



Annual Environmental Report

January – December 2017

31 March 2018



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 sheet 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: Robertlyn Signed:  Date: 29/3/18

Position: General Manager - 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 2017 reporting period (January to December 2017).

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 Ltd 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 DMIRS separately by August 2018.

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 Industry Regulation and Safety (DMIRS) as required under Mining Lease tenement conditions. The report also satisfies the requirement to submit an AER to the Department of Water and Environmental Regulation (DWER) for Licence to Operate 8327/2008/2 at Mount Pleasant (Rose East Pit), 8512/2010/2 at Bullant Underground Mine, 9048/2017/1 at Janet Ivy, 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 three open cut mines and three underground operations (Janet Ivy, Enterprise and Quarters 040 open pits, and Homestead, Tuart and Bullant Underground). The Paddington Mill treated 3,640,163 tonnes of dry ore (from all sources) to produce approximately 203,572 total ounces of gold. Tailings from the Paddington Mill were discharged to Paddington In-Pit Tailings Storage Facility (TSF).

Progressive rehabilitation continued during the 2017 reporting period at Enterprise, and Janet Ivy. Ora Banda TSF3, Fort Scott, Janet Ivy West and Wattlebird waste rock dumps (WRD) were seeded during the period. Remedial rehabilitation works were undertaken on the Paddington TSF3, Ora Banda TSF2, Natal WRD 1 and Racetrack South WRD, predominately associated with rock armouring weak points in the facilities. Progressive rehabilitation is expected to continue in to the next reporting period on the Janet Ivy East and Enterprise WRDs, as well as capping of the Baseline in-pit TSF.

A total of 27 environmental incidents occurred during 2017 at Norton's Paddington Operations, with the majority involving spills of hydrocarbon or hypersaline water. Of

these incidents, one required reporting to relevant regulatory authorities under Section 72 of the *Environmental Protection Act 1986*. Seven community complaints were received during the reporting period.

Mining ceased at Quarters 040 in January and began again at Janet Ivy in April. Operations at Homestead were significantly reduced before closure of the mine in September 2017. Development of the Tuart underground mine ceased in March. Bullant underground and Enterprise open pit continued for the full year.

During the next reporting period it is expected that mining will continue at Enterprise open pit and Bullant underground mine for the full year, with cessation of Janet Ivy anticipated mid-year. Other project areas will progressively be explored during the 2018 period to expand operations, including Federal/Havana and potentially Castle Hill under a Right to Mine with Evolution Mining.

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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 2017. 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 Industry Regulation and Safety (DMIRS) as required by tenement conditions and is publicly available to view via DMIRS website.

This hardcopy report satisfies the requirement to submit an Annual Environmental Report (AER) to the Department of Water and Environmental Regulation (DWER) for current Operating Licences 8327/2008/1 at Mount Pleasant, 8512/2010/1 at Bullant Underground, 9048/2017/1 at Janet Ivy and 8692/2012/1 at Enterprise.

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 DMIRS for the 2017/2018 reporting year, but limited information is included in this hardcopy; it will instead be supplied in a separate AER which is due in August 2018.

Norton's Paddington Operations 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 is currently in progress and a minor re-structure of these project site groupings is anticipated to occur in 2018.

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 Tenement Package for an overview of Paddington's tenements. During 2017, mining was conducted at three open cut mines and three underground operations (Janet Ivy, Quarters 040, Enterprise open pits and Homestead, Tuart and Bullant underground mines).

2.2 OPERATIONAL AREAS

During the 2017 reporting period Norton had six operational areas. Figures 2 - 7 show the site plans of each operational area; Enterprise (Figure 2), Janet Ivy (Figure 3), Quarters 040 (Figure 4), Bullant (Figure 5), Homestead (Figure 6) and Paddington Mill (Figure 7).

Enterprise, Homestead, Janet Ivy (intermittent), Quarters 040 and Bullant were all being mined in 2017, with and Homestead entering Care and Maintenance in September 2017. Quarters 040 commenced in 2016 and operations ceased in January 2017. Tuart underground development began in 2016 and was developed until March 2017, with further drilling pending future feasibility for this mine.

