wind direction on this day was predominantly south westerly and a gentle breeze with an occasional moderate breeze recorded. No active soil remediation was being conducted on site at the time of this exceedence. Open areas had been covered with hydro mulch.

On the 22 December the HVAS at the Cresco site recorded a dust concentration of $122.7 \mu\text{g}/\text{m}^3$, triggering the TSP Work Target ($90 \mu\text{g}/\text{m}^3$). The wind direction on this day was predominantly south westerly and a gentle breeze with an occasional moderate breeze recorded. No active soil remediation was being conducted on site at the time of this exceedence. Open areas had been covered with hydro mulch.

2.1.3 Metal Targets

Metal concentrations remained well below the target values specified in the Dust Management Plan. Table 1 and Table 2 summarise the metal concentrations recorded at the WFI and Cresco sites during December.

Table 1 Metal concentrations recorded by the HVAS at the WFI site

Date	Site	Filter ID	Dust wt (mg/filter) 0.1	Dust Conc. (ug/m ³)	As (ug/m ³)	Cu (ug/m ³)	Pb (ug/m ³)
Trigger Values		Target		90			
		Investigation		150	1.6	33	5
1/12/2009	WFI	CSBP544	41	27.3	0.013	0.008	0.005
2/12/2009	WFI	CSBP546	92	61.3	0.013	0.009	0.015
3/12/2009	WFI	CSBP548	94	67.1	0.014	0.010	0.006
4/12/2009	WFI	CSBP550	86	61.4	0.014	0.014	0.005
5/12/2009	WFI	CSBP552	78	55.7	0.014	0.009	0.004
6/12/2009	WFI	CSBP554	65	46.4	0.014	0.009	0.005
7/12/2009	WFI	CSBP556	54	36.0	0.013	0.010	0.003
8/12/2009	WFI	CSBP558	72	48.0	0.013	0.012	0.010
9/12/2009	WFI	CSBP560	68	48.6	0.014	0.012	0.005
10/12/2009	WFI	CSBP562	77	55.0	0.014	0.016	0.004
11/12/2009	WFI	CSBP564	76	50.7	0.013	0.017	0.005
12/12/2009	WFI	CSBP566	71	50.7	0.014	0.064	0.006
13/12/2009	WFI	CSBP568	86	61.4	0.014	0.065	0.006
14/12/2009	WFI	CSBP570	100	71.4	0.014	0.014	0.007
15/12/2009	WFI	CSBP572	150	100.0	0.013	0.012	0.019
16/12/2009	WFI	CSBP574	110	78.6	0.014	0.013	0.016
17/12/2009	WFI	CSBP576	83	59.3	0.014	0.012	0.004
18/12/2009	WFI	CSBP578	84	56.0	0.013	0.014	0.003
19/12/2009	WFI	CSBP580	58	41.4	0.014	0.027	0.005
20/12/2009	WFI	CSBP582	65	46.4	0.014	0.012	0.004
21/12/2009	WFI	CSBP584	81	57.9	0.014	0.013	0.008
22/12/2009	WFI	CSBP586	120	80.0	0.013	0.010	0.006
23/12/2009	WFI	CSBP588	110	73.3	0.013	0.011	0.012

