



Annual Environmental Report

January – December 2016

31 March 2017



ANNUAL ENVIRONMENTAL REPORT CHECKLIST		COMPLETED Y/N	PAGE
1	Required content described in guidelines has been presented	Y	ONLINE AER
2	Site Summary table is included for each site (is to be placed following this checklist in AER)	Y	ONLINE AER
3	An accurate, detailed, well labelled site map is included	Y	ONLINE AER
4	Accurate, current disturbance data is given for each tenement	Y	ONLINE AER
5	Data sheets for each landform* within the project have been included	Y	ONLINE AER
6	Appended audit approvals, conditions and regulatory orders.	Y	ONLINE AER

*e.g. waste dumps, tailings storage facility, if your site does not have these features then these data sheets are not required.

Corporate Endorsement

"I hereby certify that to the best of my knowledge, the information within this Annual Environmental report is true and correct and addresses all the requirements of the guidelines approved by the Director General of Mines"

Name: Clayton Signed: [Signature] Date: 24/1/18

Position: GM operations

(NB: The corporate endorsement is to be given by a senior position within the company, preferably the Registered Mine Manager.)

PROJECT SUMMARY

This Annual Environmental Report (AER) outlines the mining and environmental activities undertaken across Norton Gold Fields Limited tenement package during the 2016 reporting period (January to December 2016).

Paddington Gold Pty Limited, Bellamel Mining Pty Ltd and Kalgoorlie Mining Company (Bullant) Pty Ltd are 100% subsidiaries of Norton Gold Fields Limited. The Bellamel Mining Pty Ltd tenements cover the Binduli area including the Navajo Chief Open Cut Pit and associated rail underpass, with the Kalgoorlie Mining Company (Bullant) Pty Ltd tenements covering the Bullant Underground Mine, both of which are managed by Paddington Gold Pty Ltd. Collectively these sites are known as Norton's Paddington Operations.

In November 2014, Norton Gold Fields were successful in a more than 90% shareholder claim in Bullabulling Gold Ltd with the subsequent acquisition of the Bullabulling pastoral station and all related mining infrastructure within the number of leases. 'Bullabulling' is located approximately 60km south of Kalgoorlie and most information is not included in this AER as it will be provided to DMP separately by August 2016.

In June 2015, following a successful takeover offer, Norton Gold Fields Ltd became a wholly owned subsidiary of Zijin Mining and delisted from the Australian Securities Exchange (ASX).

This report contains technical information for the Department of Mines and Petroleum (DMP) as required under Mining Lease tenement conditions. The report also satisfies the requirement to submit an AER to the Department of Environment Regulation (DER) for Licence to Operate 8327/2008/2 at Mount Pleasant (Rose East Pit), 8512/2010/2 at Bullant Underground Mine, 8194/2015/1 at Fort Scott, 8926/2015/1 at Racetrack West, and 8692/2012/1 at Enterprise. The Paddington Mill functions under the Environmental Protection (Gold Extraction Operations) Exemption Order 1993 and, as such, does not require a Licence to Operate.

During the reporting period, mining was conducted at five open cut mines and three underground operations (Janet Ivy, Fort Scott, Racetrack West, Enterprise, Quarters 040 open pits, and Homestead, Tuart and Bullant Underground). The Paddington Mill treated 3,348,291 tonnes of dry ore (from all sources) to produce approximately 197,847 ounces of gold. Tailings from the Paddington Mill were discharged to Paddington In-Pit Tailings Storage Facility (TSF).

Progressive rehabilitation continued during the 2016 reporting period at Enterprise, Racetrack West, Quarters 040 and Janet Ivy. Fort Scott, Natal 2 and Wattlebird was seeded during the period. Progressive rehabilitation is expected to continue in to the next reporting period, as well as some scheduled remedial works to TSFs at Paddington and Ora Banda, as identified in the Annual TSF Audit.

A total of 26 environmental incidents occurred during 2016 at Norton's Paddington Operations, with the majority involving spills of hydrocarbons or hypersaline water. One of these incidents, six required reporting to relevant regulatory authorities. One community complaint was received during 2016.

Mining ceased at Fort Scott in January and at Racetrack West in November 2016. Operations at Homestead were significantly reduced as the mine reaches final cessation anticipated in 2017. Mining commenced at Quarters 040 in October and intermittent mining continued throughout 2016 at Janet Ivy.

During the next reporting period it is expected that mining continues at Enterprise open pit and Bullant underground mine, with cessation of Homestead underground mine. Other project areas will progressively be explored during the 2017 period to expand operations.

Paddington also currently have an agreement with Excelsior Gold which sees ore from their project areas located north of Paddington treated at the Paddington Mill, and a tribute agreement with Keras Mining which will see them mining small deposits on Paddington tenements to also be processed through the Paddington Mill.

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1 INTRODUCTION

This report details the mining and environmental activities of Norton Gold Fields Limited (NGF) including its subsidiaries; Paddington Gold Pty Ltd (Paddington), Kalgoorlie Mining Company Ltd (KMC), KalNorth Gold Mines Ltd (KGM), and Bellamel Mining Pty Ltd (Bellamel) for the reporting period of January 1st to December 31st 2016. Collectively, these sites are known as Norton's Paddington Operations.

An online copy of this report contains all relevant technical information required by the Department of Mines and Petroleum (DMP) as required by tenement conditions and is publicly available to view via DMP website.

This hardcopy report satisfies the requirement to submit an Annual Environmental Report (AER) to the Department of Environment Regulation (DER) for current Operating Licences 8327/2008/1 at Mount Pleasant, 8512/2010/1 at Bullant Underground, and 8692/2012/1 at Enterprise; and to the Department of Water (DoW).

The Paddington Mill site functions under the Environmental Protection (Gold Extraction Operations) Exemption Order 1993 and, as such, does not require an Operating Licence.

It is to be noted that environmental reporting by NGF for Bullabulling is to be submitted to DMP for the 2016/2017 reporting year, but limited information is included in this hardcopy; it will instead be supplied in a separate AER which is due in August 2017.

Norton's Paddington Operation AER has been split into seven project sites, in conjunction with the Mine Closure Plans. These seven sites currently include:

- Paddington;
- Binduli;
- Ora Banda
- Lady Bountiful;
- Mount Pleasant;
- Golden Cities; and
- Satellite sites.

A complete GIS database update and minor re-structure of these project site groupings is anticipated to occur in 2017.

2 SITE PLAN

2.1 OPERATION OVERVIEW

Norton's Paddington Operations covers a large area to the north, west and south-west of the City of Kalgoorlie-Boulder. Ore processing facilities are located at the Paddington Mill site (approximately 35 kilometres north of Kalgoorlie). Refer to Figure 1 - Norton Gold Fields Paddington Operations Tenement Package for an overview of Paddington's tenements. During 2016, mining was conducted at five open cut mines and three underground operations (Fort Scott, Janet Ivy, Racetrack West, Enterprise, Quarters 040 open pits and Homestead, Tuart and Bullant underground mines).

2.2 OPERATIONAL AREAS

During the 2016 reporting period Norton had seven operational areas. Figures 2 - 9 show the site plans of each operational area; Enterprise (Figure 2), Quarters 040 (Figure 3), Racetrack West (Figure 4), Fort Scott (Figure 5), Homestead and Tuart (Figure 6), Paddington Mill and Paddington In-Pit TSF (Figure 7), Bullant (Figure 8) and Janet Ivy (Figure 9).

Enterprise, Homestead, Fort Scott and Bullant were all being mined in 2015, with Fort Scott operations ceasing in early 2016 and Racetrack West operations ceasing in late 2016. Quarters 040 commenced in 2016 and is expected to cease in 2017. Janet Ivy was mined intermittently throughout 2016. Tuart underground began in February and was mined until September 2016, with further drilling pending future feasibility for this mine.