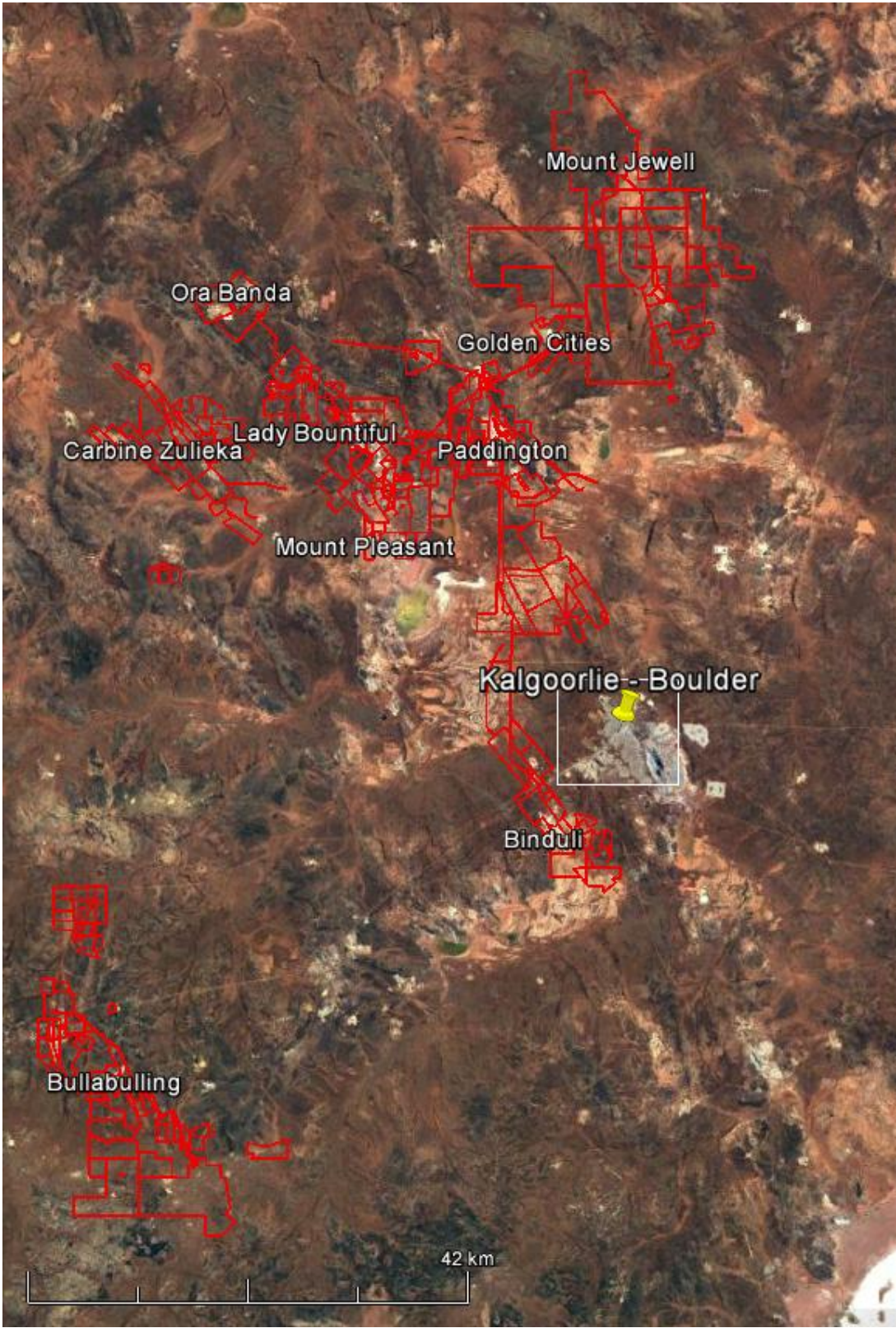


Figure 1 - Norton Gold Fields Tenement Package

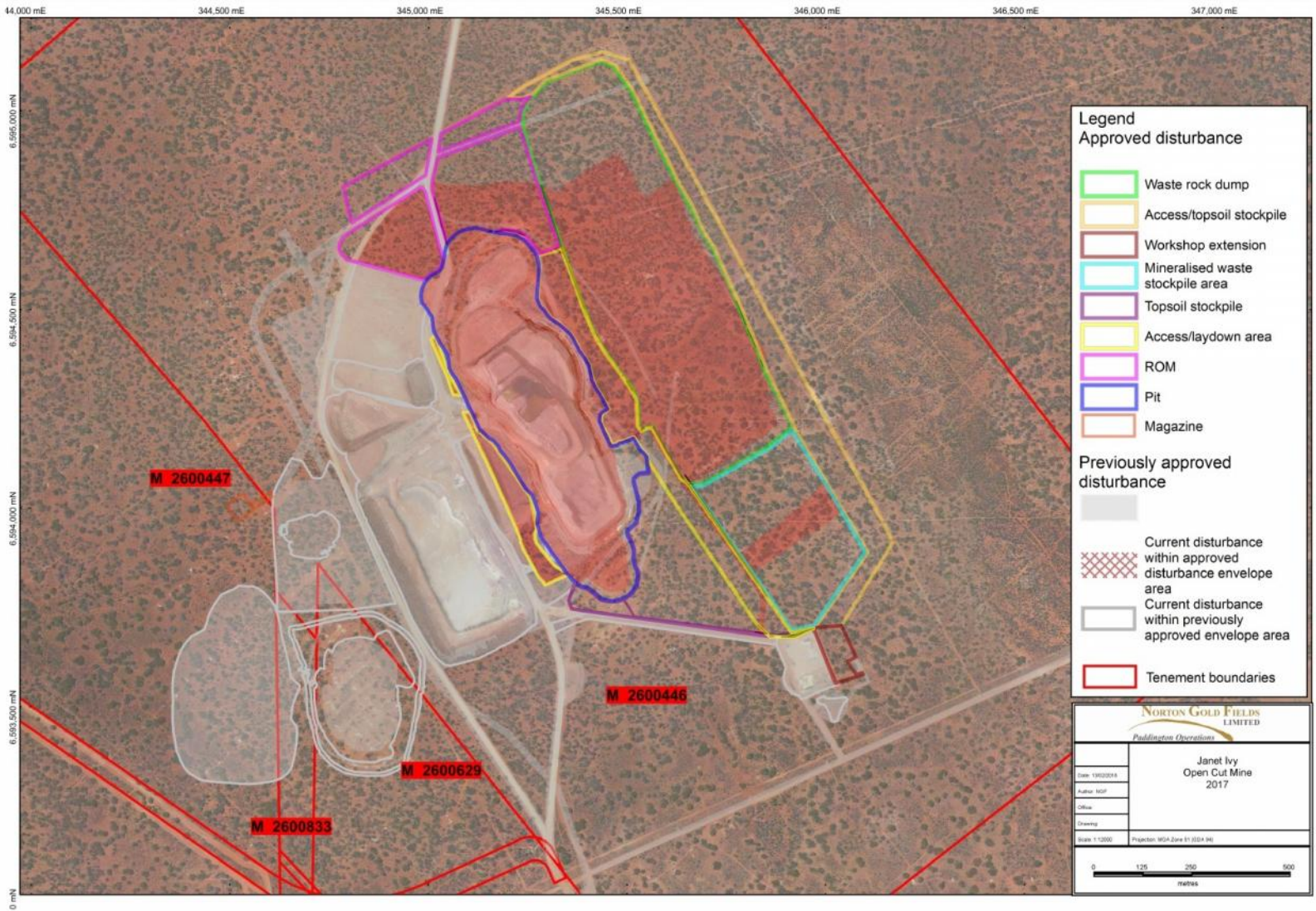


Figure 3 – Janet Ivy Open Cut Mine 2017

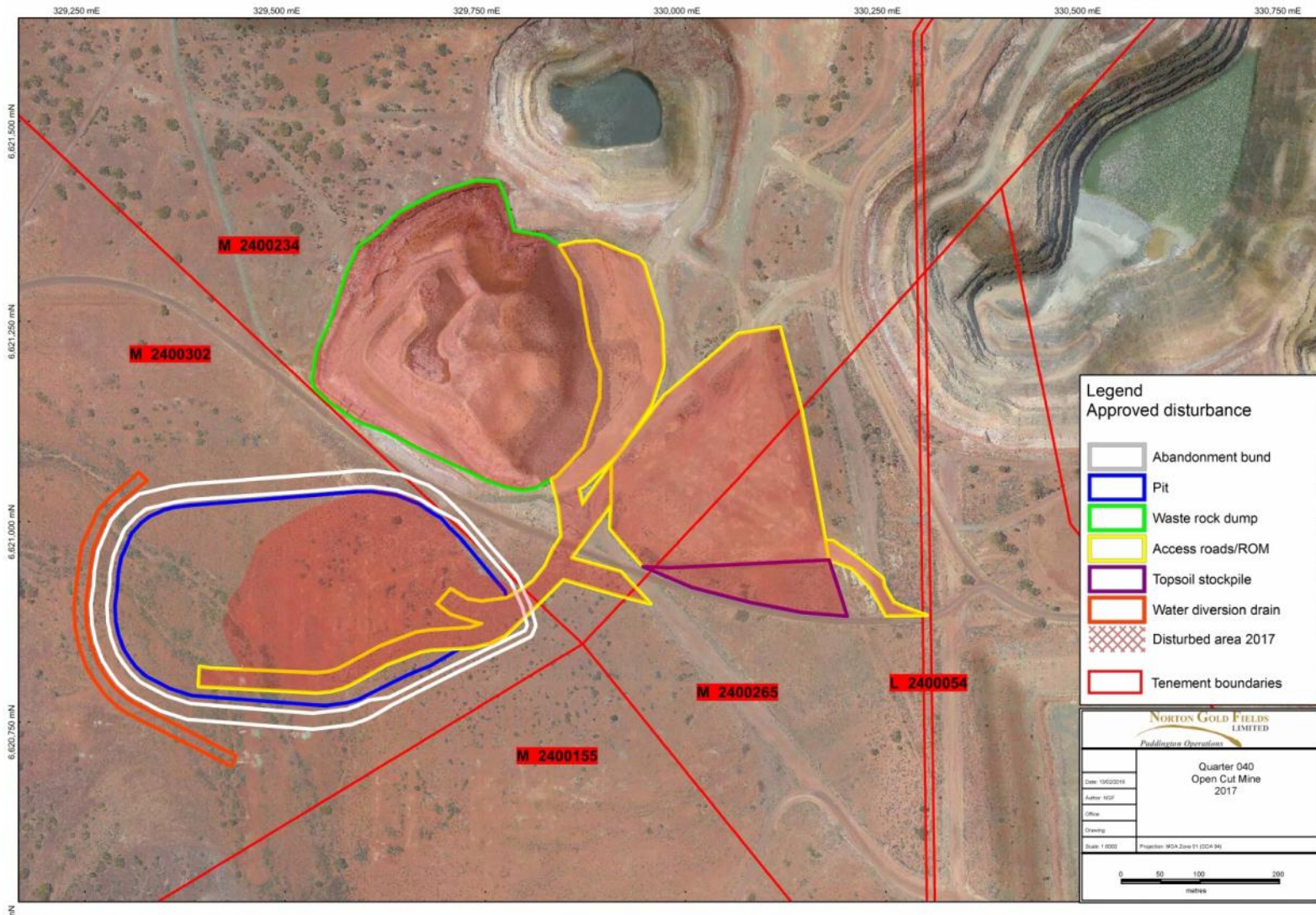


Figure 4 – Quarters 040 Open Cut Mine 2017

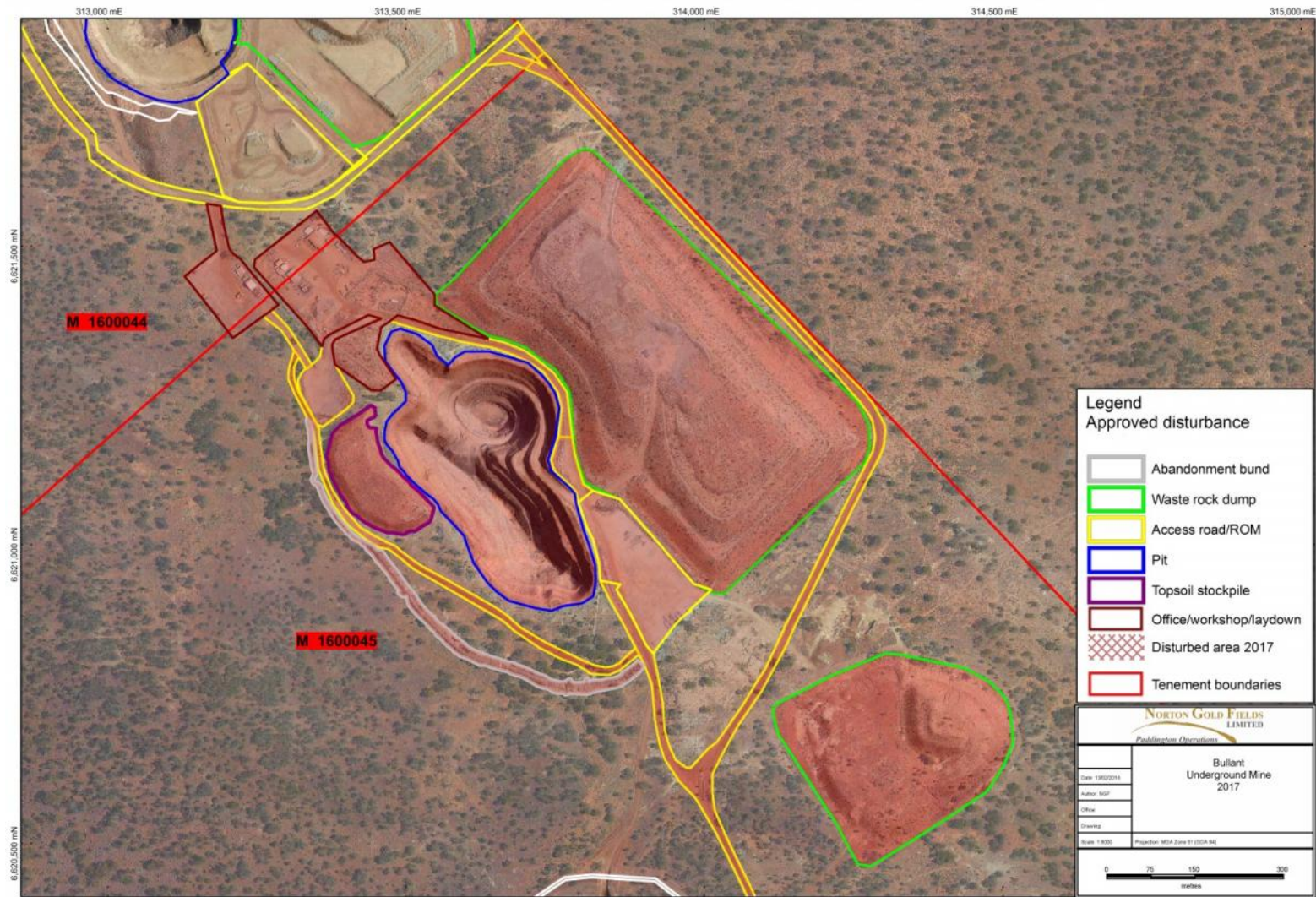


Figure 5 - Bullant Underground Operations 2017

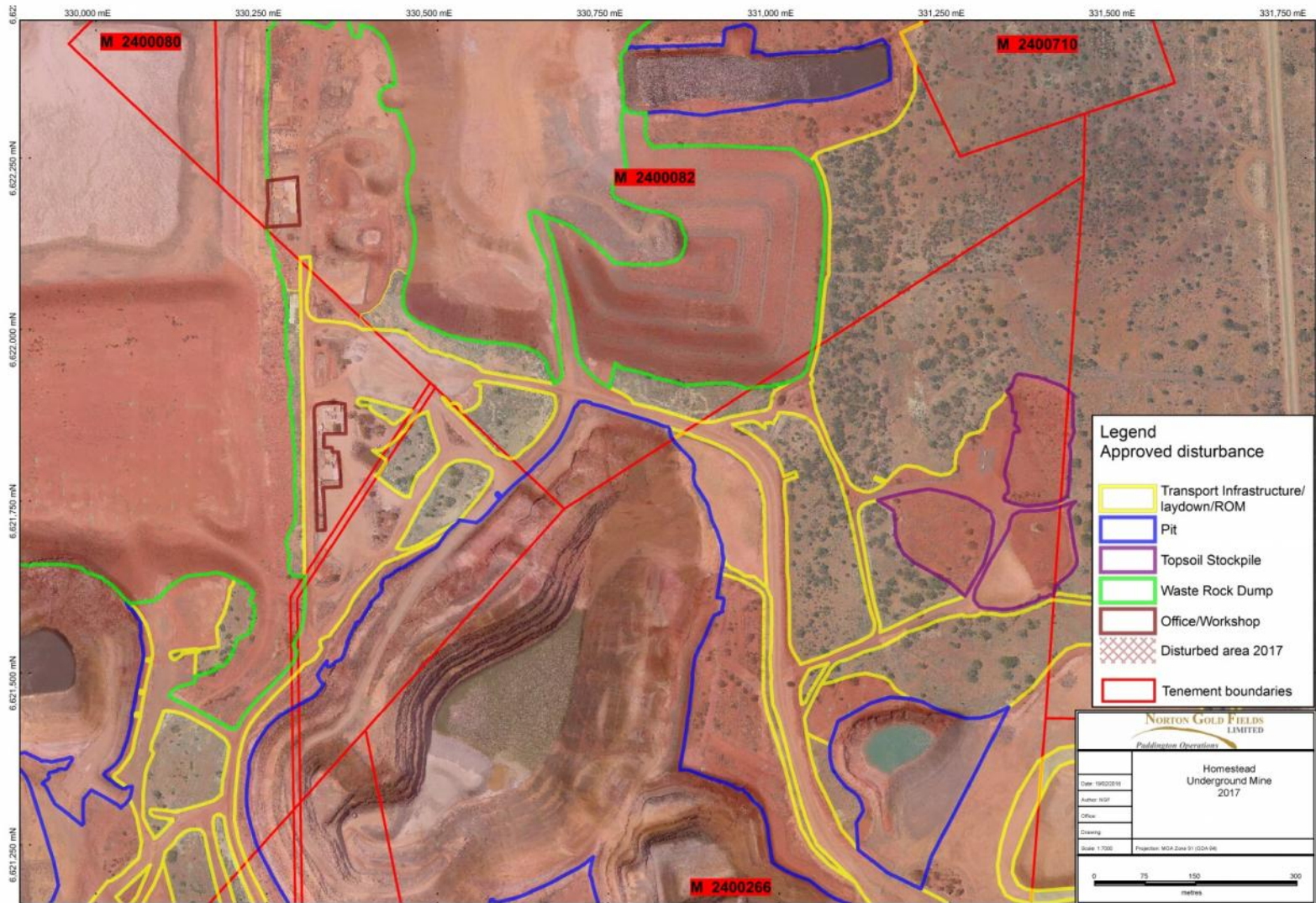


Figure 6 - Homestead Operations 2017

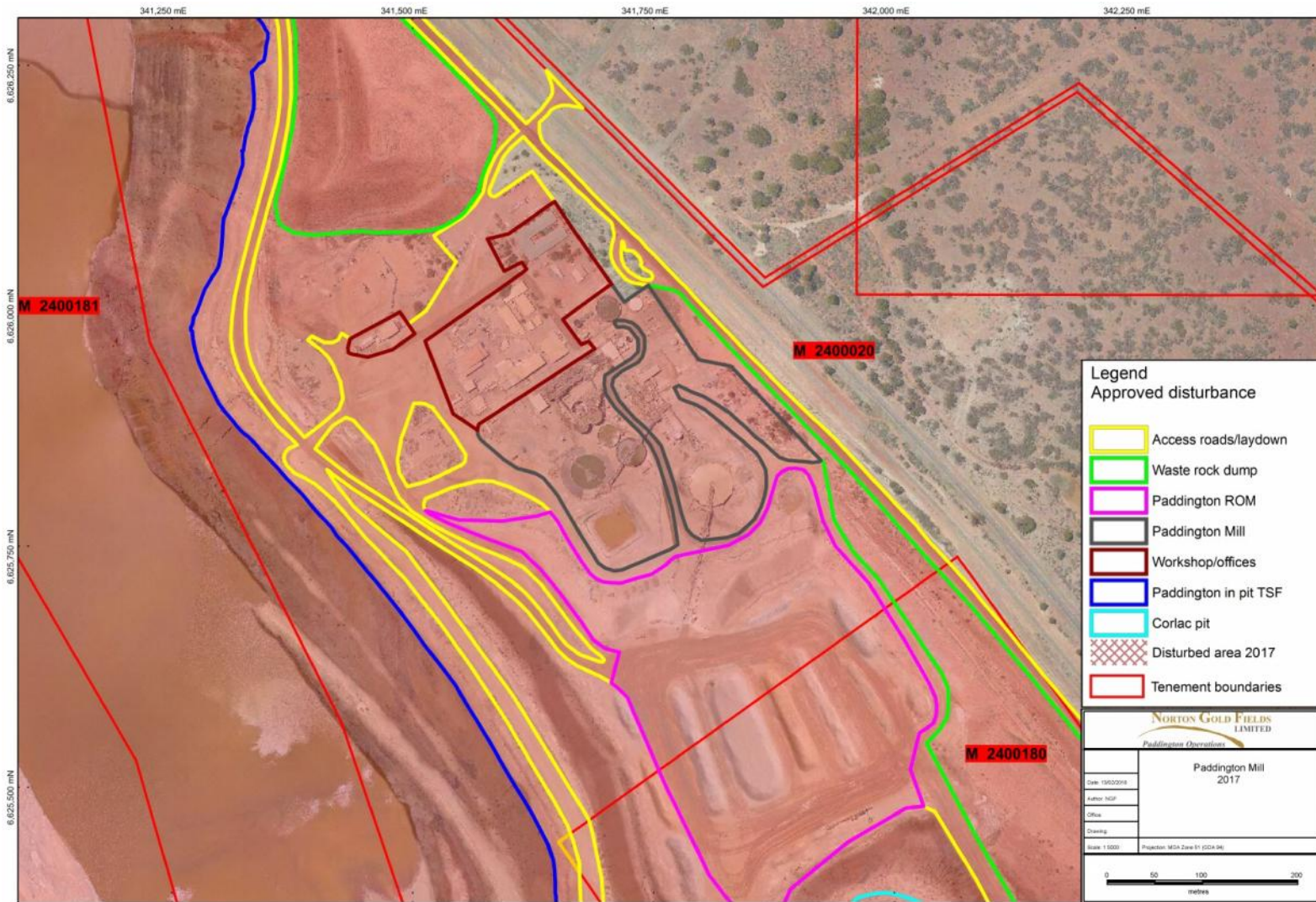


Figure 7 – Paddington Mill Operations 2017

2.3 PROPOSED DISTURBANCE FOR THE 2018 REPORTING PERIOD

Norton anticipates cessation of Janet Ivy open pit in mid-2018. A cutback at Federal/Havana with new open pit at nearby Jakarta, and a Right to Mine the Castle Hill prospect owned by Evolution Mining are pending further feasibility for the 2018 period.

The final phase of Enterprise Open Cut Mine will continue for the full year with further feasibility into a future underground deposit investigated.

Bullant Underground is anticipated to continue for the full year, with remaining resources at Homestead and Tuart Underground also pending further feasibility.

3 EXPLORATION, MINING AND PROCESSING

3.1 EXPLORATION

In 2017, Norton's Paddington Operations invested approximately \$9.6m in exploration, with a total of 39,014 meters drilled throughout 250 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 and internal clearing notification system, LandManager, with 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.