Table 2 Metal concentrations recorded by the HVAS at the Cresco site

Date	Site	Filter ID	Dust wt (mg/filter) 0.1	Dust Conc. (mg/m ³)	As (ug/m ³)	Cu (ug/m ³)	Pb (ug/m ³)
Trigger Values		Target		90			
		Investigation		150	1.60	33.00	5.00
1/12/2009	Cresco	CSBP543	44	28.4	0.013	0.008	0.005
2/12/2009	Cresco	CSBP545	100	63.2	0.013	0.009	0.023
3/12/2009	Cresco	CSBP547	140	91.2	0.013	0.010	0.064
4/12/2009	Cresco	CSBP549	140	89.9	0.013	0.010	0.077
5/12/2009	Cresco	CSBP551	77	51.0	0.013	0.009	0.003
6/12/2009	Cresco	CSBP553	68	44.8	0.013	0.009	0.007
7/12/2009	Cresco	CSBP555	76	48.1	0.015	0.011	0.038
8/12/2009	Cresco	CSBP557	90	58.8	0.013	0.010	0.035
9/12/2009	Cresco	CSBP559	92	59.4	0.013	0.010	0.037
10/12/2009	Cresco	CSBP561	91	60.0	0.013	0.011	0.017
11/12/2009	Cresco	CSBP563	77	49.1	0.013	0.013	0.014
12/12/2009	Cresco	CSBP565	65	42.9	0.013	0.019	0.010
13/12/2009	Cresco	CSBP567	81	54.0	0.013	0.019	0.009
14/12/2009	Cresco	CSBP569	100	66.7	0.013	0.013	0.008
15/12/2009	Cresco	CSBP571	140	87.6	0.013	0.011	0.010
16/12/2009	Cresco	CSBP573	110	73.9	0.013	0.012	0.009
17/12/2009	Cresco	CSBP575	86	55.0	0.013	0.012	0.012
18/12/2009	Cresco	CSBP577	72	46.4	0.013	0.012	0.005
19/12/2009	Cresco	CSBP579	51	33.1	0.013	0.012	0.005
20/12/2009	Cresco	CSBP581	65	45.3	0.014	0.011	0.004
21/12/2009	Cresco	CSBP583	76	50.6	0.013	0.012	0.005
22/12/2009	Cresco	CSBP585	190	122.7	0.013	0.011	0.007
23/12/2009	Cresco	CSBP587	100	64.1	0.013	0.011	0.013

2.1.4 Summary

During December, metal concentrations recorded at both the Cresco and WFI sites remained well below the trigger values specified in the Dust Management Plan.

2.2 Dust Deposition Gauges

Dust deposition gauges are typically monitored over a 28-32 day sampling period. It should be noted that samples are collected across two calendar months, and as such, the month reported in Figure 2.2 corresponds to the month in which the majority of data were collected. Table 3 summarises the start and finish dates for monitoring, as well as the number of days the samples were collected over.