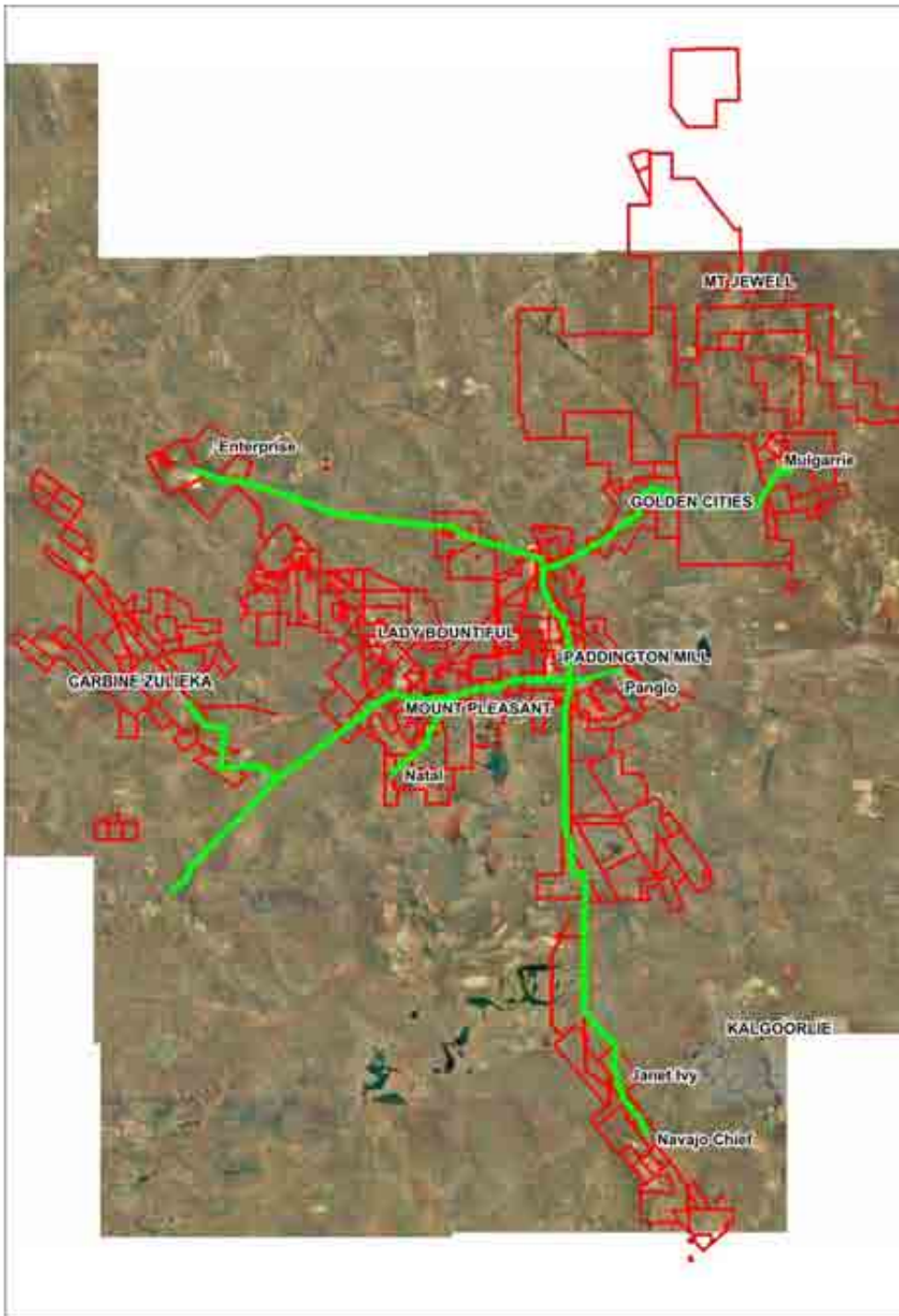


Figure 1 - Norton Gold Fields Paddington Operations Tenement Package

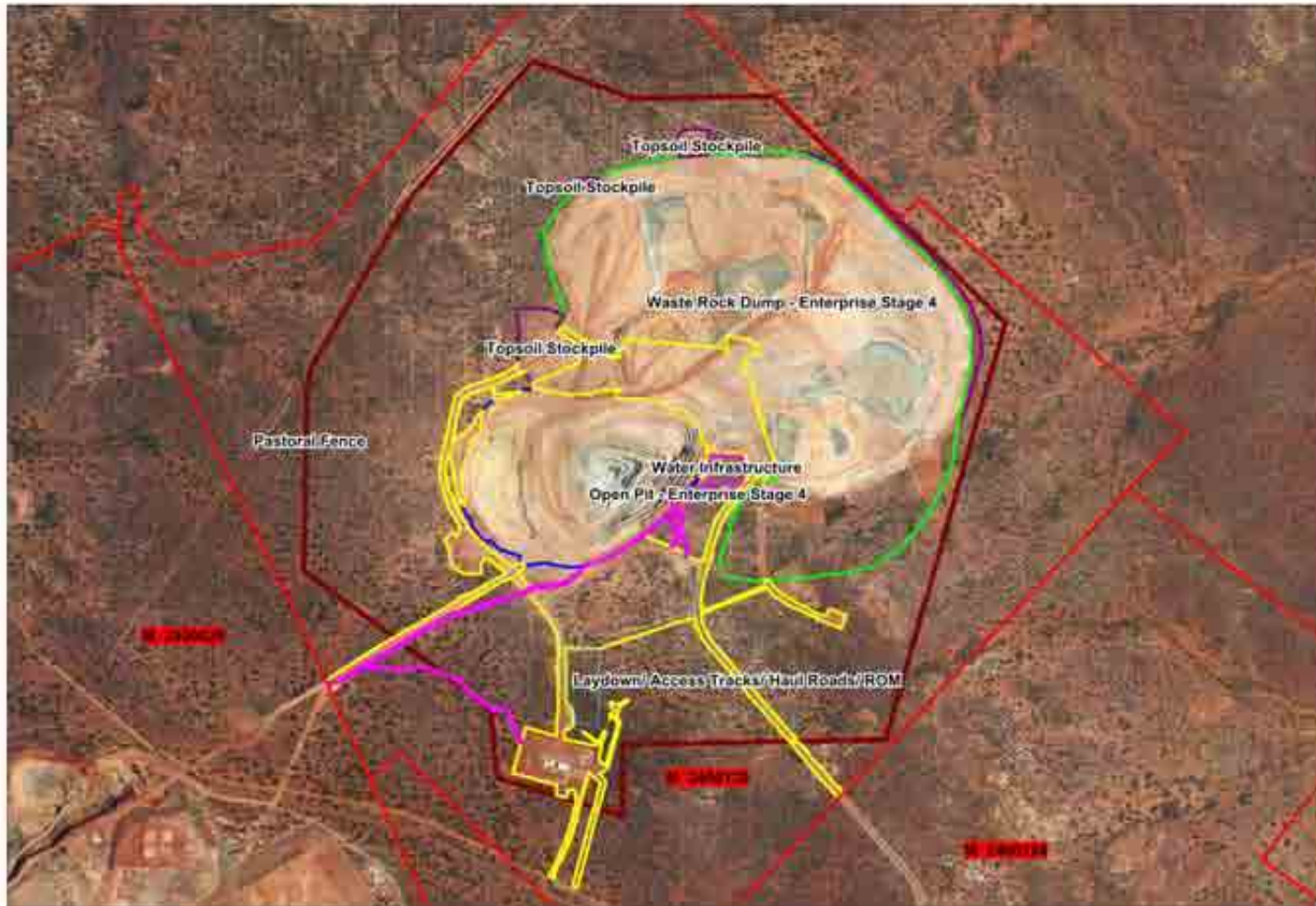


Figure 2 – Enterprise Open Cut Mine 2016



Figure 3 – Quarters 040 Open Cut Mine 2016

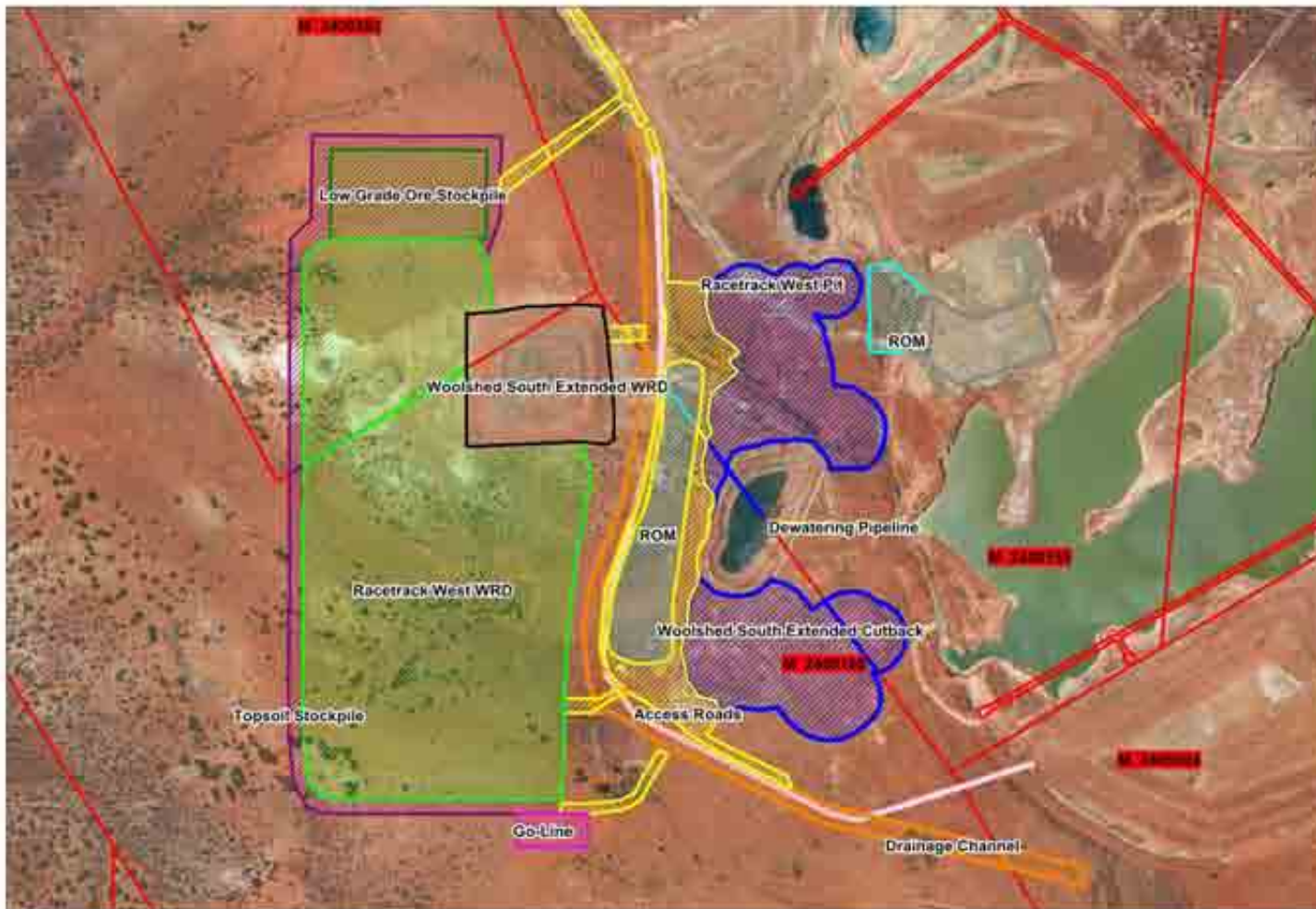


Figure 4 – Racetrack West Open Cut Mine 2016



Figure 5 – Fort Scott Open Cut Mine 2016



Figure 6 - Homestead and Tuart Underground Operations 2016

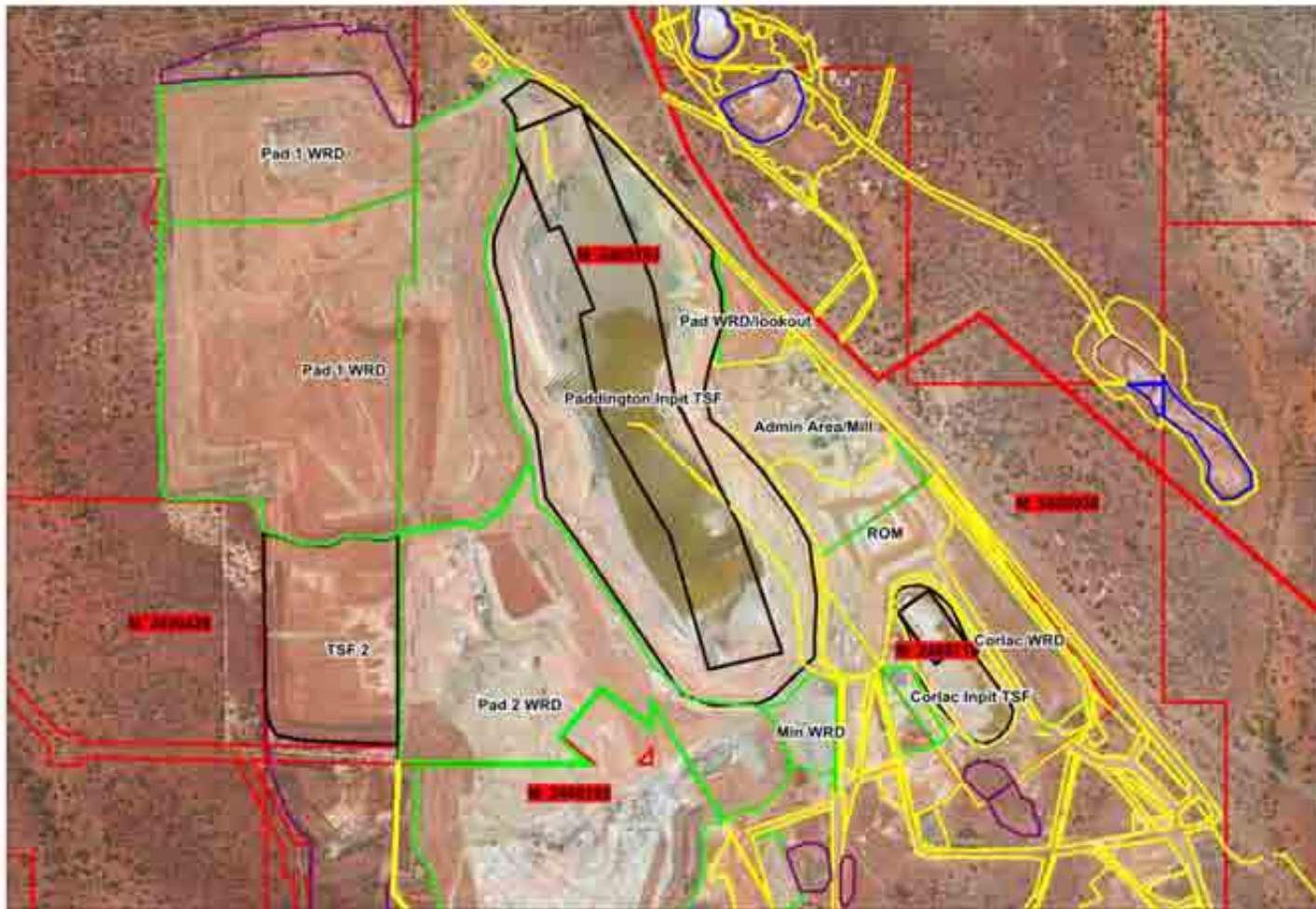


Figure 7 - Paddington Mill Operations 2016



Figure 8 – Bullant Underground Operations 2016



Figure 9 - Janet Ivy Open Cut Mine 2016

2.3 PROPOSED DISTURBANCE FOR THE 2017 REPORTING PERIOD

Norton anticipates cessation of the Quarters 040 open pit in early 2017. Norton then anticipates mining a further cutback at Janet Ivy, and the potential to mine a small open pit project at Matt's Dam South. Apache, Breakaway Dam, Mount Jewell and Federal may also be considered options in the future with further feasibility studies to be conducted.

Norton will enter the final phase of the cutback of the Enterprise Open Cut Mine once drilling has been completed for waste reconciliation. It is anticipated that this mine will continue to provide Paddington with its base load mill feed for the next two years, with the potential to mine underground in the future.

3 EXPLORATION, MINING AND PROCESSING

3.1 EXPLORATION

In 2016, Norton's Paddington Operations invested approximately \$13.6m in exploration, with a total of 101,903 meters drilled throughout 1,018 holes. Drilling was focused mainly on resource definition drilling at existing pits, current underground operations and at known deposits.

3.1.1 Tenements

A summary of all tenements where Norton's Paddington Operations is the beneficial user can be provided upon request.

Mining disturbances on tenements are tracked using survey data, an internal clearing notification system, LandManager and MapInfo GIS package. This enables accurate calculation of current disturbance and rehabilitation areas using aerial photography and survey data to verify, thus allowing for estimates of financial provisions to be made.

3.2 MINING

Mining continued at Homestead Underground, Bullant Underground, Racetrack West open pit and Enterprise open pit. Mining re-commenced intermittently at the existing Janet Ivy pit in August 2015 and ceased in March 2016. Fort Scott mining ceased in January 2016 after a significant wall slip made further mining unviable. Tuart Underground was mined from February to September, with further mining pending future drilling. Quarters 040 open pit project began in October 2016 and is short term project projected to cease in early 2017.

3.2.1 Open Cut Operations

Norton's Paddington Operations open cut mines recorded a total movement of 3,748,082 tonnes of ore and 8,462,474 tonnes of waste for the reporting period. Production figures for each of the open mine operations for the reporting period are shown in Table 1 - Norton's Paddington Operations Open Cut Production Figures 2016.

Table 1 - Norton's Paddington Operations Open Cut Production Figures 2016

Site	Mining Period	Ore Tonnes	Waste Volume (bcm)
Enterprise	01/01/2016 - 31/12/2016	2,316,726	4,565,323
Fort Scott	01/05/2016 – 23/01/2016	52,854	3,345
Janet Ivy	01/01/2016 – 26/03/2016	293,503	22,377
Quarters 040	05/10/2016 – 31/12/2016	68,674	663,875
Racetrack West	01/01/2016 – 09/11/2016	616,535	2,899,830
Total		3,348,292	8,153,750

3.2.2 Underground Mine Production

The Homestead Underground project began development in April 2009 with the first ore removed in November 2009. It was initially planned for all of Homestead's resources to be extracted so the mine could be placed into care and maintenance by the end of 2016. During the year the production targets were met, with the Henning Lode, 140 Vein, and VN03 being completely depleted, while significant resources from the Black Flag West, VN01 and Phantom Lode were extracted. By the end of the year, on evaluation of resources still remaining, a remnant mining plan was submitted to the board and was approved.

In 2017, the remnant areas at Homestead are anticipated to be extracted, such as in the extremities of the Black Flag West (top of the mine), Phantom Lode, and VN01 (top of the mine). Mining has now been reduced to a three-man crew with a supervisor.

Bullant Underground began redevelopment in January 2014 after Norton Gold Fields purchased the project in 2013, and continued throughout 2016.

During 2016, Tuart underground was also started with one ore development drive as well as capital development that was extended down to allow for a drill platform, and its corollary enabling resource definition drilling of the 060 Lode. The majority of Tuart drilling was completed in 2016 and will be finalised in early 2017 for resource evaluation and reserve calculation. The portal is located a short distance from the Homestead portal, located in Quarters pit.

Production figures for the operation during the 2016 reporting period are shown in Table 2 - Norton's Paddington Operations Underground Production Figures 2016.

Table 2 - Norton's Paddington Operations Underground Production Figures 2016

Site	Mining Period	Ore (tonnes)	Waste (tonnes)
Homestead Underground	01/01/2015 – 31/12/2015	208,305	35,137
Bullant Underground	01/01/2015- 31/12/2015	187,570	214,501
Tuart Underground	01/02/2016 – 30/09/2016	10,242	59,086
Total		406,117	308,724

3.2.3 Suspension of Mining Operations

Mining operations were suspended at Fort Scott and Racetrack West open pits, and Homestead underground throughout the year as the pits were mined to design parameters, or required further feasibility investigation to continue.

3.3 PROCESSING

The processes used to treat ore at the Paddington Mill include crushing (including a pebble crusher), grinding (Ball and Semi Autogenous Grinding (SAG) mill), gravity concentration and leaching, carbon in leach (CIL) and carbon stripping.

Paddington Mill processes ore from a large number of sources resulting in a constantly changing mill feed blend. During 2016, Paddington Mill processed ore from the Homestead and Bullant Underground mines, Enterprise, Racetrack West, Fort Scott and Janet Ivy open cut mines; and mineralised stockpiles from Violet, Green Gums, Quarters and Woolshed. Ore was also toll treated from third parties' Excelsior Gold, Clampton and Genesis Ulysses.

During 2016, shutdown maintenance in the Paddington Mill saw:

- Changeover of process control system to Honeywell Experion;
- Installed 2 x latest model Knelson concentrators replacing 2 x old units;
- Maximum throughput increased to 530 wet tonnes/hour; and
- A new lubrication system for the SAG mill was installed.

Most of this maintenance occurred during a major shutdown which ran from 19 – 29 July, which saw close to 600 external contractors and Norton staff working across day and night shifts to complete the upgrade. Further shutdowns are scheduled for 2017, with an eight-day major shutdown scheduled in for May 2017 which is anticipated to see a number of further upgrades and maintenance work to further enhance the efficiency and throughput of the Paddington Mill.

Production figures for the Paddington Mill for the reporting period is shown in Table 3 - Production Figures for the Paddington Mill 2016.

Table 3 - Production Figures for the Paddington Mill 2016

Paddington Mill	2016
Tonnes Milled (dry)	3,748,082
Gold Produced (oz)	197,847
Mill Utilization (%)	90.5
Overall Recovery (%)	90.1

3.4 ENERGY USAGE AND CONSUMABLES

During the reporting period, 76,975,079 kW of electricity was consumed at the Paddington Mill, at an average of 20.5 kW/tonne milled.

The total amount of key consumables used at the Paddington Mill is detailed in Table 4 - Resource Consumption at the Paddington Mill 2016.