In 2017, CAD Resources were initiated to undertake a disturbance review across all Norton tenements to outline and update all disturbance features with current statuses for more accurate assessment of MRF liabilities. To date, approximately 50% has been completed with the project expected to be completed by the 2018 MRF reporting period.

3.2 MINING

Mining continued at Homestead Underground, Bullant Underground, Quarters 040 and Enterprise open pit into 2017. Mining re-commenced intermittently at the existing Janet Ivy pit in August 2015, ceasing in March 2016, then mined again from April 2017 for the remainder of the year. Quarters 040 open pit ceased in January 2017. Tuart Underground development occurred from January to March 2017, with further mining pending future drilling.

3.2.1 Open Cut Operations

Norton's Paddington Operations open cut mines recorded a total movement of 2,288,631 tonnes of ore and 7,219,882 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 2017.

Table 1 - Norton's Paddington Operations Open Cut Production Figures 2017

Site	Mining Period	Ore Tonnes	Waste Volume (bcm)
Enterprise	01/01/2017 - 31/12/2017	1,742,143	5,876,295
Janet Ivy	07/04/2017 – 31/012/2017	509,327	1,325,194
Quarters 040	01/01/2017 – 28/01/2017	37,162	18,392
Total		2,288,631	7,219,882

3.2.2 Underground Mine Production

In 2017, the remnant mining continued at Homestead at the Black Flag West (top of the mine), Phantom Lode, and VN01 (top of the mine). Mining has ceased with economic evaluation of a further remnant mining campaign to continue in mid-2018.

Bullant Underground began redevelopment in January 2014 after Norton purchased the project in 2013, and has been ongoing since.

During 2017, Tuart underground had completed a resource drill program during February 2017 on the 060 lode. After review, a second drill program began in December and will be finalized early 2018 for 115 lode. The portal is located a short distance from the Homestead portal, located in Quarters pit. 20 single boom jumbo cuts were developed on from a vein outside the resource which contained visible gold. No stoping occurred. Further economic evaluation is considered to start up Tuart underground along with Homestead remnant mining. A mining decision is to take place during 2018.

Production figures for the operation during the 2017 reporting period are shown in Table 2 - Norton's Paddington Operations Underground Production Figures 2017.

Table 2 - Norton's Paddington Operations Underground Production Figures 2017

Site	Mining Period	Ore (tonnes)	Waste (tonnes)
Homestead Underground	01/01/2017 – 24/09/2017	254,727	600
Bullant Underground	01/01/2017- 31/12/2017	223,267	89,935
Tuart Underground	01/01/2017 – 16/03/2017	882	0
Total		478,876	90,535

3.2.3 Suspension of Mining Operations

Mining operations were suspended at Quarters 040 open pit, and Homestead and Tuart underground mines throughout the year. Homestead and Tuart underground are undergoing investigation into further feasibility to mine remaining resources.

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 2017, Paddington Mill processed ore from the Homestead and Bullant Underground mines; Enterprise, Violet, Racetrack, Janet Ivy, Navajo Chief, and Varischetti open pit projects or stockpiles. Ore was also toll treated from third parties' Excelsior Gold, Intermin and Genesis Ulysses.

Figures for total gold produced and gold produced by Norton differ due to toll treatment agreements with third parties, seeing an extra 14,705 oz processed and produced at the Paddington Mill. Norton produced 188,827 oz for the year.

A slight rise in energy consumption was noted due to the presence of Janet Ivy ore, known to be a very hard porphyry causing significant wear and tear to the mill and higher power consumption over time.

Other activities to note in 2017 included the re-installation of the Hyper Jet unit to improve dissolved oxygen and leaching processes.

Production figures for the Paddington Mill for the reporting period is shown in Table 3 - Production Figures for the Paddington Mill 2017.

Table 3 - Production Figures for the Paddington Mill 2017

Paddington Mill	2017
Tonnes Milled (dry)	3,640,163
Gold Produced NGF (oz)	188,827
Gold Produced (Total)	203,572
Mill Utilization (%)	90.5
Overall Recovery (%)	87.8

3.4 ENERGY USAGE AND CONSUMABLES

During the reporting period, 75,739,764 kW of electricity was consumed at the Paddington Mill, at an average of 20.8 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 2017.

Table 4 - Resource Consumption at the Paddington Mill 2017

Resource	Total	Per Tonne Milled	Per Ounce Produced
Electricity (kWh)	75,739,764	20.8	372.1
LPG (L)	1,209,320	0.3	5.9
Oxygen (m ³)	756,480	0.2	3.7
Hydrochloric Acid (kg)	465,441	0.1	2.3
Cyanide (kg)	1,802,794	0.5	8.9
Lime (kg)	5,543,355	1.5	27.2
Flocculent (kg)	146,057	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 2017. 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 2017

Source	Volume of Water to Paddington Mill (kL)	Volume of Tailings from Paddington Mill (kL)
Paddington In-Pit TSF	4,785,370	5,764,725

During 2017, the supply of water to the mill continued to be supplemented by lower salinity water (15,600 mg/L TDS recorded in December 2017) 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.

Other nearby supplementary options for low salinity water resources that will also be considered in 2018 include Leeks pit, which was measured at 4,100mg/L TDS in December 2017. Whilst halocline sampling has not been undertaken at Leeks, this salinity value indicates that much of the volume above groundwater level is captured rainfall runoff, similar to Racetrack pit.

3.6 TAILINGS MANAGEMENT

Tailings from the Paddington Mill were discharged into the Paddington In-pit TSF during 2017. The TSF has an available storage of 36.0Mm³, which at the current equivalent in

situ dry density equates to approximately 55Mt, or approximately 15.75 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 serviced and calibrated in the middle of 2017. The system has been 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 DWER Groundwater Well Licences (GWL) for the abstraction of groundwater for mineral ore processing, dust suppression and dewatering purposes. See Table 6 - Groundwater Abstraction Licences Held by Norton's Paddington Operations.

A full copy of these licences are available upon request.

Table 6 - Groundwater Abstraction Licences 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

No amendments were made to any Groundwater Well Licences or to the Groundwater Operating Strategy in 2017, however, a five yearly review of the Operating Strategy was undertaken and submitted to DWER in August 2017. A response has yet to be received.

The 2017 reviewed Groundwater Operating Strategy is available as Appendix 2.

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.

One external audit was carried out by DWER during the 2017 reporting period, detailed below in Section 4.4.1.

An internal audit at the completion of December 2017 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 2017 to produce road base and stemming, 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 last amended on 4 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 7 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 2017.

License L9408/2017/1 was issued on 25 October 2017 for dewatering from Janet Ivy pit into Fort William pit, where a standpipe is located and used regularly for dust suppression purposes on the haul road and in the project area. Janet Ivy pit is still currently being mined and water continuing to be pumped into Fort William.

Licences to Operate and prescribed activities are summarised in Table 7 - Department of Environment Regulation Licences to Operate Held by Norton's Paddington Operations 2017.

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 2017

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
Janet Ivy	L9048/2017/1	Category 6: Mine dewatering	50,000 tonnes or more per year	500,00 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, 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 prior to issuing of L9048/2017/1 on 25 October. Water levels in all six pits are shown in Table 8 below.

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 2017

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)
				San Peblo Neptune Mid	San Peblo Neptune South		
January	11.3	22.1	74.15	15.80	15.04	Dry	24.46
February	11.4	21.9	72.08	15.37	14.64	Dry	23.39
March	11.6	22.1	71.64	15.22	14.81	Dry	23.61
April	11.3	22.2	71.33	15.23	14.95	Dry	23.72
May	11.0	22.2	71.12	15.21	15.05	Dry	23.91
June	10.8	22.3	70.89	15.21	15.10	Dry	23.97
July	10.4	22.3	70.77	15.27	15.15	Dry	24.08
August	9.9	22.3	70.57	15.21	15.27	Dry	24.28
September	9.5	22.3	70.45	15.92	15.34	Dry	24.38
October	9.2	22.3	70.34	15.22	15.48	Dry	24.56
November	9.1	22.4	70.23	15.26	15.70	Dry	24.21
December	9.0	22.6	70.12	15.27	15.66	Dry	24.61

Table 9 - Pit water parameters 2017

PIT NAME		Rose	Violet	Wattlebird	San Peblo	Gimlet South	Fort William
QUARTER	PARAMETER						
1	EC (µS/cm)	216,400	102,500	25,400	102,200	31,000	11,600
	pH	6.9	6.4	7.2	7.9	6.7	7.8
	TDS (mg/L)	147,200	69,700	17,300	69,500	21,100	7,900
2	EC (µS/cm)	124,000	108,800	101,700	83,200	36,200	27,100
	pH	6.4	6.4	6.5	5.1	5.7	7.2
	TDS (mg/L)	84,300	74,000	69,200	56,600	24,600	18,400
3	EC (µS/cm)	116,000	105,000	NO SAFE ACCESS	108,300	36,200	64,600
	pH	7.9	7.9	NO SAFE ACCESS	7.7	5.7	8.5
	TDS (mg/L)	78,900	71,400	NO SAFE ACCESS	73,600	24,600	43,900
4	EC (µS/cm)	182,200	102,800	77,200	97,700	39,000	33,500
	pH	8.2	6.1	7.7	7.5	7.4	8.5
	TDS (mg/L)	123,900	69,900	52,500	66,400	26,500	22,800

Table 10 - Crushing and screening figures for 2017

Environmental Operating License	Project Area	Material Screened and Crushed (t)
L8692/2012/2	Enterprise	0
L8327/2008/2	Homestead UG	10,434

4.1.2.2 *Amendments/Outstanding/Pending*

No amendments to Environmental Operating Licences were submitted in 2017.

