

## Annual Report

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**CLIENT:** Hanson Construction Materials Pty Ltd  
**SITE:** Calga Quarry – Revegetation and Weed Management  
**MONTH:** January 2018 – December 2018

### DESCRIPTION OF WORK

Zone	Type of Work	Weed Type	Work Description
1	Primary	Herbaceous	<ul style="list-style-type: none"> <li>Low volume spraying was conducted in order to clear small areas of exotic ground covers and tall grasses within working areas and the sandstone buns.</li> <li>Large trees were cut down using a chainsaw and neatly rafted out of sight.</li> <li>High volume spraying was conducted in large areas of invasive species, targeting <i>Bidens pilosa</i> (Cobblers Pegs), <i>Sonchus oleraceus</i> (Sowthistle), <i>Phytolacca octandra</i> (Inkweed), <i>Taraxacum officinale</i> (Dandelion), <i>Andropogon virginicus</i> (Whiskey Grass), <i>Vebena bonariensis</i> (Purple Top), <i>Setaria gracilis</i> (Marsh Bristlegrass), and <i>Conyza bonariensis</i> (Fleabane).</li> </ul>
		Woody	<ul style="list-style-type: none"> <li>Cut-and-paint was conducted using a chainsaw and neat Roundup Biactive® targeting <i>Pinus radiata</i> (Radiata Pine)</li> </ul>
		N/A	<ul style="list-style-type: none"> <li>Tree guards were removed from native plantings to allow unrestricted growth.</li> </ul>
2	Primary	Herbaceous	<ul style="list-style-type: none"> <li>Low volume spraying was conducted in order to clear small areas of exotic ground covers and tall grasses.</li> </ul>
2/3	Primary	Herbaceous	<ul style="list-style-type: none"> <li>Low volume spraying was conducted using a solution of 1% Roundup Biactive® targeting <i>B. pilosa</i>, <i>S. oleraceus</i>, <i>P. octandra</i>, <i>T. officinale</i>, and <i>A. virginicus</i>.</li> </ul>

Zone	Type of Work	Weed Type	Work Description
3	Primary	Herbaceous	<ul style="list-style-type: none"> <li>Low volume spraying was conducted in order to clear small areas of exotic ground covers and tall grasses</li> <li>Brush-cutting was conducted on regrowing weed species within the revegetated area.</li> </ul>
3/3	Primary	Herbaceous	<ul style="list-style-type: none"> <li>Low volume spraying was conducted using a solution of 1% Roundup Biactive® targeting <i>B. pilosa</i>, <i>S. oleraceus</i>, <i>P. octandra</i>, <i>T. officiale</i>, and <i>A. virginicus</i></li> <li>High volume spraying was conducted in order to clear exotic ground covers and tall grasses.</li> </ul>
4	Primary	Herbaceous	<ul style="list-style-type: none"> <li>Low volume spraying was conducted in order to clear exotic ground covers and tall grasses</li> </ul>
5	Primary	Herbaceous	<ul style="list-style-type: none"> <li>Low volume spraying was conducted between the track and fenceline as well as the sandstone buns, targeting <i>B. pilosa</i>, <i>P. octandra</i> and <i>Conzys bonariensis</i> (Fleabane).</li> <li>Large trees were cut down using a chainsaw and neatly rafted out of sight.</li> <li>Brush-cutting was conducted on regrowing weed species within the revegetated area.</li> </ul>
		Woody	<ul style="list-style-type: none"> <li>Cut-and-paint was conducted on the lower slope using neat Roundup Biactive®, targeting <i>P. radiata</i></li> </ul>
6	Primary	Herbaceous	<ul style="list-style-type: none"> <li>Brush-cutting was conducted on regrowing weed species within the revegetated area.</li> </ul>
7	Primary	Herbaceous	<ul style="list-style-type: none"> <li>Low volume spraying was conducted using a solution of 1% Roundup Biactive® targeting <i>B. pilosa</i>, <i>S. oleraceus</i>, <i>P. octandra</i>, <i>T. officiale</i>, and <i>A. virginicus</i>.</li> <li>Brush-cutting was conducted on regrowing weed species within the revegetated area.</li> </ul>
8	Primary	Herbaceous	<ul style="list-style-type: none"> <li>Low volume spraying was conducted using a solution of 1% Roundup Biactive® targeting <i>B. pilosa</i>, <i>S. oleraceus</i>, <i>P. octandra</i>, <i>T. officiale</i>, and <i>A. virginicus</i>.</li> <li>Brush-cutting was conducted on regrowing weed species within the revegetated area.</li> </ul>

Zone	Type of Work	Weed Type	Work Description
	Secondary	Herbaceous	<ul style="list-style-type: none"> <li>• Brush-cutting was conducted along the road side, targeting dead perennial weeds.</li> <li>• Low volume spraying was conducted along the road side, targeting emerging growths of <i>B. pilosa</i>, <i>C. bonariensis</i> and <i>Hypochoeris glabra</i> (Flatweed).</li> </ul>
9	Primary	Herbaceous	<ul style="list-style-type: none"> <li>• Low volume spraying was conducted in order to clear exotic ground covers and tall grasses.</li> </ul>
	Secondary	Herbaceous	<ul style="list-style-type: none"> <li>• Brush-cutting was conducted between the road side and sandstone wall, targeting dead perennial weeds.</li> <li>• Low volume spraying was conducted along the road side, targeting emerging growths of <i>B. pilosa</i>, <i>C. bonariensis</i>, <i>H. glabra</i>, and <i>Andropogon virginicus</i> (Whiskey Grass).</li> </ul>

**Notes:**

- All spraying works utilised a solution of 2% Roundup Biactive® unless otherwise stated.