Table 4 - Resource Consumption at the Paddington Mill 2016

Resource	Total	Per Tonne Milled	Per Ounce Produced
Electricity (kWh)	76,975,079	20.5	389.1
LPG (L)	1,232,947	0.3	6.2
Oxygen (m ³)	715,178	0.2	3.6
Hydrochloric Acid (kg)	306,610	0.1	1.5
Cyanide (kg)	1,828,429	0.5	9.2
Lime (kg)	6,432,307	1.7	32.5
Flocculent (kg)	142,741	0.04	0.7

3.5 PROCESS WATER

The water balance for the Paddington Mill is shown in Table 5 - Water Balance for Paddington Mill 2016. During the reporting period, water used for mineral processing was obtained from the Paddington In-Pit Tailing Storage Facilities (TSF) and Racetrack pit.

Table 5 - Water Balance for Paddington Mill 2016

Source	Volume of Water to Paddington Mill (kL)	Volume of Tailings from Paddington Mill (kL)
Paddington In-Pit TSF	2,771,494	5,938,915

During 2016, the supply of water to the mill continued to be supplemented by lower salinity water (11,010 mg/L TDS recorded in December 2016) from the Racetrack Pit. This water is much better quality than that supplied from the nearby Paddington borefields (>200,000 mg/L TDS). The use of lower salinity water to supplement the recycled process water used in the mill has significant environmental benefits by reducing reagent consumption (approximately halving lime use), decreasing maintenance requirements due to the water being less corrosive and reducing the risk of saline water spills. It also decreases the stress placed on the borefields and allows groundwater levels to return to their pre-mining levels.

3.6 TAILINGS MANAGEMENT

Tailings from the Paddington Mill were discharged into the Paddington In-pit TSF during 2016. The TSF has an available storage of 37.9Mm³, which at the current equivalent in situ dry density equates to approximately 56.9Mt, or approximately 16 years of operation at 3.5Mtpa.

3.7 AIR QUALITY MANAGEMENT

The operation of the Paddington ROM pad, crusher feed bin, crusher and ore cone requires water sprays to suppress dust released into the environment.

Water sprays are also used around all active mines and on frequently used haul roads to reduce the amount of airborne dust particles.

Two dust monitors located at Ora Banda, one measuring Total Suspended Particulates (TSP) and particulate matter less than 10 micrograms (PM10), record the concentration of dust in the Ora Banda area relating to the Enterprise project.

Both dust monitors were upgraded and calibrated in the middle of 2015 and the system set up in such a way that data can be downloaded remotely via microwave link for ease of collection.

4 COMPLIANCE

Norton's Paddington Operations have a range of activities on site to ensure that the operations meet their various statutory obligations, these include:

- Annual Audit Compliance Reports;
- Environmental Management System development, including risk register and Environmental Management Plan reviews, aiming to a standard consistent with ISO14001;
- Third party landscape functional analysis of landforms;
- Third party audit of TSFs;
- Third party collection and review of groundwater monitoring data;
- Third party heritage identification and recommendations;
- Third party flora and fauna identification and recommendations;
- Third party targeted malleefowl survey and recommendations;
- Internal inspections of specific sites and workshops;
- Internal review of clearing via satellite imagery (updated in 2015) and survey data against approved disturbances;
- Internal audit of exploration rehabilitation; and
- Incident training and reporting systems, including triggers for external reporting.

Annual Audit Compliance Reports are attached as Appendix 1.

4.1 LICENSES AND PERMITS

Norton's Paddington Operations are licensed to both abstract groundwater to allow mining to occur, and are separately licensed to discharge that groundwater back into pits and enable it to return to the groundwater aquifers.

4.1.1 Groundwater Abstraction License

4.1.1.1 Current

To meet the demands of both processing and mining operations, Norton's operations hold three (Department of Water (DoW) Groundwater Well Licences (GWL) for the abstraction of groundwater for mineral ore processing, dust suppression and dewatering purposes. See Table 6 - Groundwater Abstraction Licenses Held by Norton's Paddington Operations.

A full copy of these licences are available upon request.

Table 6 - Groundwater Abstraction Licenses Held by Norton's Paddington Operations

GWL #	Location Name	Purpose	Allocation (kL)
151865(10)	Paddington Borefield Broad Arrow Pit Paddington Pit Havana-Suva Pit Leeks Pit Mount Pleasant Bullant Project Mt Jewell Project Porphyry Breakaway Dam Matt's Dam	Dewatering pits, Dust suppression, Mineral ore processing	6,200,000
160697(3)	Ora Banda	Dewatering pits, Dust suppression	400,000
167686(3)	Navajo Chief Wendy Gully Golden Flag Janet Ivy and Fort William Pits	Dewatering pits, Dust suppression, Mineral ore processing	1,050,000

4.1.1.2 Amendments

In September 2016, on behalf of Norton, Saprolite Environmental applied to the Department of Water (DoW) to include tenements in the Mount Pleasant (projects operated by Keras Mining under Norton tribute agreement) and Carbine Zulieka project areas to GWL 151865(9). On 13 October, the DoW issued the amended GWL 151865(10) and updated Groundwater Operating Strategy to reflect the additional tenement requirements.

The current approved Groundwater Operating Strategy is due for revision and renewal in 2017.

4.1.1.3 Audits

Paddington dewatering and environmental staff regularly visually audit abstraction points and water meters around site. Any problems or incidents identified during these audits are immediately rectified and reported if required.

No external audits were carried out by the DoW during the 2016 reporting period.

An internal audit at the completion of December 2016 identified discrepancies in water meter data to resolve before data was submitted for the Annual Groundwater Monitoring Summary, undertaken by Saprolite.

4.1.2 Department of Environment Regulation – License and Works Approvals

4.1.2.1 Current

Norton's Paddington Operations are subject to a number of works approvals and licensing obligations under Part V of the *Environmental Protection Act 1986*, primarily for the discharge of excess mine water.

The Paddington Mill site functions under the Environmental Protection (Gold Extraction Operations) Exemption Order 1993 and, as such, does not need to hold a Category 5 Licence to operate a site undertaking mineral ore processing.

Paddington holds Licence 8327/2008/2 (issued 27 February 2009) that enables screening in Quarters Pit and dewatering from Quarters Pit and the associated Homestead underground decline into Rose East pit (also referred to as Rose pit). This licence was last amended on 10 December 2015 to include dewatering from the Quarters 040 open cut mine and Tuart underground into the existing Rose East pit and Violet discharge points, and to increase the crushing and screening plant capacity at Quarters to 1,000,000 tonnes per annum in anticipation of a crushing and screening project. Crushing and screening activities were undertaken in 2016 to produce road base, see Table 10 for production figures.

License L8512/2010/2 (issued 15 July 2011) was issued for dewatering from the Bullant underground mine and discharge into the Old Zuleika (now known as Wattlebird) open pit. This license was amended on 04 September 2014 to include San Peblo pit as a discharge point for the cutback on Wattlebird pit which commenced in the fourth quarter of 2014. Whilst mining has ceased at Wattlebird, dewatering from Bullant underground is continuing into San Peblo pit.

License L8692/2012/1 was issued on 07 August 2014 for mine dewatering, and crushing and screening of material at Enterprise. All water from Enterprise pit is pumped to a header dam and used for dust suppression purposes with further water supplemented from nearby Gimlet South pit, hence no discharges have occurred during the reporting period. No crushing and screening activities were undertaken in 2016.

License L8914/2015/1 was issued on 22 October 2015 to allow mine dewatering from Fort Scott pit into nearby Fort William pit. Fort Scott pit was not expected to encounter a volume of water in excess of that to be used for dust suppression and hence this license was granted during operations as larger volumes of water than expected were encountered. On 20 October, a request was made to the DER to revoke this license and forfeit the annual renewal fee due to cessation of mining and dewatering activities in Fort Scott pit.

License L8926/2015/1 for Racetrack West was applied for in September 2015 and issued on 21 January 2016. This license was to allow the dewatering of the Racetrack West project (Woolshed South Extended pit) into Racetrack pit, with Woolshed pit as a back-up discharge point should water levels exceed 6m freeboard in Racetrack pit. This license was subsequently amended in June to bring Condition 4.2.1 into line with Norton's other operating licenses to alter the due date of the annual report to 90 calendar days after the end of the calendar year reporting period. A request was

then made to the DER on November 29 to revoke this license also, due to cessation of dewatering activities.

Licences to Operate and prescribed activities are summarised in Table 7 - Department of Environment Regulation Licenses to Operate Held by Norton's Paddington Operations 201.

Copies of these licenses can be made available upon request.

Table 7 - Department of Environment Regulation Licenses to Operate Held by Norton's Paddington Operations 2016

Project	Licence/ Works Approval Number #	Prescribed Activities	Category Production or Design Capacity	Approved Premises Production or Design Capacity
Homestead U/G	L8327/2008/2	Category 6: Mine dewatering Category 12: Screening of material	50,000 tonnes or more per year 50,000 tonnes or more per year	1,400,000 tonnes per year 1,000,000 tonnes or more per year
Bullant	L8512/2010/2	Category 6: Mine dewatering	50,000 tonnes or more per year	1,200,00 tonnes per year
Enterprise	L8692/2012/2	Category 6: Mine dewatering Category 12: Screening of material	50,000 tonnes or more per year 50,000 tonnes or more per year	50,000 tonnes per year 115,000 tonnes per annual period
Fort Scott	L8914/2015/1	Category 6: Mine dewatering	50,000 tonnes or more per year	490,000 tonnes per annual period
Racetrack West	L8926/2015/1	Category 6: Mine dewatering	50,000 tonnes or more per year	1,500,000 tonnes per year

As a part of the licence conditions, monthly surveys are conducted at the discharge locations of the Rose East, Violet, Fort William, Wattlebird, Racetrack, Woolshed, San Peblo and Gimlet South pits to ensure 6m freeboard is maintained. Water levels are also measured monthly (as per license conditions). No water levels were required for Fort William pit after cessation of DER license L8914/2015/1 in October 2016. Water levels for Racetrack and Woolshed pits were not required prior to issuing of DER license L8926/2015/1 on 21 January 2016. Water levels in all eight pits are shown in Table 8 below.

It is to be noted that no water levels were taken in January 2016 due to resource allocation challenges. This non-compliance is further discussed in Section 5 – Incidents.

Monitoring undertaken as part of license conditions is shown below in Tables 8 - 10.

Table 8 - Water Levels in Rose, Violet, Wattlebird, San Peblo, Fort William, Racetrack, Woolshed and Gimlet South Pits 2016

Month	Rose Pit Water Level Below Ground Surface (m)	Violet Pit Water Level Below Ground Surface (m)	Wattlebird Pit Water Level Below Ground Surface (m)	San Peblo Pit Water Level Below Ground Surface (m)		Gimlet South Pit Water Level Below Ground Surface (m)	Fort William Pit Water Level Below Ground Surface (m)	Racetrack Pit Water Level Below Ground Surface (m)	Woolshed Pit Water Level Below Ground Surface (m)
				San Peblo Neptune Mid	San Peblo Neptune South				
January	-	-	-	-	-	Dry	-	-	-
February	9.0	21.7	79.01	15.23	15.14	Dry	20.82	4.14	36.99
March	9.2	20.9	78.22	15.25	15.21	Dry	21.38	4.10	37.07
April	9.4	20.6	77.70	15.30	15.25	Dry	21.52	4.25	37.18
May	9.6	21.0	76.86	15.21	15.40	Dry	21.95	4.51	37.30
June	9.7	21.1	76.81	15.21	15.30	Dry	22.51	4.72	37.29
July	9.8	21.2	76.90	15.32	15.37	Dry	22.69	5.05	37.18
August	9.9	21.4	75.32	15.21	15.31	-	23.11	5.29	37.21
September	10.0	21.4	75.05	15.22	15.83	Dry	23.18	5.54	37.23
October	10.4	21.6	74.77	15.45	16.07	Dry	23.44	6.15	37.53
November	10.6	21.8	74.45	15.21	16.45	Dry	23.88	7.57	37.52
December	10.9	21.9	74.24	15.42	16.71	Dry	24.13	9.16	38.0

Table 9 - Pit water parameters 2016

PIT NAME		Rose	Violet	Wattlebird	San Peblo	Gimlet South	Racetrack	Woolshed	Fort William
QUARTER	PARAMETER								
1	EC (µS/cm)	131,600	93,000	-	-	38,300	5,000	-	17,700
	pH	7.87	8.04	-	-	6.95	7.92	-	8.10
	TDS (mg/L)	89,500	66,600	-	-	24,300	2,700	-	10,500
2	EC (µS/cm)	111,300	94,100	81,500	93,600	35,480	11,400	-	31,020
	pH	7.81	7.78	7.46	7.84	7.83	7.57	-	8.58
	TDS (mg/L)	75,700	64,000	57,000	66,900	22,400	6,500	-	19,300
3	EC (µS/cm)	138,000	94,300	-	-	37,360	15,400	-	23,100
	pH	7.98	8.17	-	-	6.66	7.8	-	8.35
	TDS (mg/L)	93,800	64,100	-	-	25,400	10,500	-	15,700
4	EC (µS/cm)	89,240	74,610	75,330	76,330	32,580	16,190	-	44,370
	pH	7.69	7.85	7.47	7.72	7.05	8.19	-	7.93
	TDS (mg/L)	60,680	50,730	51,220	51,900	22,150	11,010	-	30,170

Table 10 - Crushing and screening figures for 2016

Environmental Operating License	Project Area	Material Screened and Crushed (t)
L8692/2012/2	Enterprise	0
L8327/2008/2	Homestead UG	10,039

4.1.2.2 Amendments/Outstanding/Pending

An amendment application for Racetrack West dewatering license L8926/2015/1 was submitted to DER on 21 June 2016. This amendment was submitted to change Condition 4.2.1 which stated that the "licensee shall submit to the CEO an Annual Environmental Report within 60 calendar days after the end of the annual period," and bring this condition into line with Norton's other DER licenses which state the report shall be submitted "within 90 days after the end of the annual period."

This request was subsequently granted on 11 August 2016.

4.1.2.3 Audits

Water meters are read on a monthly basis and are therefore causally assessed and maintained as required. A water meter audit conducted in December 2016 found the following;

- Failed water metres were noted and consequently replaced at the following locations throughout the year; Homestead Underground to Violet, Homestead Underground to San Peblo (meter 2), Woolshed South Extension to Racetrack, Rose Standpipe, Fort William to Janet Ivy and Fort William to Fort William Standpipe;
- In July 2016 there was no reading for the Panglo Reclaim Water to Mill line. The telemetry was wiped due to power failure and replaced prior to the next month's reading;
- In June 2016 there was no reading for the Corlac to Mill line due to issues with the telemetry. This was corrected and replaced prior to the next month's reading;
- In December 2016 new monitoring location Bullant Tanks to Bullant Underground was incorporated into the monitoring run;
- In December 2015 the multiplier (x10) was not added on the Gimlet to Enterprise Turkeys Nest metre reading which gave an erroneous usage value for January 2016. The monitoring spreadsheet was updated to include the multiplier;
- For January – March 2016 the multiplier (x10) was not added on the Homestead Underground Tank Return metre reading. The monitoring spreadsheet has since been updated;
- Discrepancies were noted in the naming of the Homestead Underground Tank Return line and the Underground Tanks line. It was confirmed these are actually the same location but with different names. The naming convention has since been standardised and the monitoring spreadsheet updated; and
- Discrepancies were noted in the monthly values for the Homestead Underground Tanks line and the Pump Station 4 (PS4) to Homestead Underground Tank Return line. Monthly values were entered incorrectly between the two locations over several months. Values have now been corrected (by comparison with field data sheets) and updated in the monitoring spreadsheet.