No Environmental Licenses or Works Approvals were pending/outstanding at the end of 2017.

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 2017 found the following;

- Failed water meters were noted and consequently replaced at the following locations throughout the year; Pump Station 4 to Paddington Mill line and the two Bullant Underground to San Peblo lines which failed in 2016 and were replaced in October 2017;
- A power failure caused the Panglo Reclaim to Mill line to reset to zero in June 2017 with meter readings having to be estimated based on averages from previous months'; and
- Wattlebird pit to Wattlebird Standpipe meter reading was unable to be taken in January 2017 due to inclement weather resulting in unsafe access to the meter.

Where discrepancies affected water balance calculations, volumes were estimated as accurately as possible based on previous average throughput, after 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
Mount Pleasant	CPS374/6	230	20/06/2018	DMIRS
Paddington	CPS376/7	100	09/12/2022	DMIRS
Golden Flag	CPS413/4	50	09/07/2018	DWER
Janet Ivy	CPS2986/2	200	31/7/2022	DMIRS
Navajo Chief	CPS3504/2	100	20/02/2018	DMIRS
Enterprise	CPS3560/4	300	24/04/2018	DMIRS
Wattlebird	CPS6137/1	50	23/08/2019	DMIRS
Fort Scott	CPS6528/1	50	31/07/2020	DMIRS
Mount Jewell	CPS6665/1	200	31/10/2020	DMIRS
Mount Jewell Haul Roads	CPS6666/1	90	31/10/2020	DMIRS
Carbine Zulieka	CPS7616/1	150	30/9/2027	DMIRS

4.1.3.2 Clearing Undertaken

During the 2016/2017 reporting period 176.21 ha of native vegetation was cleared, with the majority of this for the purpose of exploration and development of the Enterprise and Janet Ivy mining areas. The clearing report was submitted to DMIRS and DWER on 24 July 2017, as required by the respective permits.

For the purpose of this AER reporting, only clearing listed in the 2017 calendar have been included in the table below, amounting to 175.05 ha.

Clearing was conducted under CPS369/4, CPS2986/3 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 2017 for a breakdown of the clearing across all Paddington sites during the 2017 reporting period.

Table 12 - Conducted Clearing in 2017

Mining Project Area	Tenement	Area Cleared (ha)	Cumulative Clearing Against Tenement per FY or Clearing Permit #	Reason for Clearing	Clearing Completion Date
Carbine (Matts Dam South)	M16/150	14.61	CPS369/4	Open pit mine, haul road, infrastructure, ROM	Feb-17
Janet Ivy	M26/446	92.84	CPS2986/2	Expansion of open pit, ROM & go-line, new eastern waste rock dump,	Jun-17
Enterprise	M24/170	46.78	CPS3560/4	ROM & waste rock dump expansion, relocation of water dam	Jan-17
	M24/170	13.38	13.38	Pit and infrastructure expansion	Dec-17
Various Program of Works	E27/300	0.12	0.12	Exploration	Jan-17
		0.12	0.24	Exploration	Dec-17
	E24/146	0.56	0.56	Exploration	Feb-17
		0.32	0.88	Exploration	Dec-17
	E24/149	0.28	0.28	Exploration	Feb-17
		0.16	0.44	Exploration	Dec-17
	E15/1320; P15/5758, 5785, 5799, 5800 & 5802	0.36	0.36	Exploration	Mar-17
	E27/333	0.24	0.24	Exploration	Mar-17
	M26/235 & 566	0.24	0.24	Exploration	Mar-17
	M16/45	0.6	0.6	Exploration	Jun-17
		0.16	0.76	Exploration	Aug-17
		0.52	1.28	Exploration	Dec-17
	E24/157	0.2	0.2	Exploration	Dec-17
	E24/171	0.2	0.2	Exploration	Dec-17
	E27/155	0.24	0.24	Exploration	Dec-17
M24/616	1.44	1.44	Exploration	Dec-17	
M16/58 & 106	1.00	1.00	Exploration	Dec-17	
M16/48	0.68	0.68	Exploration	Dec-17	
TOTAL		175.05 ha			

4.1.3.3 *Amendments/Outstanding/Pending Permits*

One permit was cancelled, one sought and granted and another amended during 2017.

Clearing Permit 369/4 was cancelled in May 2017. This permit was issued by DWER and replaced by a permit CPS7616/1 issued by DMIRS. This permit allowed clearing to increase from 50ha to 150ha but also provided conditions more pertinent to a hard rock mining scenario.

An amendment was submitted to DMIRS in April 2017 seeking to extend the expiry date of Clearing Permit CPS2986/3 for the Janet Ivy project. This extension was granted on 29 June 2017.

4.2 Mining Proposals

4.2.1 Current

Norton's Paddington Operations received approval for a small number of Mining Proposals from the DMIRS during the 2017 reporting period; see Table 13 - Mining Proposal Applications Submitted by Paddington in 2017.

Table 13 - Mining Proposal Applications Submitted by Paddington in 2017

Project	Mining Proposal Registration ID	Status
Janet Ivy and Victory United Open Pit Project	64278	<ul style="list-style-type: none"> Submitted 20/02/2017 Approved 20/04/2017
Porphyry West Mining Proposal	61390	<ul style="list-style-type: none"> Submitted 22/12/2016 Approved 16/03/2017
Enterprise Stage 4 Mining Proposal – Version 3	68588	<ul style="list-style-type: none"> Submitted 08/09/2017 Approved 24/10/2017
Mt Jewell Open Pit Mining Proposal – Version 5	63729	<ul style="list-style-type: none"> Submitted 29/12/2016 Approved 10/03/2017
Matt's Dam Mining Proposal - Version 3	63728	<ul style="list-style-type: none"> Submitted 29/12/2016 Approved 31/01/2017

4.2.1.1 Amendments/Outstanding/Pending Mining Proposals

A number of mining proposal amendments were submitted in 2017, see above in Table 13. All amendments submitted were due to changes in design for those project areas.

Further mining proposal documents are expected to be submitted in 2018, pending additional feasibility of numerous project areas. It is anticipated that most future mining proposals will meet the DMIRS 2016 'Guidelines for Mining Proposals in Western Australia.'

In order to meet these guidelines, consultation with DMIRS is required to discuss the challenges the new guidelines present to the current Environmental Group Site set-up Norton's sites are currently combined within. It is anticipated that consultation will help to provide further clarity on the most appropriate structure of submission. This will ensure the flexibility the new guidelines aim at allowing for sites (with respect to implementing low-risk minor design changes after approval) to be implemented without need for seeking further approval.

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 2017.

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 area. All areas were subsequently updated using the same methodology, with the Satellite area the last to be updated in early January 2018.

Ora Banda, Golden Cities and Paddington Environmental Group sites were internally audited and updated to completion by the end of 2017, with Binduli, Mount Pleasant, Lady Bountiful and Satellites remaining for internal review in 2018. The project is anticipated to be completed prior to the next MRF reporting period.

The Bullabulling package was updated and reviewed by Talis Consultants whilst contracted to review and update the Bullabulling Mine Closure Plan.

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 and precise standard than previously possible. It is also anticipated to raise the cost of MRF levy due to the increased accuracy and precision, accounting for historic disturbances of which currently reflective survey data is unavailable.

4.3 SURFACE WATER

No specific audits were carried out during the 2017 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

One external site inspection was carried out in 2017.

4.4.1 DWER Rose East Pit Operating License L8327/2008/2

On 22 November, DWER inspectors visited the Rose East pit license site to undertake a compliance inspection. Whilst on this inspection, the Paddington emergency response training ground and current practices and procedures was also viewed from a compliance perspective.

No issues were identified or improvements requested to L8327/2008/2.

DWER inspectors were, however, concerned about current ER practices surrounding the burning of materials listed in Schedule 2 of the Environmental Protection (Unauthorised Discharge) Regulations 2004, which includes items such as plastics, rubber, treated timber, tyres and vehicles.

Further correspondence occurred between DWER and the Environmental Superintendent to determine the justification of burning such materials under the Mines Safety and Inspection Regulations 1995, Part 4, Division 3, R4.3.1 (c) which considers the training of employees in credible firefighting and emergency procedures likely to occur on a mine site, hence requires the burning of some of those substances listed to ensure adequate training response to those types of scenarios for the purpose of preventing danger to human life.

No further follow-up or action was provided or requested from DWER.

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 DMIRS 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 three years to reduce the size and volume of the supernatant pond. The good water management needs to continue to drive further consolidation of the tailings to achieve a high in-situ dry density even though the target in-situ dry density has now been exceeded;
- Review of the daily logs from 16 December 2016 to 22 December 2017 shows a completion rate of approximately 89% 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;
- The voids formed at the decant and on the surface of OBTSf2 will be required to be filled;
- Routine annual visual assessments are to be carried out to monitor the erosion on the embankments of PTSf3, MPTSf2/TSf3, MPTSf6, 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.