**Management Issues:**

- There has been some evidence of wild dogs in Areas 1-4. Attempts were made to photograph them, but were unsuccessful. A 1080 baiting program or increased fencing security could reduce their appearances.

**Site Progress:**

- Weed management appears to be effective. There has been noticeable native regrowth, with a number of *Acacia longifolia* (Sydney Golden Wattle) reclaiming areas previously worked.
- Further high-volume application of entire management zone and outside specified areas and follow up of frilling the larger trees in the sandstone bun areas would be beneficial of total removal of all vegetative matter.
- All weeds amongst revegetation zones, road edges and mustering areas have now been treated or removed, thus improving the visual aesthetic of the site greatly.

**Fauna Recorded:**

- Wild Dog – *Canis lupus familiaris*
- Red Brow Finch – *Neochemia temporalis*
- Swamp Wallaby – *Wallabia bicolor*
- Wedge Tail Eagle – *Aquila audax*



*Figure 1: Before/After tree removal from sandstone bun areas*





*Figure 2: Before/After herbicide application to sandstone buns*





*Figure 3: Before/After tree removal from sandstone bun areas*





*Figure 4: Tree guard removal in Zone 1*



*Figure 5: Felling of P. radiata in Zone 5*





*Figure 6: Before/After herbicide application near building*





*Figure 7: Before/After high-volume herbicide application along road*



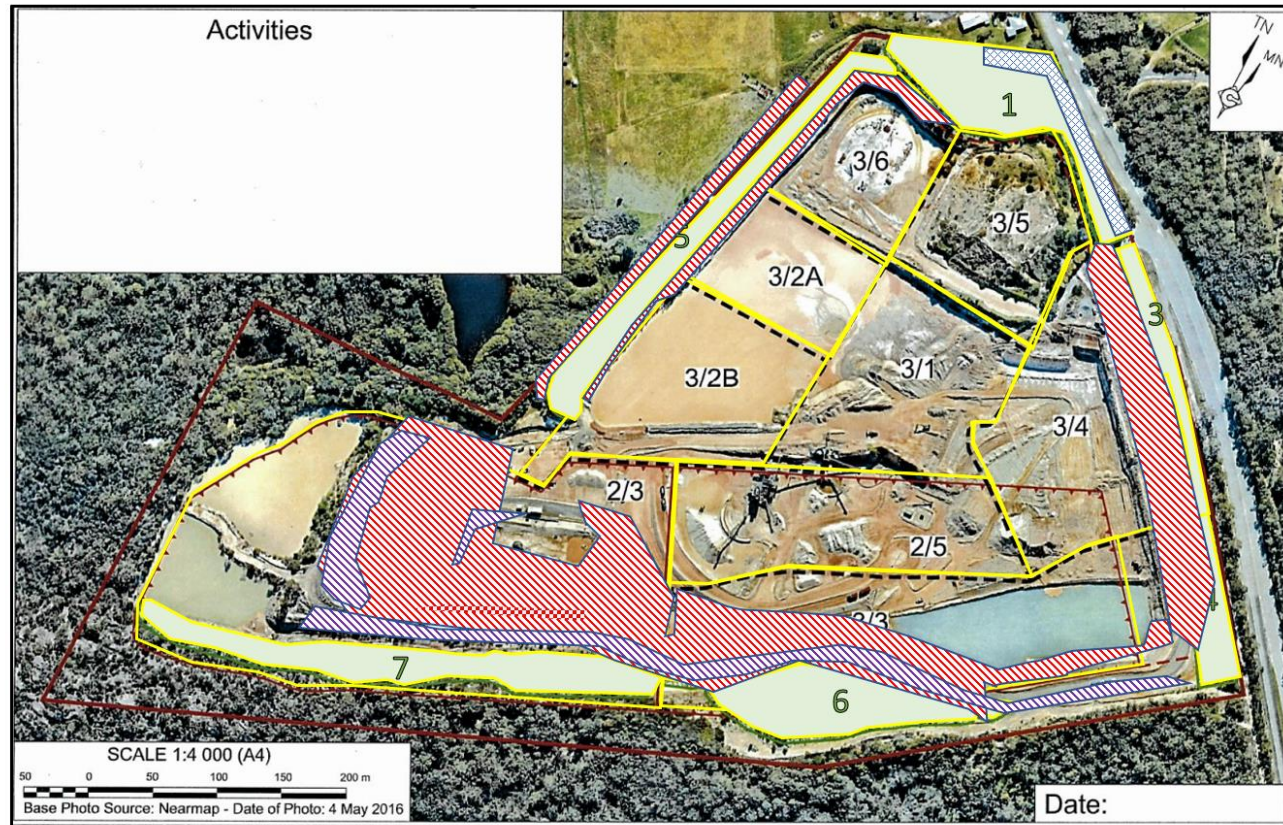


Image source: Hanson

Calga Weed Control

Date: January 2018 – December 2018



### Calga Sand Quarry

NOT TO SCALE

NORTH

Site Boundary



	Woody	Herbaceous	Vines
Primary			
Secondary			
Maintenance			



Other