Where discrepancies affected water balance calculations, volumes were estimated as accurately as possible through consultation with the Regional Dewatering Co-ordinator or estimated and confirmed by use of pit volume survey data.

4.1.3 Permit to Clear Native Vegetation

4.1.3.1 Current

To allow mining activities to continue, Norton's Paddington Operations holds 11 Permits to Clear Native Vegetation (see Table 11 - Permits to Clear Native Vegetation Held by Norton's Paddington Operations).

Copies of these permits can be made available upon request.

Table 11 - Permits to Clear Native Vegetation Held by Norton's Paddington Operations

Project	Permit	Authorised Clearing (Ha)	Expiry	Issued by
Paddington	CPS376/5	100	09/12/2017	DMP
Breakaway Dam	CPS369/4*	50	27/06/2018	DER
Mount Pleasant	CPS374/6	230	20/06/2018	DMP
Golden Flag	CPS413/4	50	09/07/2018	DER
Janet Ivy	CPS2986/2	200	31/07/2017	DMP
Navajo Chief	CPS3504/2	100	20/02/2018	DMP
Enterprise	CPS3560/4	300	24/04/2018	DMP
Fort Scott	CPS6528/1	50	31/07/2020	DMP
Wattlebird	CPS6137/1	50	23/08/2019	DMP
Mount Jewell	CPS6665/1	200	31/10/2020	DMP
Mount Jewell Haul Roads	CPS6666/1	90	31/10/2020	DMP

*Amendment pending

4.1.3.2 Clearing Undertaken

During the 2015/2016 reporting period 220.26 ha of native vegetation was cleared, with a majority of this for the purposes of exploration and developing the Racetrack West and Enterprise mining areas. The clearing report was submitted to DMP and DER on 29 July 2016 as required by the respective permits.

For the purpose of this AER reporting on a calendar year, only clearing listed in the 2016 calendar has been included in the below table, amounting to 202.69 ha.

Clearing was conducted under CPS374/6 and CPS3560/4 and with the remaining covered under the Schedule 1, Item 2, Subclause 2 of the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*. Refer to Table 12 - Conducted Clearing in 2016 for a breakdown of the clearing across all Paddington sites during the 2016 reporting period.

Table 12 - Conducted Clearing in 2016

Mining Project Area	Tenement	Area Cleared (ha)	Cumulative Clearing Against Tenement per FY or Clearing Permit #	Reason for Clearing	Clearing Completion Date	
Racetrack	M24/155	25.34	CPS374/6	Open pit mine, haul road, infrastructure, ROM	April-16	
	M24/166	105.7	CPS374/6	Open pit mine, haul road, waste rock dump, infrastructure, ROM	April-16	
	M24/302	27.38	CPS374/6	Racetrack West waste rock dump, roads, infrastructure	April-16	
	M24/304	0.78	0.78	Diversion channel	April-16	
	Enterprise	M24/170	30.17	CPS3560	Replacement go-line, admin. fuel bay, open pit expansion	June-16 & Nov-16
		M24/194	0.48	0.48	Infrastructure	June-16
	Various Program of Works	M16/45	1.56	1.56	Exploration	April-16
		M16/48	1.36	1.36	Exploration	Sept-16
		M16/106	0.76	0.76	Exploration	April-16
		M15/150	3.16	3.16	Exploration	Sept-16
		E24/171	0.08	0.08	Exploration	April-16
		E24/157	0.12	0.12	Exploration	April-16
		E27/300	0.12	0.12	Exploration	April-16
		E27/333	0.12	0.12	Exploration	April-16
M24/616		2.88	2.88	Exploration	Feb-16	
M24/862		0.80	0.80	Exploration	Jan-16	
M27/185	1.44	1.44	Exploration	Mar-16		
M27/38	0.44	0.44	Exploration	Mar-16		
TOTAL		202.69 ha				

4.1.3.3 Amendments/Outstanding/Pending Permits

Two amendments were submitted in 2016.

An amendment was submitted to DMP in February 2016 to amend CPS3560/6 to include a further 100 ha of clearing at the Enterprise project to sustain clearing for the Stage 4 development. CPS3560/5 was subsequently granted on 12 May 2016.

An amendment to CPS369/4 at Breakaway Dam was submitted to DER in August 2016, alongside further flora and fauna survey results of the tenements included in the permit. The amendment seeks to add four additional tenements and remove two from the current permit and increasing the allowed clearing by 100ha. CPS369/5 amended draft for comment was submitted to Norton for review in January 2017 and is currently pending approval.

4.2 Mining Proposals

4.2.1 Current

Norton's Paddington Operations received approval for numerous Mining Proposals from the DMP during the 2016 reporting period with three projects still pending approval; see Table 13 - Mining Proposal Applications Submitted by Paddington in 2016.

Table 13 - Mining Proposal Applications Submitted by Paddington in 2016

Project	Mining Proposal Registration ID	Status
Tuart Underground Mining Proposal	58503	<ul style="list-style-type: none"> Submitted 04/02/2016 Approved 16/02/2016
Matt's Dam Mining Proposal – Version 2	60987	<ul style="list-style-type: none"> Submitted 23/11/2016 Approved 30/11/2016
Porphyry West Mining Proposal	61390	<ul style="list-style-type: none"> Submitted 29/12/2016 PENDING APPROVAL
Matt's Dam Mining Proposal – Version 3	63728	<ul style="list-style-type: none"> Submitted 29/12/2016 PENDING APPROVAL
Mt Jewell Open Pit Mining Proposal Revised Version 4	55777	<ul style="list-style-type: none"> Submitted 06/10/2016 Approved 18/10/2016
Mt Jewell Open Pit Mining Proposal – Version 5	63729	<ul style="list-style-type: none"> Submitted 29/12/2016 PENDING APPROVAL
Racetrack West Mining Proposal Addendum	58444	<ul style="list-style-type: none"> Submitted 29/01/2016 Approved 10/03/2016
Fort Scott Mining Proposal Addendum (Letter re: breach)	55581	<ul style="list-style-type: none"> Submitted 26/02/2016 No further action advised 02/05/2016
Enterprise Stage 4 Mining Proposal	59568	<ul style="list-style-type: none"> Submitted 24/06/2016 Approved 06/07/2016
Quarters 040 Mining Proposal	59230	<ul style="list-style-type: none"> Submitted 22/04/2016 Approved 03/06/2016
Quarters 040 Mining Proposal Amendment	60603	<ul style="list-style-type: none"> Submitted 08/09/2016 Approved 21/09/2016

4.2.1.1 Amendments/Outstanding/Pending Mining Proposals

A number of mining proposal amendments were submitted in 2016, see above in Table 13. All amendments submitted were due to changes in design for those project areas.

One amendment, Fort Scott Mining Proposal Addendum (letter) was required to be submitted in response to a breach identified by DMP. A letter outlining justification of the alleged breach was submitted in response, in which DMP required an addendum to current approval and no further action to be taken.

Approval is currently pending for the most recent Porphyry West, Matt's Dam and Mt Jewell mining proposals, anticipated to be within the first quarter of 2017.

Further mining proposal documents are expected to be submitted in 2017, pending further feasibility of numerous project areas.

With the release of updated Mining Proposal Guidelines in 2016, Norton are anticipating submitting future mining proposals in the new format. DMP have given industry six years in which to adhere to the new guidelines, however, mining proposal documents are still able to be submitted under the previous 2006 guidelines. All mining proposals submitted by Norton in 2016 followed the previous guidelines.

4.2.1.2 Audits

Norton's Paddington Operations purchased updated aerial imagery and contour data for Paddington, tenements during 2015. Since purchasing the aeriels, further comparisons were made between this imagery and the previous imagery taken in 2012 to compare approved disturbances versus constructed disturbance. The GIS disturbance layer used by NGF to manage all disturbances continued being updated to reflect operations at the current time throughout 2016.

A project to update Norton's current disturbance GIS layer via third party consult, CAD Resources, began in December 2016 with the Ora Banda Environmental Group Site as a trial. Results are anticipated in early 2017 and the aim, pending verification of the effectiveness and reliability of this method, is to update GIS of all Environmental Group Sites within Norton's tenement package. This updated GIS imagery will be used to update current statuses of each project in Land Manager and will then ultimately be used to more accurately and precisely define MRF liabilities going forward. It is expected this method will save substantial amounts of time and capture the data to a more accurate standard than previously possible.

4.3 SURFACE WATER

No specific audits were carried out during the 2016 reporting period of surface water and "V" drains at Norton's Paddington Operations, however, regular inspections of pipelines and v-drains are undertaken by the dewatering team. Roadside drains are located adjacent to the haul roads to prevent salt water from the haul roads running off into the surrounding bush. The drains feed into water holding pits, which are designed to hold the first flush of water running off the road after rainfall. This first flush of water is high in salt and could damage the environment if not contained.

These roads are regularly traversed by mining traffic and also causally assessed. Any items that are raised regarding roadside drains are reported to site environmental personnel and remediated.

4.4 SITE INSPECTIONS

Two site inspections were carried out in 2016.

4.4.1 DER Bullant Operating License L8512/2010/1

On 14 April 2016, DER inspectors visited the Bullant site in response to the report of hydrocarbon contamination that occurred behind the workshop area.

Remediation plans were discussed, including the new oil separator and pond system anticipated to be implemented over the following months. A remediation plan was submitted to DER outlining Norton's plan to remediate the area and install an

appropriate system to separate hydrocarbons into the waste oil tank, and clean separated water to an evaporation pond, and also to a tank holding recycled water for use in the workshop.

A follow up visit was made on 24 June to inspect the progress of the remediation plan.

4.4.2 DER Racetrack West Operating License L8926/2015/1

On 1 December 2016, DER visited the Racetrack West area to conduct an audit on Operating License L8926/2015/1 and to inspect the hypersaline spill reported prior to the inspection and follow up remediation progress.

No formal correspondence or inspection reports was received from DER following the inspection of Bullant.

A letter was received in February 2017 in response to the inspection at Racetrack West informing no further actions identified.

4.5 AUDITS

4.5.1 Annual TSF Audit

Every year, an audit of all tailings storage facilities is required to be carried out to satisfy DMP tenement conditions. Consultant Chris Lane from Advisian has carried out this audit for a number of years and upon completion of the report, has supplied the below recommendations:

The active tailings storage facility, Paddington In-pit TSF (PITSF), was at the time of this geotechnical review being operated, monitored and maintained in accordance with the design intent and good operating practices.

The following recommendations are made for the future management of the PITSF:

- Water recovery has been increased over the last 3 years to reduce the size and volume of the supernatant pond. The good water management needs to continue to help with the consolidation of the tailings to exceed the target in situ dry density;
- Review of the daily logs from 1 November 2016 to 19 December 2016 shows a completion rate of approximately 96% for this period;
- Annual hydrographic surveys of the PITSF are recommended to ascertain the volume of water in the supernatant pond such that the volume of the pond can be monitored and managed; and
- Routine visual assessments of the pit walls are to be carried out by site-based geotechnical personnel on a six-monthly basis to ensure any changes are noted. This is particularly important given that the PITSF has a potential storage life of approximately 16 years at the current in situ dry density.

The following recommendations are made for the ongoing management of the inactive facilities:

- Baseline TSF (BTSF) - Construct the diversion channel design completed in 2009 as part of the closure works for this facility. Given that the bund on the eastern side of the BTSF is currently being eroded the construction of the diversion channel must now be given a high priority;
- Corlac TSF (CTSF) - Maintain water levels and have periodic quarterly visual assessments of the pit walls carried out by site based geotechnical personnel;
- The available surface freeboard volume of Paddington TSF 3 (PTSF3), Ora Banda TSF 1 (OBTSF1), Ora Banda TSF 2 (OBTSF2) and Ora Banda TSF 3 (OBTSF3) should be checked to ascertain the ability of these facilities to store water from the design extreme rainfall events. The new ANCOLD Guideline has design criteria which, depending on the risk posed by the structure, may be more onerous than the 72 hour 1 in 100 year ARI in the original DMP Guidelines of 1999. The ANCOLD Guideline takes a 'risk based' approach to TSF design and design storm criteria selected is a function of the risk posed by the structure. If it is assumed that a severity level of impact of 'Medium' (Table 1 of ANCOLD) and a consequence category of 'Low' (Table 1 of ANCOLD) apply, then the 72 hour 1 in 100 year AEP would be appropriate for PTSF3, OBTSF1, OBTSF2 and OBTSF3;
- Place materials on the north and south western corners of the OBTSF1 to minimise runoff from the surface of the TSF during storm events;
- The embankment crests on the PTSF3, OBTSF1, OBTSF2 and OBTSF3 should be reshaped to prevent runoff from the crest moving to the downstream slopes of the TSFs;
- The cracking and cavities formed in the surface of OBTSF2 along the edges where the decant access way was located must be ripped and traffic compacted to minimise infiltration and development of the cavities. Additional soil will be required to fill the voids which have formed;
- Routine annual visual assessments are to be carried out to monitor the erosion on the embankments of PTSF3, Mount Pleasant TSF 2,3,4 (MPTSF2/TSF3), Mount Pleasant TSF 6 (MPTSF6), Black Lady Sands TSF (BLSTSF), OBTSF1, OBTSF2 and OBTSF3;
- Routine visual assessments are to be carried out by site-based geotechnical personnel on a quarterly basis of the southern embankment of the MPTSF2/TSF3 Tuart North Pit interface. This is particularly important given that Mt Pleasant TSF2/TSF3 may have the potential to ultimately fail into the Tuart Pit;
- Routine visual assessments are to be carried out by site-based geotechnical personnel on an annual basis of the Manly North Pit southern wall. This is particularly important given that Manly North Pit wall failure may impact on the BLSTSF; and
- Staged remedial works and/or opportunistic remedial works where there is open pit mining nearby are recommended for stabilising the downstream batters of the various TSFs.

Norton's Paddington Operations notes these findings and will implement them either in operational practices or within the priority settings established in the Mine Closure Plans.

A copy of the audit report is available on request.

5 INCIDENTS

It is the aim of Norton's Paddington Operations Incident Reporting System to ensure that all incidents are promptly recorded, investigated, acted upon and lessons shared. This enables corrective actions to be implemented as soon as possible. Incident reporting also allows for proactive management through the identification of hazards.

Throughout Norton's Paddington Operations in 2016 there were 26 environmental incidents reported internally, see Table 14. Of these incidents, six were reportable to external authorities. Reportable incidents are discussed in further detail in the following section.

A total of 1,003 environmental hazards were reported at Paddington Operations for the 2016 year. Greater emphasis has been placed on employees to report all hazards in an endeavour to reduce the number of potential incidents arising from hazards around site to promote a zero harm culture.

Table 14 - Environmental Incidents by Site

Site	Tally
Enterprise	12
Paddington	4
Racetrack West	2
Bullant	4
Binduli	2
Homestead	2

Environmental incidents at the Norton's Paddington Operations involved hydrocarbon spills, saline water fauna deaths, and one 'other' spill, see Table 15 - Environmental Incidents by Type.