4.5.2 Dangerous Goods License Audit

Between November 2016 and January 2017 Norton engaged the services of Abarta EHS Management Pty Ltd, an accredited Dangerous Goods consultant, to undertake an audit of dangerous goods storage across site. Specifically, the audit focused on the Dangerous Goods Safety Act 2004; Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007; Dangerous Goods Safety (Explosives) Regulations 2007 and associated standards such as AS1940: 2004 (The storage and handling of flammable and combustible liquids). The audit culminated in developing action plans to ensure that the site dealt with improvements in a risk based fashion. Re-occurring matters of this audit included:

- Updating management plans to reflect DMIRS current guidelines;
- Replacing temporary bunding with more permanent bunding of steel or concrete construction (less flammable materials);
- Housekeeping around minor storages particularly removing other flammable or combustible materials; and
- Improved signage.

Implementation of these audit findings is ongoing.

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 2017, 27 environmental incidents were reported internally, see Table 14. Of these incidents, one was reportable to external authorities via a Section 72 report and one other incident reported as a matter of courtesy to notify before being reported in the Annual Audit Compliance Report. Reportable incidents are discussed in further detail in the following section.

A total of 989 environmental hazards were reported at Paddington Operations for the 2017 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	14
Paddington	7
Janet Ivy	3
Bullant	2
Quarters 040	1
Homestead	0

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	17
Hypersaline spill	1
Fauna	5
Non-compliances	2
Other (Spills)	2

The 989 hazards reported throughout 2017 were mostly related to hazards such as stray cattle or other wildlife present or hit 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 3.

5.1 Reportable Incidents

Two reportable incident occurred during 2017.

Unauthorised Discharge to Paddington Landfill

On 27 July 2017, a contractor was commissioned by Norton to vacuum out the contents of a wastewater sump connected to a crib room/sink. Usual site practice would be to dispose of this type of waste into a bioremediation pad that has a compacted base to prevent leaching of any harmful materials, and allow it to evaporate. The contractor was incorrectly advised by an operator on site to deposit the waste into the Paddington landfill instead of the Paddington bioremediation pad. Approximately 1000L of wastewater was discharged (Figure 8).

Due to the small amount of wastewater discharged, it was unable to be re-vacuumed. Further discharge was stopped, the water was sampled immediately and the remaining amount was allowed to evaporate. Any solids remaining after evaporation were to be scraped up and placed into the bioremediation pad if required. Observations of the wastewater indicated there was no hydrocarbons contained and no putrid smells were noted.

The incident was reported immediately and investigated internally, photographed, and wastewater sampled. DMIRS and DWER were notified on the 28 July 2017 and a Section 72 report submitted.



Figure 8 – Discharge of wastewater into Paddington Landfill

Tuart Discharge

During January 2017, a discharge from a pipeline, in potential breach of the Environmental Protection Act 1986, occurred from Quarters 040 into Tuart South open pit. Statements were collected from the responsible parties. The legal obligation under Norton's licensing was to discharge the water from mining into Rose or Violet pits. An internal memo was distributed to all Norton staff to ensure that environmental staff are consulted in the future, preventing such incidents.

This incident is reportable via the AACR, attached as Appendix 1.

5.2 Non-externally reportable incidents

Exploration Clearing – Evolution Mining

Whilst clearing an area for drilling at Ora Banda, the drilling contractor for Evolution mining found they were clearing an access track on the incorrect tenement and therefore outside the POW (Figure 9). Clearing ceased as soon as crew realised they were operating on the incorrect tenement. Topdrill and Evolution Mining management were informed on 30 January 2017. An incident investigation was completed and rehabilitation was planned as a priority once investigation outcomes were finalised. Rehabilitation will involve ripping and scarifying the track and pushing vegetation back in to place.

Norton became aware of the incident on 16 February 2017 and were not required to report to DMIRS, as Evolution were the responsible proponents for reporting the incident.



Figure 9 – Unauthorised clearing by contractor on Norton tenement

Ducks Recovered from Oily Pond

On 20 January 2017, eight ducks were recovered from the Bullant overflow pond. Due to contact with a layer of oil in the pond, the ducks were taken to Kalgoorlie Animal Hospital and a DPaW Wildlife Officer was informed. This was a rare event, and an internal '5 Whys' investigation into the matter was conducted to determine how oil got into the pond, the correct disposal procedures for the waste oil, and how to prevent a future occurrence.

Paddington TSF 3 Dust

On 16 October 2017 environmental staff noted an increase in dust during very high winds on Paddington TSF 3 (Figure 10). Ongoing investigations are underway to determine the cause of the dust and how it can be optimally managed should there be a reoccurrence reported in the future.



Figure 10 – Dust from Paddington TSF3 during high winds

5.3 Other incidents

In September 2017, Norton imported some Heavy Vehicle tyres from a supplier in China as a trial on their suitability to Australian hard rock mining conditions. Some errors were made on the importation paperwork and the wrong container type was identified; with a subsequent consequence that additional steps had to be taken to retreat and fumigate the tyres to meet Australia's biosecurity obligations. This was deemed a breach of the Biosecurity Act 2015 and was dealt with in December 2017 by the Department of Agriculture and Water Resources by way of a Letter of Warning. Norton acknowledges its error and confirms that if subsequent trials are undertaken or if we go into a long term purchasing agreement, then there will be improved quality assurances and controls with respect to the necessary Customs and Biosecurity obligations.

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 Level 1 flora and vegetation surveys, and one targeted flora survey were undertaken in 2017 by Native Vegetation Solutions.

Golden Cities

A Level 1 flora and vegetation survey was carried out in October 2017. The assessment included 848 ha around the Havana/Suva and Federal project areas, and along three miscellaneous leases for the purpose of a proposed haul road.

A total of 29 Families, 70 Genera and 152 Species were recorded within the survey area. 11 major vegetation groups were recorded in the survey area:

- *Eucalyptus griffithsii* and *E. oleosa* over *Acacia acuminata* and *Acacia aneura* over *Triodia irritans*;
- Low woodland of *Eucalyptus oleosa* and *Casuarina pauper* over scrub of *Acacia hemiteles* and *Eremophila dempsteri* over dwarf scrub of *Ptilotus obovatus* and *Maireana triptera*;
- Open mallee of *Eucalyptus* over scrub of *Acacia acuminata*/*Acacia ramulosa*/*Acacia effusifolia* over hummock grass of *Triodia irritans*;
- Low woodland of *Eucalyptus clelandii* over low scrub of *Senna artemisioides* subsp. *filifolia* and *Acacia hemiteles*;
- *Eucalyptus oleosa* thicket;
- *Eucalyptus salmonphloia* and *Eucalyptus oleosa* over *Acacia acuminata* over mixed shrubs (creekline vegetation);
- Mulga woodland;
- Low woodland of *Casuarina pauper* over *Senna* shrubland;
- *Eucalyptus salmonphloia* over *Maireana sedifolia* and sclerophyll shrubland;
- Open mallee of *Eucalyptus oleosa* and *Eucalyptus griffithsii* over low scrub of *Senna artemisioides* subsp. *filifolia* over hummock grass of *Triodia irritans*; and
- Thicket of *Acacia effusifolia* and *Acacia acuminata* over hummock grass of *Triodia irritans*.

Three weed species were recorded within the survey area; *Centaurea melitensis* (Maltese Cockspur), *Dittrichia graveolens* (Stinkwort) and *Salvia verbenaca* (Wild Sage). None of these species are listed as declared plants by DPIRD (2017).

Paddington Haul Roads

Native Vegetation Solutions also undertook a Level 1 flora and vegetation survey of two proposed haul road locations between Mount Pleasant and Paddington project areas. The area totalled 54.47 ha and was carried out in October 2017.

A total of 24 Families, 52 Genera and 116 Species were recorded in the survey area. Ten major vegetation groups were recorded:

- *Eucalyptus salmonphloia* open woodland;
- Open chenopod and sclerophyll shrubland;
- *Eucalyptus griffithsii* over chenopod shrubland;
- *Acacia acuminata* shrubland with emergent *Eucalyptus griffithsii*;
- *Eremophila miniata* creekline vegetation;
- Transitional *Eucalyptus* woodland;
- *Casuarina pauper* over sclerophyll shrubland;
- Mixed *Eucalyptus* woodland over mixed sclerophyll shrubland;
- *Acacia quadrimarginea* shrubland; and
- *Eucalyptus salmonphloia* over *Tecticornia* shrubland.

One weed species was recorded in the survey area; *Salvia verbenaca* (Wild Sage). It is not listed as a declared plant by DPIRD (2017).

All species recorded during both surveys had been previously recorded within the Eastern Murchison IBRA subregion and were therefore not considered to be significant at a regional scale.

Vegetation within the assessment areas was overall rated "Good" (Keighery 1994), with certain areas not affected by previous exploration in "Very Good" condition. Areas affected by grazing in "Good" condition, historical clearing rated as "Degraded," with no areas assessed as "Pristine."

Non-native species distribution was not considered significant in the study areas and were mostly confined to disturbed areas such as tracks, and areas of previous infrastructure.

No Threatened Flora, TEC/PECs, or Priority Flora were recorded in the survey areas.

Any proposed disturbance/clearing of vegetation will result in a loss of species from the survey area, however, given the size of the area and the extent of the Beard (1990) vegetation associations elsewhere, the impact on the vegetation and its component flora will not affect the conservation values of either, or create fragmentation or patches of remnant vegetation.

The following recommendations were made for both surveys:

- Limit clearing to the survey area; and
- Weed control measures should be implemented during and following earthworks.

Criterion Prospect

Norton submitted a Programme of Works to DMIRS, which flagged the potential of a Priority 1 Species, *Acacia epedunculata*, within the area.