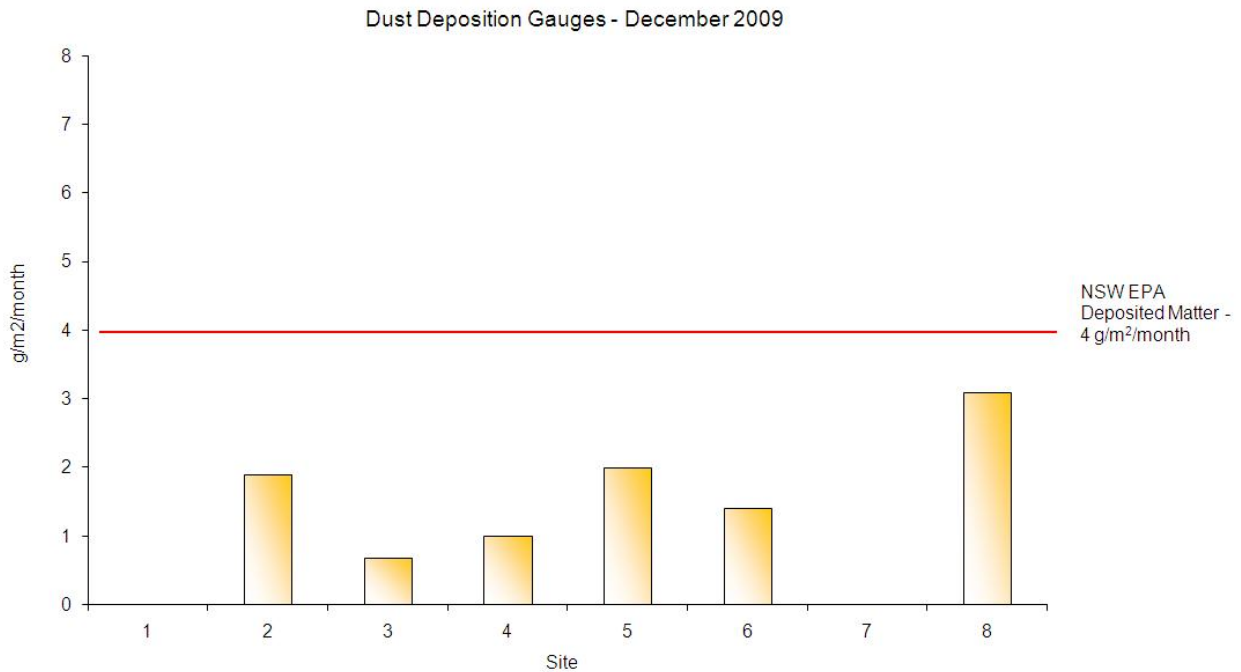


FIGURE 2.2
Monthly values of deposited matter at deposition gauges

Table 3 Summary results of deposited matter for December

Site	Dust (g/m ² /month)		Increase / decrease from previous period's monitoring
	November	December	
Start/Finish	10 November	11 December	Number of days out = 31
Site 1*	1.6	-	-
Site 2	1.4	1.9	0.5
Site 3**	-	0.68	-
Site 4	1.8	1.0	-0.8
Site 5	3.8	2.0	-1.8
Site 6**	-	1.4	-
Site 7***	1.1	-	-
Site 8	3.8	3.1	-0.7

* The funnel attached to the deposition gauge at Site 1 was found smashed at the time of sampling. Results invalid.

** Results based on 59 days of monitoring data

*** Unable to access site

2.2.1 Summary

The NSW EPA sets a guideline for deposited matter of not greater than 4 g/m²/month. During December, no dust deposition gauges exceeded the guideline deposition value.

2.3 Tapered Element Oscillating Microbalance (TEOM)

Figure 2.3 summarises the TEOM data collected as 15 minute averages in µg/m³ at the Cresco site.