Table 15 - Environmental Incidents by Type

Environmental Incident	Tally
Hydrocarbon spill	16
Hypersaline spill	6
Fauna	2
Non-compliances	1
Other (Spills)	1

The 1,003 hazards reported throughout 2016 were mostly related to hazards such as stray cattle or other wildlife present on haul roads and highways, dusty conditions, adverse weather conditions, minor hydrocarbon or hypersaline spills, prevalence of native or pest fauna species and issues surrounding waste and waste removal.

A summary of all reported incidents can be found in Appendix 2.

5.1 REPORTABLE INCIDENTS

Six reportable incidents occurred during 2016.

Binduli Saline Spill

Whilst RC drilling, a historical hole was intercepted, causing a release of built up pressure resulting in saline water being projected from the drill hole and into the surrounding environment, affecting an area of approximately 950m².

Norton became aware of the incident on 8 January 2016 during follow up surveys of the area that had been drilled on 23 November 2015. DMP and DER were notified on the afternoon of 8 January and s72 submitted, with an internal investigation carried out.

A remediation plan was submitted to DER and included; organising a bobcat/loader to scrape contaminated material into nearby sump, fill in large void left by hole blowout, scarify footprint of spill area and establish a photo monitoring point to observe successful remediation of the area.



Figure 10 - Extent of Binduli hypersaline spill from collar blowout

January Water Level Non-compliance

On 1 April 2016, DER were notified of a non-compliance with license conditions in four DER licenses in place at Bullant, Fort Scott, Homestead and Racetrack West. A condition of each of these licenses is that water levels in receiving pits are to be monitored monthly, however, a scheduling error in the water level monitoring program led to results being omitted for the month of January.

Corrective action was taken to improve processes to prevent an occurrence in the future.

Apache Saline Spill

RC drilling at Binduli on 1 February intersected a historic drill hole, causing a pressure build up and subsequent blowout of approximately 1200L of hypersaline groundwater to discharge to the surrounding environment. The spill affected an area of approximately 400m².

DMP and DER were notified within 24 hours of the incident occurring and an internal investigation occurred. Representatives of Norton met with DER on 10 February 2015 to discuss ongoing mitigation procedures as this was the second blowout to occur in this area in a period of a few months.

Bullant Hydrocarbon Contamination

On 17 February 2016, it was identified that hydrocarbon was evident in bushland located behind the Bullant workshop and had been there for some time. This finding was subsequently reported to DER on 19 February. Upon investigation it was found that the current drainage system had become overwhelmed during heavy rainfall events, pushing hydrocarbon contaminated water from the workshop through the system and out an overflow pipe which terminated into bushland behind the workshop. The staining was evident by vegetation death and visual observation of hydrocarbon impacted soil in an area approximately 30m length x 3m width, to an unknown depth.

The area was subsequently excavated to a depth of about 1-2m and contaminated material moved to a bioremediation facility. Following this incident, a new triple interceptor and oil separator system was installed, a HDPE lined evaporation pond to capture overflow discharge was constructed and a new system implemented whereby recycled "clean" water from the oil separation process was able to be utilised in the workshop.

On 31 March, an inspection was undertaken by Norton representatives and DER to monitor progress of the new system. By December 2016, the system was being further investigated for ongoing contamination and inefficiency issues, expected to be rectified in early 2017.



Figure 11 - Hydrocarbon from overflow pipe (L) and extent (R)

Paddington Mill Last Chance Pond Overflow

On 22 July 2016, during a shutdown at Paddington Mill, it was observed that potentially contaminated water from the mill area was bypassing a catchment system known as "Last Chance Pond" due to sediment/slurry build up, diverting flows into an older, unmanaged containment system. The potentially contaminated run off flowed along a v-drain approximately 1km before terminating into a catchment dam.

Soil and water samples showed low levels of cyanide; and heavy metals consistent with background elevated metal concentrations typical in highly mineralised zones. Cyanide levels were found to be compliant with the Department of Health's "Domestic non-potable groundwater use (2006)" threshold of 0.8mg/L. It was also noted that results were within DER's historical trigger standard of 0.5mg/L. Soil results were assessed in accordance with DER's "Ecological Investigation Levels" and found to have no significant contamination levels.

No environmental harm was caused from this incident and it was reported to DER as a matter of courtesy. Following the spill, the catchment system was restored by removal of sediment/slurry build up and improvements made to ensure all runoff was captured in Last Chance Pond and did not enter the old containment system.

Racetrack West Saline Spill

On 28 September 2016, it was reported that the end of the pipeline that discharged water from Racetrack West project into Racetrack pit had receded from the edge and discharged approximately 1.2ML to the surrounding environment, leading to the death of vegetation including numerous eucalypt saplings within the mining disturbance footprint.

A s72 report was submitted to DER and an internal investigation conducted to understand why the spill was not observed during pipeline inspections. Remedial action included scraping any salt crusted material into the pit once it had dried out and review of procedures to ensure inspections were not missed in this area in future. The placement of an abandonment bund had obstructed the view of the area whilst undertaking pipeline inspections in a vehicle and it wasn't immediately evident. Upon becoming aware of this, the inspection route was modified to ensure the area was visible for future inspections.



Figure 12 - Aerial view showing extent of saline crust left behind once hypersaline spill had evaporated

6 ENVIRONMENTAL MANAGEMENT

Monitoring is carried out at Norton's Paddington Operations in order to ensure compliance with licences, tenement conditions and/or Mine Closure Plans and to gain an improved understanding of environmental issues.

6.1 FLORA

Two flora and vegetation surveys were undertaken in 2016, one by Eco Logical Australia (ELA) for the Binduli Heap Leach project that also incorporated terrestrial fauna and Short Range Endemic (SRE) invertebrate survey, and a Level 1 survey by Botanica Consulting in the Carbine area.

Binduli

The Flora, Vegetation and Fauna desktop assessment report was submitted in May 2016. The desktop assessment included 5,307ha surrounding the current Janet Ivy, Navajo Chief, Ben Hur and Apache deposits, anticipated for the proposed Binduli Heap Leach project. Previous Botanica Consulting reports in the survey area were also used in the desktop assessment to investigate potential for species occurrence.

The survey area was previously considered to be in Good to Excellent condition using the Keighery (1994) scale. Approximately 11.9% of the study area mapped was disturbed. There were no known occurrences of Threatened and Priority Ecological Communities or Environmental Significant Areas recorded in close proximity to the study area. One conservation listed flora species was recorded in the area:

- *Alyxia tetanifolia* (Priority 3)

A further two were considered likely to occur:

- *Acacia websteri* (Priority 1);
- *Ptilotus procumbens* (Priority 1);
- *Elachanthus pusillus* (Priority 2);
- *Cyathostemon verrucosus* (Priority 3);
- *Gnephosis intonsa* (Priority 3);
- *Lepidium fasciculatum* (Priority 3);
- *Melaleuca coccinea* (Priority 3);
- *Eucalyptus jutsonii* ssp. *Jutsonii* (Priority 4); and
- *Eucalyptus x brachyphylla*.

In consideration of appropriate EPA guidance statements and technical guides, a Level 2 flora and vegetation survey was recommended in this study area due to the nature and scale of impacts to biological values in this project being considered to be high. The project is likely to result in loss of native vegetation or fauna habitat in excess of 50ha, and conservation listed flora and fauna are present, or have the potential to be present in the study area.

A subsequent Level 2 flora and vegetation survey was initiated upon recommendations from the desktop study. This survey was carried out by the ELA team from 23 – 30 May 2016. A total of 50 quadrats were sampled during the survey, with statistical analysis determining six vegetation associations within the study area:

- Sparse mixed shrubland on red sand-loam plains and low rises;
- Mixed *Eucalyptus* spp. open woodland on loam plains and rocky rises;
- *Eucalyptus griffithsii* and *Callitris columellaris* open woodland on gypseous dunes (kopi);
- Sparse chenopod shrubland on brown sandy clay salt flats;
- *Melaleuca lateriflora* open shrubland on seasonally wet claypans; and
- *Acacia acuminata* and *Eremophila granitica* open shrubland on shallow brown loam soils with granite outcropping.

None of these vegetation associations identified are consistent with or inferred to be representative of vegetation associations listed as TECs or PECs.

A total of 180 flora taxa were identified in the study area which comprised of 168 native and 12 introduced taxa. No Threatened flora was recorded in the area, however, one Priority 2 and two Priority 3 species were recorded; *Goodenia salina* (P2), *Alyxia tetanifolia* (P3) and *Isolepis australiensis* (P3). One introduced flora species recorded, *Tamarix aphylla*, is listed as a Weed of National Significance and is a Declared Pest under the Biosecurity and Agriculture Management Act 2007.

Vegetation with an 'Excellent' rating was the most extensive throughout the survey area, with vegetation in lower condition covering small areas associated with drilling or quarry activity and off road vehicle access.

Recommendations included:

- Further searches should be carried out in suitable habitat outside the study area to establish the extent of *Isolepsis australiensis* and *Goodenia salina* in a local context;
- Impacts to vegetation associations within the drainage system to the south should be minimised or avoided as much as possible given they provide habitat for *Isolepsis australiensis* and *Goodenia salina* and contain regionally and locally restricted vegetation; and
- A strict hygiene procedure should be implemented during clearing and subsequent works to reduce the likelihood of introduction and subsequent spread of weeds throughout the study area.

Carbine Zulioka

Botanica Consulting undertook a Level 1 flora and vegetation survey of approximately 2,776ha in the Carbine Zulioka project area 7 – 8 July 2016.

Nineteen broad vegetation communities were identified within the survey area. These communities comprised of five different landform types and three major vegetation groups according to the National Vegetation Information System definition. These communities were represented by a total of 24 Families, 47 Genera and 112 Taxa. No Threatened or Priority Flora taxa were identified. No vegetation communities within the survey area were found to have National Environmental Significance. No TECs or PECs were recorded. The survey area was not located in an ESA.

Five of the vegetation communities had a '3' health rating with the remaining 14 vegetation communities having a '4' health rating according to Keighery (1994) and Trudgen (1998).

Four introduced taxa were identified within the survey area; *Centaurea melitensis* (Maltese Cockspur), *Carrichtera annua* (Ward's Weed), *Dittrichia graveolens* (Stinkwort) and *Salvia verbenaca* (Wild Sage). None of these taxa are listed as Declared Plants under the BAM Act 2007.

A copy of these reports is available upon request.

6.1.1 Weed Management

The NGF Weed Management Program for 2016 continued with the use of a weed spraying trailer consisting of an 800 litre reservoir, a pump and a hose with spray nozzle purchased in 2013.

Roundup, Grazon and Hi Lite Blue were used to spray weeds such as Saffron Thistle, Morning Glory, Tobacco Bush, Ruby Dock and Nightshade noted on NGF's tenements. Targeted areas, in consultation with the underlying pastoral manager, included creek lines, drainage flats, fence lines and haul roads. Areas that presented a fire hazard were also included, such as around fuel or chemical storage areas and workshops.

Norton's Weed Management Plan is available upon request.

6.2 FAUNA

The annual malleefowl survey was undertaken in January 2016 by Botanica Consulting with an area of 1500ha surveyed, split between three project areas; Enterprise, Golden Cities and Mulgarrie. The aim is to cumulatively extend the survey areas each year to previously unsurveyed areas to capture data over as large a proportion of the tenement package as possible in malleefowl-prone areas.

A total of seven inactive mounds were identified within the three areas. The full report is available upon request.

Eco Logical Australia was commissioned by Norton to undertake a Level 1 fauna survey, including a targeted Malleefowl survey and Short-range Endemic (SRE) invertebrate survey. The survey was undertaken to collect baseline information that may be required as part of the approvals process for the expansion of the Binduli mining operations. The study area comprised approximately 5,983.1 hectares and is located five kilometres south-west of the Kalgoorlie-Boulder Airport in Western Australia.

A Level 1 fauna survey was undertaken over eight days from 23-30 May 2016 and included a habitat assessment, opportunistic fauna observations, a targeted *Leipoa ocellata* (malleefowl) survey and a targeted SRE survey (dry pitfall trapping, hand foraging and leaf litter collection). All survey methods were undertaken in accordance with the Environmental Protection Authority's Guidance Statements including Guidance Statement 56 and 20.

Six broad fauna habitats were delineated across the study area:

- Mixed open shrublands on red sandy loam;
- Mixed open Eucalyptus woodlands on red clay loam and gravel or pebble rises;
- Sparse *Eucalyptus-Callitris* woodland on gypsum rises;
- Chenopod shrublands on clay pans and flats;
- Melaleuca open shrublands on seasonally wet clay pans; and
- Acacia open shrubland on granitic sandy loam.

Of these, one habitat type was restricted and considered locally and regionally significant: Sparse *Eucalyptus-Callitris* woodland on gypsum rises. The remaining fauna habitats were widespread and extended throughout the study area and into the wider locality.

A total of 60 vertebrate fauna species were recorded during the survey. This comprised one amphibian, 13 reptiles, 40 birds and six mammals (two native and four introduced). No fauna listed as Threatened were observed during the survey. However, five species listed as Marine under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act; note: these species are not listed under the Wildlife Conservation Act 1950 [WC Act]) were observed opportunistically. In addition, another Marine listed species has previously been recorded in the study area: *Merops ornatus* (Rainbow Bee-eater).

Three conservation significant fauna species were considered likely to occur within the study area:

- *Ardea ibis* (Cattle Egret);
- *Calidris acuminata* (Sharp-tailed Sandpiper); and
- *Plegadis falcinellus* (Glossy Ibis).

All three species are listed as Migratory under the EPBC Act and under Schedule 5 of the WC Act. A further 10 species were considered to potentially occur, including two species listed under the EPBC Act as Critically Endangered, one species listed as Vulnerable, five species listed as Migratory and two species listed as Priority by the Department of Parks and Wildlife.

The targeted malleefowl survey recorded two very old, inactive malleefowl mounds. No other signs of malleefowl (i.e. scats or tracks) were observed during the survey. Habitat within the study area was assessed as having a low, low to moderate, or moderate potential to support malleefowl. None of the habitat observed within the study area was considered to be a habitat critical to the survival of the species.

Habitat was described as marginal at best, based on the very low number of old mounds recorded, the lack of extensive areas of habitat considered to be moderately suitable or better, and the lack of any recent malleefowl activity detected. Based upon the findings of the survey, it was considered unlikely that any malleefowl currently occur within the study area. However, due to the presence of moderate habitat, and the occurrence of Malleefowl records in the nearby vicinity, there remains the potential for the species to forage within the study area, on at least an occasional basis.

No island-like or restricted SRE habitats were identified within the study area. Features conducive to SRE invertebrate fauna included drainage lines, south facing slopes, deep microhabitat such as leaf litter and calcrete outcroppings.

Two confirmed SRE invertebrates were recorded during the survey: *Antichiropus 'binduli'* and *Antichiropus 'kalgoorlie'* (both millipedes). Both species were recorded inside the study area, within habitat types that extend regionally into areas outside the study area boundary. Both species are new species and have not been recorded elsewhere. However, they are unlikely to be restricted to the study area as were recorded from numerous locations including two near the boundary of the study area, and within habitats that are not restricted and extend into regional areas.