Native Vegetation Solutions was engaged to undertake a targeted survey of the exploration programme area on 1 December 2017.

The Department of Biodiversity, Conservation and Attractions (DBCA) known location of *A. epedunculata* is located approximately 1.4km northwest of the drill hole locations. The site was visited and no plants matching the description of *A. epedunculata* were observed.

No other taxa listed as Threatened or Priority were recorded in the survey area.

A copy of these reports is available upon request.

6.1.1 Weed Management

The Norton Weed Management Program for 2017 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 are used to spray weeds such as Saffron Thistle, Morning Glory, Tobacco Bush, Ruby Dock and Nightshade noted on Norton'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

One combined Level 1 fauna survey and targeted malleefowl survey was undertaken in November 2017 by Terrestrial Ecosystems.

Golden Cities and Paddington Haul Roads

Terrestrial Ecosystems was commissioned by Norton Gold Fields to undertake a Level 1 fauna survey and a targeted malleefowl survey in November 2017. The purpose of this Level 1 fauna risk assessment was to provide information to the Department of Mines, Industry Regulation and Safety and / or the Environmental Protection Authority (EPA) on the potential impacts on the vertebrate fauna assemblage in the project area to enable the proposed development to be adequately assessed.

The first part of the survey was conducted within the Golden Cities project area. The survey was undertaken to collect baseline information that may be required as part of the approvals process for the development of the Golden Cities mining project. The study area comprised approximately 1,300 hectares and is located approximately 12 kilometres north-east of the Paddington Mill.

The second part of the survey was conducted along two proposed haul road locations between Mount Pleasant and Paddington Mill, over an area totalling 54 hectares.

The survey areas were searched on foot for malleefowl and their mounds on 21-22 November 2017 and on an all-terrain vehicle on 23 November 2017. The malleefowl bird and mound survey was also used to record fauna habitat types and condition in the project area.

The project area supports the following four broad fauna habitats:

- Open shrubland with an understory of spinifex or tussock grasses;
- Eucalypt woodland over shrubs and chenopods of varying densities;
- Dense shrubland; and
- Mallee and shrubs of varying density.

Six malleefowl mounds were recorded in the Golden Cities project area. There is an active mound immediately south of the Golden Cities project area that could be impacted by mine related activities and there are two recently active mounds in the project area. One malleefowl was seen while searching the project area.

Impacts on the vertebrate fauna associated with clearing vegetation in the project area in a landscape or bioregional context are likely to be low as there are vast tracts of similar habitat in adjacent areas.

The full report is available upon request.

6.2.1 Malleefowl

No active malleefowl nests were monitored in 2016/2017 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.

The annual targeted malleefowl survey was carried out in February 2018, towards the end of the breeding season. Areas of focus included Enterprise, Federal and Mulgarrie. A total of 1,314 ha was surveyed over a period of five days by Terrestrial Ecosystems.

Results from the survey are summarised below:

- In addition to five historically recorded mounds, two new malleefowl mounds were recorded at Enterprise. Of these two, one was potentially recently active but it was not possible to determine with confidence due to recent rains potentially washing away any evidence of footprints or disturbed soil;
- Three inactive mounds were identified at Mulgarrie and have been inactive for an extended period of time; and
- Nine inactive mounds were identified at the Federal project, all having also been inactive for an extended period of time.

Results of the survey indicate that malleefowl are still present in the area, however, there is little evidence of many birds breeding. Higher ratios of active to inactive mounds have been noted in other areas of Western Australia which indicates the birds are under breeding stress. Given the lack of broad scale vegetation clearing, this stress is likely due to predation by cats, foxes and wild dogs.

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

6.2.3 Feral Animals

During 2017 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 around malleefowl nests. Feral cats located in bushland are more wary and difficult 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. Staff are educated on the most reliable methods and encouraged to regularly service their work areas which are prone to mouse infestations. Staff are also instructed to maintain hygienic conditions around kitchen areas by ensuring dishes are not left in the sink, all food is kept in sealed containers and bins are used correctly with lids closed.

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 continued to be notified about the presence of cattle and were able to herd them to safer areas in many instances. The number of cattle related hazards and incidents has reduced since the construction of further fencing on Mt Vettors pastoral lease within the last three years.

Bees became prevalent in some areas during the summer period where they were seeking access to easy fresh water sources. Buckets of fresh water with sticks and saturated 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. '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. Before the buckets are instated, staff are instructed to ensure access to fresh sources of water can first be prevented and is usually by means of repairing leaks from taps or hoses.

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 between January and March 2019, with a higher than average occurrence of rain days significantly setting back the schedule to complete the field work by the anticipated timeframe. The final report is anticipated to be available by late March. Rehabilitated waste landforms included in the 2017 monitoring program were:

Mount Pleasant

- Bluegum
- Homestead
- Palace
- Rose
- Tuart
- Woolshed
- Woolshed South
- Woolshed South Extension

Paddington

- Baseline
- Corlac
- Deep Leads

- Leeks
- Paddington 1
- Paddington 2
- Paddington Lookout
- Panglo
- Polar East
- TSF 3

Ora Banda

- Enterprise
- Gimlet South
- Sleeping Beauty
- Slippery Gimlet North
- Slippery Gimlet South
- TSF 1
- TSF 3
- TSF 4

The final EFA report for 2017 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 DWER Environmental Operating License is attached as Appendix 4.

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

Date	Racetrack Abstraction to PS4	Woolshed Pit abstraction to Woolshed Standpipe	Rose Pit Abstraction to Rose Standpipe	Leeks Pit Abstraction to Leeks Standpipe
January 2017	84,406	2,972	1,097	132
February	90,988	136	1,184	9
March	96,534	0	1,209	142
April	95,668	0	907	954
May	82,133	0	510	990
June	103,386	0	491	322
July	110,815	0	300	346
August	99,551	0	215	11
September	94,384	0	380	0
October	83,469	0	788	0
November	85,651	0	1,039	201
December	83,545	0	1,003	224
Total	1,110,530	3,108	9,123	3,330

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

Date	Bullant U/G to San Peblo Pit Y0(2 meters)	San Peblo Pit to Bullant U/G Tanks	Wattlebird Standpipe	Victory Pit to Victory Standpipe	Total	kL/d
January 2017	12,000	19,049	63	4,829	124,549	4,018
February	12,000	17,333	156	3,114	124,919	4,461
March	12,000	13,782	0	2,323	125,990	4,064
April	12,000	10,969	2	1,727	122,226	4,074
May	12,000	10,929	0	2,839	109,401	3,529
June	12,000	10,377	0	1,474	128,051	4,268
July	12,000	13,841	0	946	138,248	4,460
August	12,000	12,468	0	2,042	126,287	4,074
September	12,000	13,957	0	269	120,990	4,033
October	12,227	11,310	0	4	107,798	3,477
November	12,126	7,997	0	0	107,013	3,567
December	12,105	8,144	0	0	105,020	3,388
Total	144,458	150,155	221	19,567	1,440,493	3,947

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

Date	Enterprise Pit	Gimlet South Pit	Total	kL/d
January 2017	770	24,644	25,414	820
February	1,415	8,908	10,323	369
March	0	20,503	20,503	661
April	2,450	10,103	12,553	418
May	3,370	4,516	7,886	254
June	0	5,341	5,341	178
July	0	5,935	5,935	191
August	0	5,494	5,494	177
September	0	9,346	9,346	312
October	0	14,513	14,513	468
November	0	16,680	16,680	556
December	0	19,960	19,960	644
Total	8,005	145,943	153,948	422

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

Date	Janet Ivy to Fort William Pit	Janet Ivy Standpipe	Fort William Standpipe	Total	kL/d
January 2017	0	0	2,594	2,594	84
February	0	0	981	981	35
March	0	0	290	290	9
April	0	1,719	28	1,747	58
May	0	4,132	0	4,132	133
June	0	5,329	142	5,471	182
July	0	795	1,522	2,316	75
August	0	0	2,902	2,902	94
September	1,935	0	3,545	5,479	183
October	19,992	0	6,574	26,566	857
November	7,601	0	7,426	15,027	501
December	0	0	10,393	10,393	335
Total	29,528	11,975	36,395	77,898	213

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 underwent a five-yearly revision and update, with subsequent re-submission to DWER in August 2017. No significant changes were made to the strategy – it was primarily updated to reflect the current and anticipated future water balance at Paddington Operations with a number of potential projects added, and included recommendations from the 2016 Annual Groundwater Monitoring Summary.

A copy of the 2017 reviewed Paddington Groundwater Operating Strategy is included in Appendix 2.

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.

Karrillon Groundwater continued to be used to collect quarterly groundwater and potable water samples according to the updated Monitoring Schedule, with potable samples processed at Pro Micro and groundwater samples processed at Analytical Reference 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).

Groundwater production from the Paddington Borefields and mine groundwater abstraction is subject to the terms and conditions of Groundwater Well Licences (GWL) issued by DWER. The licences and production for the reporting period are summarised in Table 20 - DWER Licenced Production 2017.