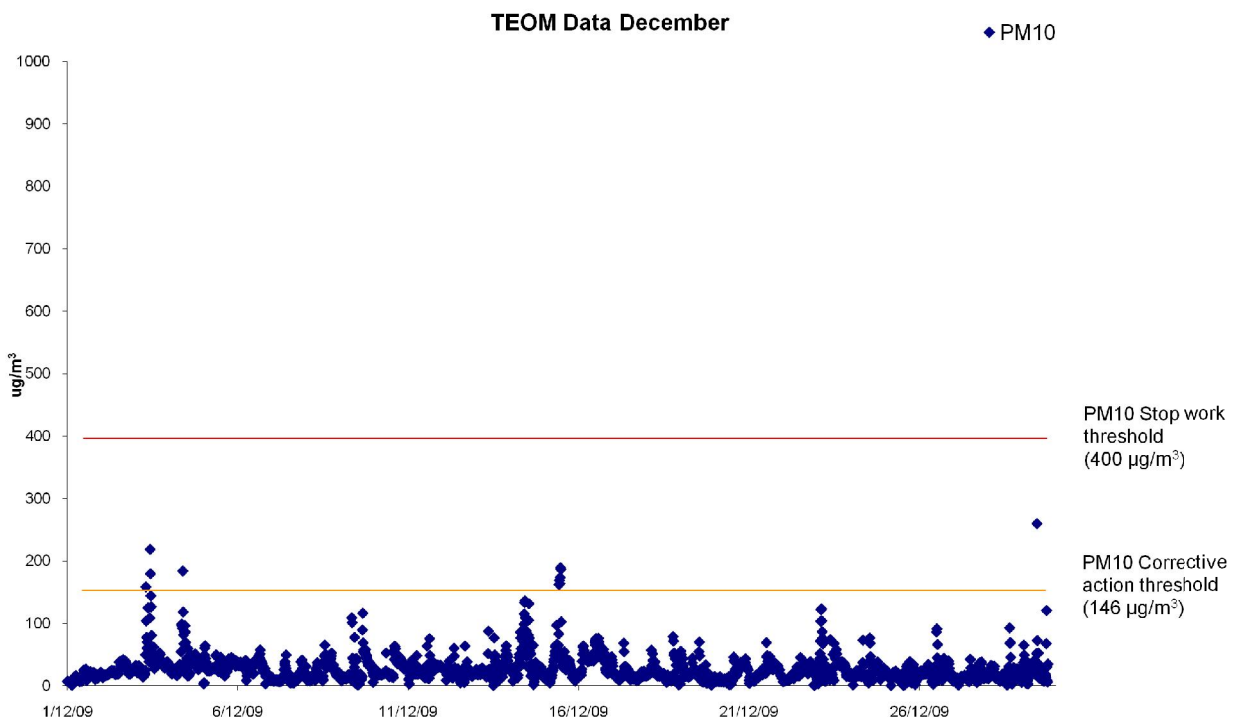


FIGURE 2.3
TEOM results for December 2009

2.3.1 PM10 Stop Work Threshold

The PM10 Stop Work Threshold (400 µg/m³, as a 15 minute average) was not triggered during December 2009.

2.3.2 PM10 Corrective Action Threshold

The PM10 Corrective Action Threshold (146 µg/m³, as a 15 minute average) was triggered on 11 occasions during December 2009.

On the 3 December, the PM10 Corrective Action Threshold ($146 \mu\text{g}/\text{m}^3$, as a 15 minute average) was triggered at 07:15, 10:15 and 10:30. At the time of this exceedence the wind direction was south westerly and a gentle breeze. No active site remediation was being conducted at the time of these exceedences. Open areas had been covered with hydro mulch.

On the 4 December, the PM10 Corrective Action Threshold ($146 \mu\text{g}/\text{m}^3$, as a 15 minute average) was triggered at 09:15. At the time of this exceedence the wind direction was south south-easterly and a gentle breeze. No active site remediation was being conducted at the time of these exceedences. Open areas had been covered with hydro mulch.

On the 15 December, the PM10 Corrective Action Threshold ($146 \mu\text{g}/\text{m}^3$, as a 15 minute average) was triggered at 10:15, 10:30, 10:45, 11:00, 11:15 and 11:30. At the time of these exceedences the wind direction was west south westerly and a gentle breeze. No active site remediation was being conducted at the time of these exceedences. Open areas had been covered with hydro mulch.

On the 29 December, the PM10 Corrective Action Threshold ($146 \mu\text{g}/\text{m}^3$, as a 15 minute average) was triggered at 10:45. The predominant wind direction on this day was east north easterly and a gentle breeze. Wind speed and wind direction data was not captured from the TEOM at this time. At the time of this exceedence no active site works were taking place. Open areas had been covered with hydro mulch.

2.3.3 TEOM errors and maintenance

No errors of the TEOM were recorded during December 2009.

3. Conclusions

- During December, metal concentrations recorded by the HVAS units at both the Cresco and WFI sites remained well below target values as defined in the Dust Management Plan (PB report: PR2_13230_RevJ).
- During December, the HVAS at the Cresco site recorded 2 exceedences of TSP Work Target (90 $\mu\text{g}/\text{m}^3$)
- During December, the TSP Work Practice Investigation Target (150 $\mu\text{g}/\text{m}^3$) was not triggered at either the Cresco or WFI sites.
- During December, the HVAS at the WFI site recorded 1 exceedence of TSP Work Target (90 $\mu\text{g}/\text{m}^3$)
- During December, the TEOM at the Cresco site recorded 11 exceedences of the PM10 Corrective Action threshold (146 $\mu\text{g}/\text{m}^3$, as a 15 minute average).
- During December, the TEOM at the Cresco site did not record any exceedences of the PM10 Stop Work threshold (400 $\mu\text{g}/\text{m}^3$, as a 15 minute average).
- No dust deposition gauges exceeded the NSW EPA guideline of 4 $\text{g}/\text{m}^2/\text{month}$ for deposited matter.
- CSBP received no complaints relating to dust or dust management.
- In line with the approved Dust Management Plan (PR2_13230_RevJ) further dust monitoring is not required unless active site remediation recommences.

Yours sincerely



Ryan Duncan
Environmental Scientist
Parsons Brinckerhoff Australia Pty Limited

Attachments: Map showing location of dust monitoring equipment