Six potential SRE invertebrates were recorded during the survey including three taxa of mygalomorph spider (*Aganippe 'MYG256'*, *Kwonkan 'sp.nov.'* and *Idiopidae 'sp.indet.'*), one taxa of pseudoscorpion (*Beierolpium sp.8/4'*), one millipede (*Antichiropus 'sp.indet.'*) and one snail (*Camaenidae / Bothriembryontidae*). All species were recorded inside the study area, except for *Kwonkan 'sp. nov'* and *Idiopidae 'sp. indet.'* which were both recorded in regional locations outside the study area. The spider *Aganippe 'MYG256'* and pseudoscorpion *Beierolpium sp. '8/4'* were only recorded from sites located inside the study area during the survey. However, both are known to occur in the wider region from database or molecular study records obtained from the Western Australian Museum.

The full report is available upon request.

In August 2016, a troglifauna survey was carried out on drill holes in the Janet Ivy project area (as part of proposed Binduli Heap Leach baseline studies) after it was established the rock unit had the potential to support troglifauna species. Phoenix Environmental Sciences carried out a two day sampling program, sampling 15 bores; 12 at Janet Ivy and three at Apache. Sampling method was potentially compromised by the angled drill holes meaning four scrapes per bore could not be carried out as with a drill hole perpendicular to the ground surface.

One specimen of millipede collected had the potential to be classified as a troglifauna species, however, was in fragments and could not be positively morphologically identified.

Further advice is still pending in regards to subsequent surveys or further molecular research required to determine the nature of this species. Recommendations will be sought based on advice received by specialists in the field in 2017.

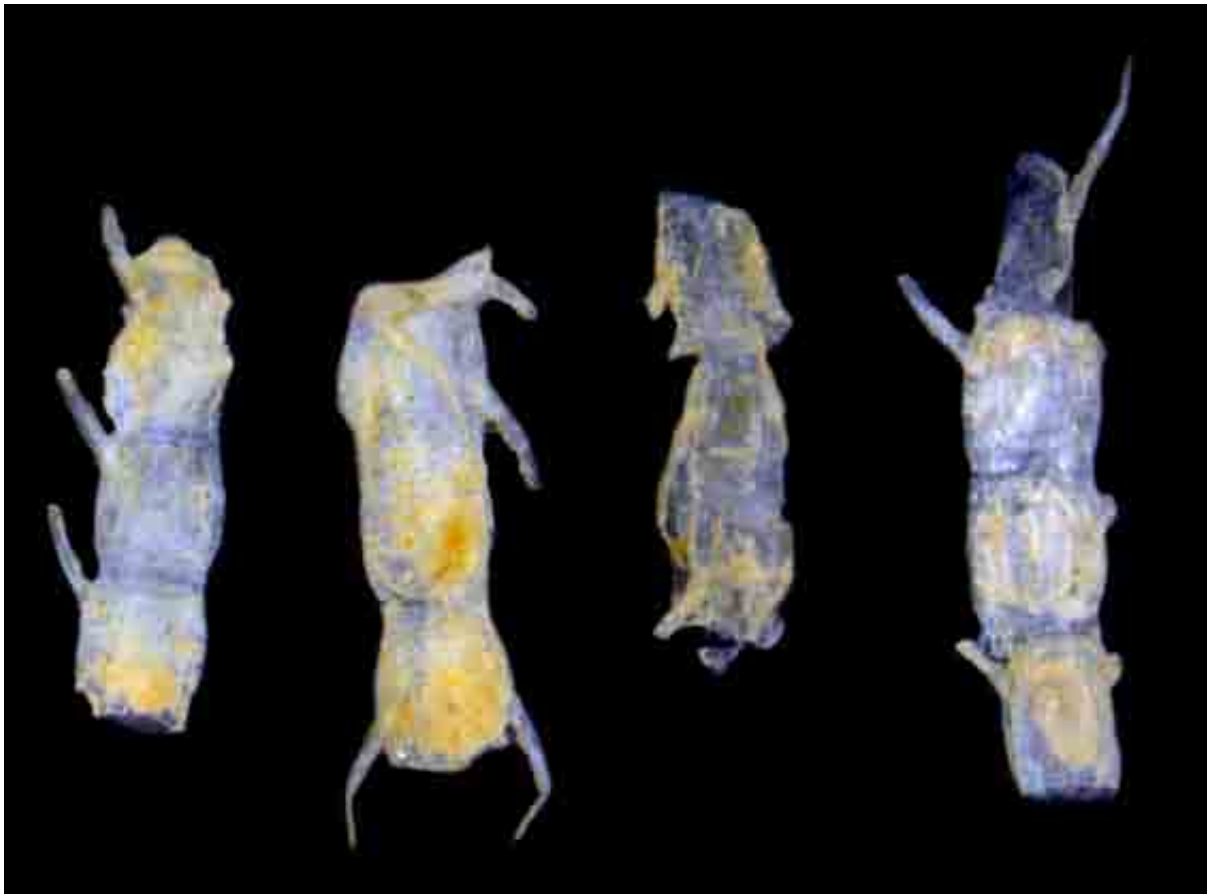


Figure 13 - Specimen fragments collected from a drill hole near Janet Ivy with the potential to be classified as troglifauna pending further investigations

6.2.1 Malleefowl

One active malleefowl nest was monitored in 2015/2016 breeding season. Nest activity in this season was lower than previous season. It is unknown whether there was

a decline in breeding behaviour or whether malleefowl have chosen to re-use nests Norton are unaware of in the area. Reported sightings and road strike numbers have both significantly declined in this season compared to the previous two.

Feral dogs were captured on motion sensor camera towards the end of the 2015/2016 breeding season. An abundance of feathers were noted around the nest at this time (alluding to the possible capture of a bird by a wild dog) and the malleefowl pair appeared to have since abandoned this nest.

No active malleefowl nests were monitored on Norton's tenements in 2016/2017 breeding season.



Figure 14 - Wild dog captured on motion sensor camera at an active malleefowl nest

The annual targeted malleefowl survey was scheduled to be carried out in February 2017, towards the end of the breeding season. Areas of focus include Enterprise, Golden Cities and Mount Jewell.

A copy of this report will be made available upon request.

6.2.3 Feral Animals

During 2016 pressure plate traps were employed on Norton leases to capture and destroy feral cats. A small number of specimens were trapped and humanely euthanized throughout the year according to Norton's 'Humane Euthanasia Procedure,' which outlines the most humane and efficient method for destroying all types of animals which may be found on site. All of these captures were from administration areas, and none from unpopulated areas such as the malleefowl nests. Feral cats located in bushland are more wary and harder to trap than those already used to human, machinery and building interactions.

Mice became a problem at various stages during the year and mouse baiting programs were implemented all over site, particularly around administration buildings and workshops. Environmental Technicians regularly placed baits around kitchen areas, ceilings and areas reported to have frequented mice.

Stray cows continued to present a hazard on the Menzies Highway and Paddington haul roads, particularly following periods of rainfall leaving them with plentiful fresh water supplies. Pastoralists were continued to be notified about the presence of cattle and were able to herd them to safer areas in many instances.

Bees became prevalent in some areas during the summer period where they were seeking access to fresh water sources. Buckets of fresh water with sticks and rags protruding from the top for easy access and egress were placed around various nearby locations to deter bees from using leaking taps, etc. and instead utilise the buckets. Environmental Technicians were sent to inspect surrounding areas for presence of bee hives that may have required removal. Bee buckets have shown to be reasonably successful and will continue to be a favoured method of deterring bees when a hive cannot be located.

6.3 ECOSYSTEM FUNCTION ANALYSIS

An audit was undertaken by Environmental Department prior to undertaking EFA monitoring for the 2016 period. It was identified that a number of waste dumps required the establishment of EFA transects as it had not been updated for many years. The audit saw the number of current transects more than double and recently rehabilitated landforms now included.

EFA monitoring is conducted on a rotating three year cycle, so every landform is monitored every three years, as opposed to every year. This keeps monitoring a large site manageable and gives the systems a chance to show establishment and progression in a relatively slow growing climate.

EFA was undertaken over seven days in January and February 2017. 43 new transects were established on 23 waste landforms, with three analogue sites included. Rehabilitated waste landforms included in the 2016 monitoring program were:

Mount Pleasant

- Natal 2
- Racetrack South
- Natal 1
- Racetrack North
- Golden Flag
- TSF 2,3,4
- Quarters
- Racetrack West (rehabilitation not yet completed)
- Royal Standard
- Varischetti
- Analogue

Bullabulling

- Phoenix
- Bacchus East
- Bacchus North
- Bacchus South
- Gibraltar
- Analogue

Binduli

- Janet Ivy
- Centurion
- Fort William
- Navajo Chief
- Beaver
- Ben Hur
- Pitman
- Analogue

Golden Cities

- Havana
- Havana South
- Federal
- Analogue

Conclusion and Recommendations

The 2016 rehabilitation monitoring at NGF was completed in January and February 2017 by suitably qualified rehabilitation monitoring professionals from Botanica Consulting. The Monitoring included the assessment of 71 rehabilitation and analogue transects located between four Paddington Operational areas.

Mount Pleasant Operational Area

The older (before 2000) rehabilitation on the Mount Pleasant operational area was performing the best. With vegetation cover similar to the analogues. Most of the WRLs had some erosion features developing, with the notable exception of the 2016 rehabilitation on the Natal 2 WRL. The Racetrack WRL will require remedial works in the future to address the erosion. The Natal 1 & 2, Racetrack West and Golden Flag WRLs were all assessed for the first time in 2017. Future assessments will be required to determine how sustainable these rehabilitation areas are.

Bullabulling Operational Area

The 1996 rehabilitation on Bacchus East and South was performing well at the time of the 2017 monitoring. Both had vegetation densities and cover which were similar to the analogues and both had LFA indices which achieved the completion criteria targets. The remaining rehabilitation areas monitored were only assessed for the first time in 2017. Future assessments will be required to determine how sustainable these rehabilitation areas are.

Binduli Operational Area

The rehabilitation areas within the Binduli operational area were all assessed for the first time in 2016. The rehabilitation was generally performing slightly below the

analogue LFA indices, all seven areas met the completion criteria for species richness. Future assessments will be required to determine how sustainable these rehabilitation areas are.

Golden Cities Operational Area

The Federal WRL was monitored for the fourth time in 2016, however the LFA indices did not meet the completion criteria targets. Havana and Havana South were monitored for the first time in 2017 and could therefore not be compared to the completion criteria targets. All three rehabilitation areas met the targets for species richness. The Havana North WRL appeared to not have been rehabilitated with the batters still dumped at angle of repose. Following the rehabilitation of this landform, monitoring transects should be installed.

The EFA report for 2016 is available upon request.

6.4 WATER MANAGEMENT

6.4.1 Groundwater

A groundwater monitoring program is undertaken at all sites covered by Norton's Paddington Operations to ensure that possible impacts to the local groundwater due to mining activities are understood and minimised.

Dewatering and abstraction volumes from open pit projects and standpipes are collected on a monthly basis by the maintenance dewatering department. These figures are supplied each year to the consultant undertaking the Annual Groundwater Monitoring Review so license allocations can be calculated. See below Tables 16 – 19 for monthly groundwater production volumes.

Dewatering discharge volumes under each DER Environmental Operating License is attached as Appendix 3.

Table 16 - Monthly Groundwater Production (kL) - GWL 151865(10)

Date	Homestead Pit To Woolshed Pit	Racetrack West Pit to Woolshed Standpipe	Woolshed Sth Ext to Racetrack Pit	Racetrack West (Stage 1) to Racetrack Pit	Racetrack West (Stage 3) to Racetrack Pit	Racetrack Abstraction to PS4
January	1,600	3,363	549	0	0	75,790
February	0	10,924	1,333	0	0	99,862
March	120	4,940	2,459	0	0	101,874
April	90	3,239	4,887	781	0	105,376
May	0	3,507	5,822	1,321	0	121,723
June	0	562	6,457	1,660	0	129,301
July	0	676	6,718	1,799	0	87,024
August	0	2,160	7,042	1,840	5,539	102,832
September	0	2,668	7,455	683	21,695	105,982
October	0	6,405	7,862	399	48,099	139,207
November	0	6,197	8,204	4	17,289	112,905
December	0	6,367	8,277	0	0	119,851
Total	1,810	51,008	67,065	8,487	92,622	1,301,727

Table 17 - Monthly Groundwater Production (kL) - GWL 151865(10) CONTINUED

Date	Victory Pit to Victory Standpipe	Leeks Pit Abstraction to Leeks Standpipe	Rose Pit Abstraction to Rose Standpipe	Bullant U/G to San Peblo Pit	San Peblo Pit to Bullant U/G Tanks	Total	kL/d
January	6,672	370	0	8,180	5,464	101,988	3,29
February	6,242	250	0	6,600	6,652	131,863	4,54
March	2,002	120	0	6,780	7,639	125,934	4,06
April	1,937	480	0	10,000	6,498	133,288	4,44
May	481	497	592	8,057	9,295	151,295	4,88
June	4	513	229	6,803	9,301	154,830	5,16
July	360	111	149	9,936	10,348	117,122	3,77
August	2,219	59	503	15,227	12,996	150,417	4,85
September	2,829	6	1,091	14,816	15,801	173,027	5,76
October	10,133	69	1,961	11,980	14,915	241,030	7,77
November	10,851	149	1,551	11,563	16,589	185,301	6,17
December	9,638	110	1,396	11,302	16,266	173,207	5,58
Total	53,369	2,734	7,473	121,24	131,76	1,839,30	5,02

Table 18 - Monthly Groundwater Production (kL) - GWL 160697(3)

Date	Enterprise Pit	Gimlet South Pit	Total	kL/d
January 2016	0	19,472	19,472	628
February	0	23,372	23,372	806
March	14,320	7,448	21,768	702
April	8,180	10,709	18,889	630
May	0	6,215	6,215	200
June	0	1,710	1,710	57
July	12,261	1,807	14,068	454
August	15,792	4,255	20,047	647
September	1,733	11,886	13,619	454
October	1,392	21,165	22,557	728
November	686	26,677	27,363	912
December	4,130	21,632	25,762	831
Total	58,493	156,349	214,842	

Table 19 - Monthly Groundwater Production (kL) - GWL 167686(3)

Date	Janet Ivy to Fort William Pit	Fort Scott to Fort William Pit	Fort William Pit to Janet Ivy	Fort William Standpipe	Total	kL/d
January	989	26,633	0	0	27,622	891
February	3,840	0	0	7,850	11,690	403
March	0	0	0	1,474	1,474	48
April	0	0	0	333	333	11
May	0	0	20,990	378	21,368	689
June	0	0	3,349	1,056	4,405	147
July	0	0	8,198	1,813	10,011	323
August	0	0	871	1,330	2,201	71
September	0	0	4,706	1,333	6,038	201
October	0	0	0	2,633	2,633	85
November	0	0	0	2,720	2,720	91
December	0	0	0	3,903	3,903	126
Total	4,829	26,633	38,114	24,822	94,398	

6.4.2 Water Monitoring Programs

6.4.2.1 Groundwater Operating Strategy

During 2012 Paddington commissioned Saprolite Environmental to review and update Paddington's Groundwater Operating Strategy. This was approved by DoW in the last quarter of 2012.

The Operating Strategy was revised in 2016 and amended to include Prince of Wales (Grant's Patch) tenements for Keras Gold (Aust) Pty Ltd under a tribute agreement with NGF. The Janet Ivy scheme description was updated, along with other minor corrections throughout the document and addition of a number of tenements for other projects.

The Operating Strategy will be revised and updated again in 2017.

A copy of the 2012 Paddington Groundwater Operating Strategy is included in Appendix 4.

6.4.2.2 Sampling

All samples are collected and preserved in accordance with *AS/NZS 5667.1:1998 Water quality – Sampling Part 1: Guidance on the design of sampling programs, sampling techniques and the preserving and handling of samples*. Samples are analysed at NATA registered laboratories.

6.4.3 Annual Groundwater Monitoring Review

Norton's Paddington Operations encompass a number of open cut and underground mines, several of which are used as a source of groundwater for mining and processing activities. The Paddington Borefield is inactive and unequipped; as such Norton's Paddington Operations relies exclusively on groundwater abstraction from mine dewatering. The following information is extracted out of the Annual Groundwater Monitoring Reviews for Groundwater Well Licences (GWL) GWL 151865(10), GWL 160697(3) and GWL 167686(3).

Refer to Appendix 5 for a copy of the report.

Groundwater production from the Borefields and mine groundwater abstraction is subject to the terms and conditions of Groundwater Well Licences (GWL) issued by the Department of Water (DoW). The licences and production for the reporting period are summarised in Table 20 - DoW Licenced Production 2016.

Table 20 - DoW Licenced Production 2016

DoW GWL No.	Location	Allocation (kL/annum)	Production # (kL/annum)	% Allocation#
151865(10)	Paddington	6,200,000	1,839,302	30
160697(3)	Ora Banda	400,000	214,842	54
167686(3)	Binduli	1,050,000	94,398	9

6.4.3.1 *Paddington - GWL151865(10)*

Abstraction for the 2016 review period totalled 1,839,302kL, which equates to approximately 30% of the licenced annual allocation. During the 2016 review period groundwater production was recorded on a monthly basis at active abstraction sites, as per the monitoring schedule in the Paddington Operations Groundwater Operating Strategy.

Abstraction was primarily undertaken from the Mount Pleasant Project Area at Racetrack Pit (71% of total abstraction), with abstraction distributed to Paddington Mill (for mineral ore processing), Homestead Underground (for mining purposes), Gould's Yard (for wash-down and workshop purposes) and Corlac Standpipe (for dust suppression purposes). In 2016, dewatering abstraction was undertaken at the Racetrack West Project (9% of total abstraction) and at Bullant Underground (7% of total abstraction). Pit water was abstracted from San Peblo Pit (7% of total abstraction) for reuse at Bullant Underground. Relatively minor volumes were abstracted for dust suppression purposes via standpipes at Rose Pit, Leeks Pit, Racetrack West Pit and Victory Pit.

In 2016, water level measurements were recorded in accordance with the requirements in the Paddington Operations Groundwater Operating Strategy i.e. on a quarterly basis at monitoring bores (within active project areas), on a monthly basis from active abstraction areas, and annually (at a minimum) within inactive project/abstraction areas. Pit water levels were not recorded in January 2016 due to insufficient resources able to complete the monitoring. Pit water level movements are influenced by mine dewatering and discharge operations undertaken at discrete sites.

Water from the project area is drawn from the Roe Palaeochannel System which is saline to hypersaline with major ions strongly dominated by sodium and chloride, and to a lesser extent by magnesium and sulphate (Schlumberger, 2010). Lower salinity and ion concentrations were recorded at Racetrack Pit where water quality is heavily influenced by fresher rainfall runoff. Dissolved ion and metal concentrations recorded in 2016 were comparable to historical results.

6.4.3.2 *Ora Banda – GWL160697(3)*

Groundwater abstraction for the 2016 review period totalled 214,842kL, which equates to approximately 54% of the licenced annual allocation. During the 2016 review period groundwater production was recorded on a monthly basis at active abstraction sites, as per the monitoring schedule in the Paddington Operations Groundwater Operating Strategy.

Abstraction was undertaken from Enterprise Pit for mine dewatering purposes and discharged to Enterprise Turkey's Nest for storage and use in dust suppression within the project. Abstraction was also undertaken from a vent at Gimlet South Pit to supplement dust suppression water requirements within the project area.

During the review period water levels were typically recorded on a monthly basis at Enterprise Pit, Gimlet South Pit and Slippery Gimlet Pit. Pit water levels were not recorded in January 2016 due to insufficient resources able to complete the

monitoring. Water levels were at/near the base of the pit at Enterprise which was mined during the review period. Water levels recorded at Gimlet South Pit (vent) fluctuated slightly during the review period due to intermittent abstraction.

The sediments in the Rebecca Palaeodrainage are very similar to those in the Roe Palaeodrainage. The groundwater salinity in the Tertiary sediments of the palaeochannels in both the Rebecca and Roe Palaeodrainages increases steadily downstream from approximately 30,000mg/L TDS in the upper parts of the Palaeodrainage systems to approximately 200,000mg/L TDS in the lower reaches, near playa lakes (Kern, 1995). Major ions are likely to be strongly dominated by sodium and chloride and to a lesser extent by magnesium and sulphate (Schlumberger, 2010). Dissolved ion and metal concentrations recorded in 2016 were comparable to historical results.

6.4.3.3 *Paddington (Binduli) – GWL167686(3)*

Groundwater abstraction for the 2016 review period totalled 94,398kL, which equates to just 9% of the 1,050,000kL licenced annual allocation. During the 2016 review period groundwater production was recorded on a monthly basis at active abstraction sites, as per the monitoring schedule in the Paddington Operations Groundwater Operating Strategy.

In 2016 Janet Ivy/Fort William was the only active project in the licence area. Mine dewatering was undertaken at Janet Ivy Pit in January and February 2016 (thereafter mining and dewatering ceased). Mine Dewatering was also undertaken from Fort Scott Pit in January 2016 (thereafter mining and dewatering ceased). Pit water was abstracted from Fort William Pit throughout the review period for dust suppression purposes, and between May and September 2016 to supplement storage at Janet Ivy Pit (PGM were intending to move the Fort William Standpipe to Janet Ivy Pit, but this plan changed).

The Paddington Operations Groundwater Operating Strategy stipulates measurement of water levels on a monthly basis at pits within active project areas, on an annual basis from pits in inactive project areas and on a quarterly basis from monitoring bores. Pit water levels were not recorded in January 2016 due to insufficient resources able to complete the monitoring. Pit water level movements are influenced by mine dewatering and discharge operations undertaken at discrete sites.

Water from the project area is drawn from the Roe Palaeochannel System which is saline to hypersaline with major ions strongly dominated by sodium and chloride and to a lesser extent by magnesium and sulphate (Schlumberger, 2010). Lower salinity (as TDS), ion and metal concentrations were recorded at Ben Hur 2 than at other monitoring locations. Significant rainfall recharge occurs at Ben Hur 2 subsequent to storm events. Dissolved ion and metal concentrations recorded in 2016 were comparable to historical results.

6.4.3.4 *Recommendations*

- During the review period flow meter readings were recorded on a monthly basis at the active dewatering sites, it is recommended that this practice continues. If practicable the December reading should be taken on the last day of the month (i.e. 31 December) to allow annual abstraction at each site to be more accurately defined.

- A number of monitoring omissions occurred during the 2016 review period, and were primarily a result of inconsistencies between field monitoring programs and the approved monitoring schedules. The field monitoring program should be updated to reflect the current groundwater monitoring schedules (as outlined in Tables 4.17, 5.7 and 6.13). In the event of amendments to GWL monitoring schedules, the field program should be updated to incorporate any changes. Furthermore laboratory Chain of Custody (CoC) forms should be amended to match analyte requirements (e.g. the addition of laboratory parameters to all analyses).
- The administrative requirements section of the Paddington Operations Groundwater Operating Strategy specifies review of the document every 5 years, and as such is due for review in 2017. Revision of the Groundwater Operating Strategy is recommended for 2017 and may include:
 - The removal of monitoring requirements for inactive historical sites.
 - Definitions for inactive and active sites.
 - Updates to scheme descriptions to reflect current projects.
 - Streamlining of laboratory monitoring requirements given sufficient baseline data and hypersaline groundwater quality across the project areas.
- It is recommended that additional flow meters are installed to better determine water usage and distribution. Recommended flow meters are presented on the water circuit schematic and include the following lines:
 - Quarters Pit to Homestead U/G
 - Homestead U/G to Quarters Pit
 - Tuart Underground to Quarters Pit (if commissioned)
 - Racetrack West Pit to Woolshed Pit (if commissioned)

6.5 AIR QUALITY

6.5.1 National Pollutant Inventory (NPI)

The National Pollutant Inventory (NPI) is the national pollution reporting tool, which requires all industrial facilities to report on emissions to land, air or water, during a set reporting period. The 2015/16 financial year NPI reports were submitted in September for Paddington, Enterprise, Binduli, Mount Pleasant and Bullant. No unusual trends or discrepancies were noted this financial year. To synchronise NPI reporting with other emission report requirements such as National Greenhouse and Energy Reporting System (NGERS) the reporting period has been changed to the financial reporting year.

The next report to be submitted will be in September 2017 for the 2016/2017 financial year. All information is released on the internet for public viewing at <http://www.npi.gov.au>.

6.5.2 National Greenhouse and Energy Reporting System (NGERS)

The National Greenhouse and Energy Reporting System (NGERS) is the national system for reporting greenhouse gas emissions, energy consumption and production on a financial year basis. Norton's Paddington Operations submitted the NGERS report in October 2016 based on our emissions for 2015/2016 and the report was submitted to the Department of Climate Change and Energy Efficiency through third party consultant, Greenbase. To ensure Norton's Paddington Operations met NGERS requirements an internal audit was conducted on the data collected for NGERS. All data collected is stored on a database accessible from any computer within Norton's servers, the data is record in an efficient, transparent and auditable fashion.

6.6 COMMUNICATION AND EDUCATION

6.6.1 Environmental Awareness Sessions

Environmental awareness sessions were held across Norton's sites during 'tool-box' safety meetings and also monthly departmental meetings. Awareness sessions in 2016 included education on recycling and malleefowl. Awareness posters were also displayed across all sites to enhance the knowledge of environmental management in mining.

6.6.2 Community Involvement

Norton's Paddington Operations employees are actively involved in community and sport organisations, the running and participation of local clubs, events and charities. Norton's Paddington Operations supports and encourages employees to be involved in these activities.

On 28 April 2016, Paddington hosted a commemorative 90th anniversary memorial of the Pitman and Walsh murders. The ceremony was attended by a small gathering of local police officers and relatives.



Figure 15 – Commemorative 90th anniversary memorial of Pitman and Walsh murders

On 9 February 2016, Norton, hosted the opening your of the historic trail implemented in collaboration with the Eastern Goldfields Historical Society (EGHS). The opening tour included a bus tour from town and a morning tea at the final stop with participants involved in the makings of the trail, and relevant representatives from the Boulder Loopline and Kalgoorlie-Boulder Visitor Centre. Permits to undertake the trail were made available at the Boulder Loopline for tourists or visitors; along with radios, beacons, and information about each site. When Boulder Loopline closed in 2016, the responsibility was passed on to the Visitor Centre.



Figure 16 - Norton, EGHS and Visitor Centre staff standing next to new memorial signage erected at the Broad Arrow Racecourse site

The Environment Department also hosted numerous school visits to site, showing students around the Paddington Mill while also discussing Processing and Geology aspects. The tours finished with trip up a waste rock dump to discuss rehabilitation and environmental issues.

Throughout 2016, the Environment Department also participated in events run by not-for-profit organisation GEMIA including; Careers Breakfast, GEMIA Guys and Girls in Mining Forum, a visit to students selecting subjects at John Paul College and a Professional Career's Talk.

Paddington supported numerous charities, events and initiatives in 2016, these are outlined in Table 21 - Norton Gold Fields Paddington Operations Community Support 2016.

Table 21 - Norton Gold Fields Paddington Operations Community Support 2016

Company/Organisation	Description
Orana Cinemas	Cinema advertising
Goldfields Children's Charity	2016 Charity Ball
GEMG	2016 GEMG Workshop
CME	2016 Surface Mines Rescue Competition
Goldfields Disabled Sport Zone	Charity Golf Day
Kalgoorlie Masters Football Club	2016 Bronze sponsorship
Kalgoorlie Pony Club	2016 ODE sponsorship
Goldfields Cheer	Kalgoorlie cheerleaders
Goldfields Giants	2016 Corporate Box
Kalgoorlie RSL	2016 ANZAC Day
Goldfields Squash Club	2016 Squash Open
City of Kalgoorlie-Boulder	Goldfields Kidsfest
Film Harvest	Film Festival sponsor
PCYC	Razzamatazz sponsorship
Pathwalkers	Aboriginal Driver Training Program
Bladon WA	GEMG Conference, beanie giveaways
City of Kalgoorlie-Boulder	2016 Art Prize
Face of the Globe	Sponsorship – Bridie Lancaster-Butcher
Art Design	Zijin logo
Goldfields Giants	Bar tab
Goldfields Soccer	2016 sponsorship – Country Week
GIFSA	GIFSA sponsorship
Church of Christ	2016 Christmas in the Park
Triathlon	Corporate Triathlon (Team Awesome)
Kalgoorlie Primary School	Book Award
Kalgoorlie Speedway	2016/2017 sponsorship
Lions Cancer Institute	Children's Christmas Function
Goldfields Motorcycle Club	2017 sponsorship
Goldfields Disabled Sports Assoc.	2016 sponsorship
Kalgoorlie Masters Football Club	2016 sponsorship

6.7 Complaints Summary

NGF welcome community interaction and consultation with interested stakeholders in any proposed or existing project as part of a social license to operate.

One formal complaint was received in 2016 in regards to operations at Norton Gold Fields.

On 30 September, a prospector neighbour permanently based in the Carbine Zulioka area raised a number of concerns via email to the ECS Superintendent about impacts to his residence at Hawkin's Find by nearby drilling program at Porphyry West. Concerns were forwarded on to the Geology Manager for discussion with complainant and a subsequent resolution.

Any complaints received are aimed to be resolved with consideration to all parties involved to achieve the most practical or preferred outcome.

6.8 ENVIRONMENTAL MANAGEMENT SYSTEM

The DMP released proposed new mining proposal guidelines in October 2015, which after consideration of feedback from a number of departments, was implemented from January 2016 with a number of significant changes to the requirements.

As part of the new guidelines, each mining proposal submitted is to be supported by an appropriate Environmental Management System (EMS). If ISO 14001 certified, no further information will be required in the mining proposal apart from a commitment to implement it. If the EMS is not ISO certified, a detailed outline of the EMS is to be included.

The Environment Department engaged with consultant Integrate Sustainability to re-assess the current EMS under construction and review and propose an amended format to be drafted by both NGF and Integrate Sustainability. Whilst it is not intended to become ISO 14001 certified, the new EMS will be as closely aligned with the standard as possible.

A number of revised procedures and management plans have begun to be drafted and developed and will continue on into the 2016 reporting period.

A number of procedures and management plans were drafted and finalised, or revised and updated in 2016. Some of these included:

- Mined Waste Management Plan;
- Groundwater Management Plan;
- Surface Water Management Plan;
- Waste Management Plan;
- Bushfire Management Plan;
- Heritage Management Plan;
- Flora Management Plan;
- Fauna Management Plan; and
- Clearing Procedure.

The overarching Environmental Management Plan draft was also finalised and provides the structure and framework for which the overall EMS is based upon.

Further procedures and management plans will continue to be revised and updated throughout 2017 to ensure all areas of the EMP have been adequately addressed.

6.9 WASTE MANAGEMENT

6.9.1 General Waste

In December 2014, the general waste and recycling contract was revised and put to tender with proposals considered from Sita and Cleanaway.

Due to the fact that Cleanaway are the operators of the only recycling facility in Kalgoorlie and cost was marginally less, it was decided to change provider for all general waste front end lift (FEL) bins, co-mingled recycling FEL bins and general waste skips to the services of Cleanaway. The changeover was complete by 1 April 2015 and saw a change to the setup, with co-mingled FEL bins replaced with NGF bought 140L wheelie bins. At this time, toolbox presentations commenced to refresh all employees on recycling and waste expectations at NGF and notify them of the changeover.

The Paddington landfill continued to be used for all general waste generated from Paddington Mill. The landfill is surrounded by a 1.8m high chain link fence, with lockable gates to deter the ingress of fauna. The landfill trench has operated under effective landfill practices during the reporting period. The rubbish is covered on an as required basis with nearby stockpiled material. Once the existing trench has reached capacity, a new trench will be established parallel to the backfilled landfill. The landfill was registered as a premise with the DEC in 2009.

A new trench was constructed in mid-2016 to accommodate further waste as the previous pit approached capacity and was buried in.

6.9.2 Hydrocarbons

The management of hydrocarbon waste is an important part of the Norton's Paddington Operations. All operating sites have suitable hydrocarbon management infrastructure in conjunction with staff procedures.

Waste oil produced on site is collected in bunded bulk storage tanks and removed from site by a licensed carrier.

Hydrocarbon contaminated material (rags, hydraulic hose, hydrocarbon absorbent materials etc.) are disposed of in hydrocarbon waste bins, which are located in high hydrocarbon waste generation areas at Bullant, Wattlebird, Paddington, Janet Ivy/Fort Scott, Enterprise and Homestead. A licensed carrier transports full hydrocarbon skip bins to Perth for appropriate disposal.

Oil filters are first drained and then disposed of in oil filter bins located at each site. Full oil filter bins are collected by a licensed carrier, recycled and disposed of appropriately.

Recycled hydrocarbon figures for the reporting period for each site are presented in Table 22 – Hydrocarbon Waste Recycled at Norton's Paddington Operations 2016.

Table 22 – Hydrocarbon Waste Recycled at Norton's Paddington Operations 2016

Site	Waste Oil and Coolant (L)	Oily Water (L)	Grease	Oil Filter Bin
Paddington Mill	23,700	26,000	-	-
Bullant	34,900	6,900	-	13
Homestead	54,501	-	-	7
Fort Scott/Janet Ivy	-	-	-	4
Enterprise	149,700	-	4 IBC	22
Racetrack West	71,006	-	-	10

Numerous hydrocarbon spill response kits are located around workshops and near fuel bays at Paddington Mill, Janet Ivy/Fort Scott, Racetrack West, Enterprise, Bullant, and Homestead Underground. These contain materials designed to reduce the extent and environmental damage of hydrocarbon spills by containing and absorbing the spill. All hydrocarbon spill response kits are frequently monitored across all sites to ensure they are appropriately stocked. All relevant staff members have been educated on the purpose of the spill response kits and are aware of when and how to use them.

Bioremediation pads ('biopads') are established at Paddington Mill, Enterprise, Wattlebird, Racetrack West and Homestead Underground and have continued to be used to effectively dispose of hydrocarbon contaminated soil. The biopads have been constructed in accordance with DER technical guidelines. All hydrocarbon contaminated soil is placed within the biopad and spread out to increase surface area. If possible, the material is also turned over periodically. To enhance remediation of the hydrocarbon soils the bio pads are sprayed monthly with a blend of naturally occurring micro-organisms and nutrients that have been selected for their ability to biologically remediate hydrocarbon polluted material. When hydrocarbon results come back from the biopad materials testing, it is determined whether the levels of hydrocarbons have reduced enough to move the material into a waste dump or stockpile for later use based on hydrocarbon threshold levels as taken from the 'Landfill Waste Classification and Waste Definition 1996 (As amended December 2009)'.

6.9.3 Recycling

During the 2016 reporting period, Paddington continued its recycling services for waste management across all of site. Paddington Administration, Homestead Underground, Fort Scott, Enterprise, Racetrack West and Bullant sites had recycling stations set up and assigned. The recycling stations include general waste, and paper and cardboard recycling.

Paddington also continues to recycle scrap metal, household batteries, vehicle batteries, printer cartridges, fluorescent lamp tubes and globes, and polypipe.

Personnel at all sites are informed at inductions and annually at toolbox presentations of the various recycling facilities located around all of Norton's Paddington Operations.

7 REHABILITATION AND CLOSURE PLANNING

7.1 REHABILITATION

Norton has completed the third year of a five year rehabilitation and remediation plan established in consultation with the DMP in 2014. A rolling five year plan will be established in the next reporting period to account for long term rehabilitation objectives. Tasks are allocated in response to operational requirements and economic pressures. The plan includes the rehabilitation of the following areas:

Table 23 - Norton's Five Year Rehabilitation Plan Summary

Year	Project area	Priority	Status
1 (2014)	Natal 2 WRD	High	Complete
	Centurion WRD	High	Complete
	Golden Flag WRD	Moderate	Complete
	Violet & Blue Gums mineralised waste stockpiles	Low	Complete
2 (2015)	Natal 1 Western Wall	High	Complete
	Tuart ROM	Low	Complete
	Miscellaneous abandonment bunds	Low	Complete
	Wattlebird WRD	Moderate	Complete
	Enterprise progressive rehabilitation	High	Ongoing
	Fort Scott WRD	High	Ongoing
	Racetrack WRD erosion minimisation works	Moderate	Complete
Ora Banda TSF*	High	Completed	
3 (2016)	Enterprise progressive rehabilitation	High	Ongoing
	Fort Scott WRD	High	Ongoing
	Janet Ivy upper lift	High	Completed
	Racetrack West progressive rehabilitation	High	Completed
	Quarters 040 progressive rehabilitation**	Moderate	Ongoing
4 (2017)	Black Lady TSF	High	Not started
	Miscellaneous abandonment bunds	Low	Not started
	Enterprise progressive rehabilitation	High	Ongoing
	Racetrack West progressive rehabilitation*	High	Started
5 (2018)	Quarters WRD – complete battering & topsoil	Mod	Started
	Enterprise progressive rehabilitation	High	Not started
	Baseline In-pit TSF*	Moderate	Not started
	Mt Pleasant TSF6*	Moderate	Ongoing

*project timeframe re-allocated from the original plan

**project added to the plan

Rehabilitation has not commenced on the Baseline in-pit TSF or the Mt Pleasant TSF. These projects have been re-allocated to later in the plan to maximise materials movement efficiencies in line with the LOM.

A revision of rehabilitation tasks associated with closure planning was conducted during the year which formed part of the redeveloped closure cost model. This review

was conducted by a specialist consultant and reviewed the suitability of planned rehabilitation and potential remediation across each of Norton's tenements.

During the year, the year, earthworks for the Fort Scott waste landform and the upper lift of the Janet Ivy waste landform were completed as well as progressive rehabilitation of the active Racetrack West, Quarters 040 and Enterprise waste landforms. An extensive re-design of the Enterprise waste landform was undertaken in line with the Stage 4 Mining Proposal submitted during the reporting period. In particular, the re-design considers effective management of PAF materials as well as drainage across the landform.

7.1.1 Site Cleanup Works

During site audits, Environmental Technicians identified areas that required remedial work. This resulted in significant quantities of material being collected from various laydown yards on site and either recycled or disposed of into approved landfill facilities. Items include scrap steel, poly-pipe and old core trays. This is an ongoing project and will continue into 2017.

7.1.2 Exploration and Rehabilitation

Drill holes from recent Norton's Paddington Operations exploration programs were rehabilitated to DMP requirements. To avoid amassing areas of un-rehabilitated historical drill sites, it is standard practice for all drill sites to be rehabilitated immediately following the completion of drilling. This is completed by a permanently employed contractor – Mt Vettors Pastoral Company, who are knowledgeable of rehabilitation requirements and DMP standards.

7.2 CLOSURE PLANNING

Norton's Paddington Operations continues to develop Mine Closure Plans (MCP) in accordance with the Guidelines for Preparing Mine Closure Plans (June 2011).

Triennially reviewed and reassessed MCPs were submitted for Mt Pleasant, Paddington and Golden Cities in 2016. Golden Cities was subsequently also approved in 2016.

MCPs have been submitted for Satellite Area in August 2014 with triennially reviewed and reassessed Ora Banda and Binduli submitted in April 2015. All were approved in 2016.

Table 24 - MCP submission and approval dates

MCP	Submitted	Approved
Golden Cities	29/03/2016	02/12/2016
Ora Banda	01/04/2015	28/09/2016
Binduli	01/04/2015	24/11/2016
Satellites	23/07/2014	29/09/2016
Mount Pleasant	29/03/2016	PENDING APPROVAL
Paddington	29/03/2016	PENDING APPROVAL
Lady Bountiful	15/8/2014	PENDING APPROVAL

Copies of the MCPs are available on request.

7.2.1 Task Register

Norton's Paddington Operations retains a task register on its LandManager database for all features on site. Every feature is audited and from here a task register is formed for all outstanding rehabilitation issues associated with that feature. The LandManager database includes closure goals and criteria that will be updated through the closure planning process outlined above. LandManager was consistently updated during 2014 to reflect current projects and all associated disturbances at the time.

The LandManager database was updated in 2016 to reflect new disturbances throughout the year. Hence, MRF and AER reporting requirements were updated to bring both systems into alignment to contribute to consistent reporting.

A comprehensive update of all GIS disturbance on Norton's tenements is anticipated to be undertaken in 2017 by external consultant, taking advantage of advances in more recent technology, and a subsequent audit of AER and MRF data completed. The aim of this project is to conduct a complete audit on current disturbance areas against approved areas and more accurately capture this data for MRF and AER purposes. Land Manager will also be updated to reflect these changes, and reviewed to ensure the program is still meeting the needs for efficient and accurate annual reporting to required agencies.

7.2.2 Research and Trials

No independent research or trials were conducted in 2016.

A site visit was hosted by Norton for KCGM Environmental Department representatives to discuss our current management options and plans for rehabilitation of TSFs and to evaluate whether Norton had any surplus clay stockpiles that may be made available for future expansion and rehabilitation ventures at KCGM in the nearby vicinity.

Feasibility research into the proposed heap leach facility at Binduli was undertaken by means of preliminary hydrology, hydrogeological and troglofauna surveys carried out during 2016. Hydrology and hydrogeology was also investigated at Racetrack for the potential future Racetrack Refractory project. Subsequent investigation in 2017 is required to further understanding, feasibility and rehabilitation options of both these projects.

7.2.3 Future Research and Trials

Norton Gold Fields may undertake future research or trial plans that could provide benefits to mine closure or rehabilitation criteria during the next reporting period, however, at this stage there are limited definitive plans.

Research and trials that may take place for the 2017 reporting period include:

- Ongoing malleefowl mound monitoring;
- Further research into waste characterisation and dump design at Enterprise open pit to assist in rehabilitation works;

- Research into the hydrogeology, hydrology, ecological and social impacts on a proposed heap leach facility at Binduli; and
- Research into the hydrology and hydrogeology aspects of Racetrack pit to investigate alternate water storage options.

8 FUTURE WORK PROGRAMME

In general terms the program for 2017 is outlined below.

8.1 MINING

Currently the mining plan for 2017 includes:

- Continued mining of the Enterprise open cut mine throughout 2017;
- A short term mining campaign at Matt's Dam South to commence early 2017;
- Further open pit mining to re-commence at Janet Ivy involving a northern and southern cutback to the current pit;
- Continued mining at Bullant and Homestead underground mines until Homestead is completed;
- Mining of Tuart underground, targeting Tuart-Patternden and Tuart 060 deposits;
- Possible open cut mining at Breakaway Dam pending tenure and approvals;
- Possible open cut mining at Apache in the Binduli region pending further feasibility; and
- Continue processing operations at the Paddington Mill for the full year, including the processing of ore from an agreement with Excelsior Gold.

8.2 PROCESSING

Tailings from the Paddington Mill will continue to be deposited into the 2009 approved Pad In-pit TSF. Water reclamation from the TSF will continue to reduce the amount of excess water in the pit. Service water will continue to be sourced from open pit groundwater inflows, namely Racetrack pit. Ore will continue to be processed from all operation areas and various low grade stockpiles located at one of Paddington's seven project areas. Ore will also be processed under agreement from Excelsior Gold, located north of Paddington Mill.

8.3 REHABILITATION

Rehabilitation objectives for the next 12 months include progressive rehabilitation for both the Enterprise waste landform and Racetrack West. Norton will continue to identify other areas that require remediation when opportunities arise. It is anticipated that the rehabilitation of Baseline TSF or Black Lady Sands TSF may be investigated for rehabilitation in 2017.

8.4 EXPLORATION

RC & DD Drilling

The planned expenditure for the Geology/Exploration Budget for 2017 is approximately \$12M, excluding the Binduli Project. As the Binduli Heap Leach Project is a large, long term project, the budget for Binduli will be separate. The exploration

and resource development programs for the 2017 reporting period will focus on resource to reserve conversion and resource definition as well as developing strategic oxide-based targets. This drilling includes:

Surface Drilling

- Tuart 060 (underground targets drilled from atop the Tuart TSF);
- Federal Oxide (larger – potential base lode – open pit project);
- Breakaway Dam Oxide;
- Binduli heap leach project including: Navajo Chief, Centurion, Ben Hur, Pitman, Walsh and Apache-Heap Leach;
- Castle Hill (third party Right to Mine); and
- Bullabulling.

Underground Drilling

- Bullant UG– Super South; and
- Tuart-Pattenden (part of Tuart 060 load).

8.5 ENVIRONMENTAL MANAGEMENT ACTIVITIES

A range of environmental objectives aimed at improving the environmental management at Norton's Paddington Operations sites are planned for 2017.

These include:

- Continue to update Annual Environmental Report to DMP guidelines;
- Continue to liaise and submit Mine Closure Plans to DMP for Lady Bountiful;
- Update GIS disturbance layer, Land Manager and perform subsequent audit on upcoming MRF and AER data;
- Conduct a community safety risk assessment on all Norton landforms (i.e. WRDs, pits, haul roads, etc) and risk rate each feature to assist with management options as part of EMS and MCP strategies;
- Investigate potential technology to improve landform monitoring, i.e. WRD monitoring;
- Continuing rehabilitation activities; and
- Continuing implementation of the Environmental Management System to a level consistent with ISO14001.

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