Table 20 - DWER Licenced Production 2017

DWER GWL No.	Location	Allocation (kL/annum)	Production # (kL/annum)	% Allocation#
151865(10)	Paddington	6,200,000	1,440,493kL	23
160697(3)	Ora Banda	400,000	153,948kL	38
167686(3)	Binduli	1,050,000	77,898kL	7

6.4.3.1 *Paddington - GWL151865(10)*

Abstraction for the 2017 review period totalled 1,440,493kL, which equates to approximately 23% of the licenced annual allocation. During the 2017 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 at Racetrack Pit within the Mount Pleasant Project Area (77% of total abstraction from the licence area). Abstraction from Racetrack Pit was conveyed to PS4 Transfer Station to be distributed to the Paddington Mill (for mineral ore processing), Homestead Underground Tanks (for mining purposes), Gould's Yard (for wash-down and workshop purposes) and Corlac Standpipe (for dust suppression purposes). Smaller volumes were abstracted from the Bullant Project Area at Bullant Underground (to provide dry mining conditions) and from San Peblo Pit (for reuse in the underground operation at Bullant). Minor volumes were abstracted for dust suppression purposes via standpipes located at Woolshed Pit, Rose Pit, Leeks Pit, Wattlebird Pit and Victory Pit.

In 2017 water level measurements were recorded in accordance with the requirements in the Paddington Operations Groundwater Operating Strategy. 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 rainfall recharge. Dissolved ion and metal concentrations recorded in 2017 were comparable to historical results.

6.4.3.2 *Ora Banda – GWL160697(3)*

Groundwater abstraction for the 2017 review period totalled 153,948kL, which equates to approximately 38% of the licenced annual allocation. During the 2017 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 recorded on a monthly basis at Enterprise Pit, Gimlet South Pit and Slippery Gimlet Pit. Enterprise Pit was actively mined and dry for most of 2017.

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 2017 were comparable to historical results.

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

Groundwater abstraction for the 2017 review period totalled 77,898kL, which equates to just 7% of the licenced annual allocation. During the 2017 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 2017 Janet Ivy/Fort William was the only active project in the licence area. Dewatering was undertaken at Janet Ivy Pit between September and November 2017 and pumped to Fort William Pit for storage. Dust suppression water was sourced from both Janet Ivy and Fort Williams Pits.

Water level measurements were recorded monthly from pits in active project areas, annually from pits in inactive project areas and quarterly from monitoring bores in accordance with the current monitoring schedule. 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). Dissolved ion and metal concentrations recorded in 2017 were comparable to historical results. Lower salinity (as TDS), ion and metal concentrations were recorded at several sites including: Ben Hur 2 Pit, Janet Ivy Pit, Fort William Pit and Wendy Gully Pit. Historical water level measurements indicate rainfall recharge at these sites following significant rainfall events.

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.
- 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:

- o Quarters Pit to Homestead U/G;
- o Homestead U/G to Quarters Pit;
- o Quarters Pit to Homestead U/G Tanks; and
- o Tuart Underground to Quarters Pit (if commissioned).

Refer to Appendix 5 for a copy of the report.

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 2016/17 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 2018 for the 2017/2018 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 2017 based on emissions for 2016/2017. 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. All data collected is stored on a database accessible from any computer within Norton's servers, and the data is record in an efficient, transparent and auditable fashion.

The below table summarises Norton's emission and energy report for the 2016/2017 financial year.

Table 21 - Emission and energy report summary for 2016/2017 financial year

GREENHOUSE GAS EMISSIONS (t CO₂-e)						
Scope 1		Scope 2			Total of Scope 1 and 2	
56,042		69,485			125,527	
ENERGY PRODUCED AND ENERGY CONSUMED (GJ)						
Energy Consumed Total	Energy Consumed Net			Energy Produced		
1,165,292	1,165,292			-		
GREENHOUSE GAS SCOPE 1 EMISSIONS BY GAS (t CO₂-e)						
Carbon Dioxide CO ₂	Methane CH ₄	Nitrous Oxide N ₂ O	Perfluorocarbons PFCs	Hydrofluorocarbons HFCs	Sulphur Hexafluoride SF ₆	Total
55,680	121	239	-	-	2	56,042

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 2017 included education on promptly reporting all spills of hydrocarbon and hypersaline water, humane euthanasia of injured or ill fauna, information on deterring bees from the workplace and a reminder of who can and how to effectively remove snakes from the workplace. Awareness posters were also displayed across all sites to enhance the knowledge of environmental management in mining.

6.6.2 Community Involvement

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

Sponsorship of community events remains a key part of Norton's proactive social responsibility. This is generally in the form of small contributions (less than \$1000) to organisations or individuals who meet sponsorship guidelines. In this, Norton seek to:

- Support community activities;
- Improve social wellbeing of disadvantaged groups;
- Obtain recognition/ engagement from target audiences;
- Support Norton staff in volunteering; and
- Promote Norton as a sustainable, safe, ethical, responsible and innovative organisation.

Historically, Norton's stated objective was \$1AUD per ounce produced into donations and sponsorship. This was reduced to \$85,000AUD in 2015 due to falling gold price but since that time has been increasing with \$118,000AUD in 2016. The budget was increased to \$190,000 in 2017, with actual expenditure of just over \$125,000.

During 2017, the following key community engagement activities supported were:

- Local sporting organisations such as Australian Rules football, pony clubs, squash, car racing, basketball and cricket. This support targeted juniors, adults and seniors to ensure improved social cohesion in a mining community that Norton is within;

- Local Aboriginal / Indigenous groups with arts, culture, health and sport. Many of the groups targeted are to assist traditional land owners with retaining their cultural identity, improve health outcomes and improve social cohesion;
- Emergency response activities - Norton, like many other mining companies value the importance of a well prepared and committed emergency response community to assist if the need ever arises;
- Not for profit groups who help the disadvantaged in the community; such as those going through cancer treatment and those needing food handouts; and
- Local government initiatives primarily aimed at young people.

The Environment Department also hosted seven school visits to site, showing students around the Paddington Mill, Panglo core yard, and Enterprise or Janet Ivy open pit operations while also discussing Processing and Geology aspects. Tours finished with trip to a waste rock dump to discuss rehabilitation and environmental issues.

Throughout 2017, the Environment Department also participated in events run by not-for-profit organisation GEMIA including 'Guys and Girls Exploring Mining Forum' and a Professional Career's Session.

Paddington supported numerous charities, events and initiatives in 2017, these are outlined in Table 22 - Norton Gold Fields Paddington Operations Community Support 2017.

Table 22 - Norton Gold Fields Paddington Operations Community Support 2017

Company/Organisation	Description
Orana Cinemas	Cinema advertising
Goldfields Children's Charity	2017 Charity Ball
GEMG	2017 GEMG AGM
Railways Football Club	2017 season sponsorship
Goldfields Children's Charity	Nickel sponsorship
Kalgoorlie District Pony Club	2017 sponsorship
Kalgoorlie Masters Football Club	Silver sponsorship
Film Harvest	Film Harvest
Blue Moon Film and Video	Seven Sisters
City of Kalgoorlie-Boulder	2017 Kidsfest sponsorship
Kals Kings Cricket Club	Sponsorship
Returned & Services League	2017 ANZAC Day sponsorship
Chamber of Minerals and Energy	2017 SMERC sponsorship
EGSRA Inc Squash	2017 PSA Squash
Goldfields Giants	Bar tab and Lions sponsorship
World's Greatest Shave	Donation – Norton Noggins
Blk International	Kalgoorlie Hawk sponsorship
Church of Christ	Christmas in the Park
City of Kalgoorlie-Boulder	Art Prize sponsorship
Goldrush Cricket Club	2017/2018 sponsorship
PCYC	PCYC Circus Quirkus
Boulder Speedway	Sign renewal
Kalgoorlie Central Playgroup	Nature Play Space
Forever Living	Sponsorship – care packs
Manolo Quaglio	2017/2018 Christmas Party
Kids N Co	Kids Christmas party
Salvation Army	Annual Christmas hampers
KBBA	Junior basketball development program
CAPS	Award sponsorship
Railways Football Club	2018 season sponsorship

6.7 Complaints Summary

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

Seven formal complaints were received in 2017 in regards to operations at Norton Gold Fields (including Bullabulling). A summary of the complaints and response is below:

1 March 2017 – Bullant.

A member of the public raised concerns about the status of a haul road between Bullant and Coolgardie North Road. In particular the complaint was concerning the physical state of the road and driving behaviours of exploration drilling company employees. Whilst this road is on Northern Star tenure, it is used by Norton and Evolution employees and contractors. The three companies have worked together to upgrade this section of the road.

All three companies continue to reinforce driver behaviour expectations with their employee and contractors.

2 March 2017 – Ora Banda

A member of the community raised concern about quad road train coming too far out into an intersection on the Ora Banda road near Enterprise. Whilst there was conjecture about if the trucks were coming too far into the intersection (video evidence didn't support the claim) the communities' perceived concern was acknowledged. Upon review of the intersection it was considered that the line of sight was impacted by some vegetation regrowth. Discussions with the City of Kalgoorlie Boulder resulted in clearing these trees from the road reserve as part of road maintenance activities.

11 July 2017 – Broad Arrow

A community member contacted Norton with concern that mining spoils may have been placed on their freehold land in Broad Arrow. The complainant indicated that they have owned the lot since 1980 but only come to Broad Arrow every 4-5 years, and thought that whilst mining had got close to their land, it was presumed it would not be on their land. Extensive review of data indicated that the Victory waste landform is on this freehold land, but that the material was placed on the land by a company in the late 1980's that had gone into receivership with the relevant mining tenement forfeited back to the State of Western Australia.

Whilst Norton has indicated willingness to assist the complainant further in dealings with DMIRS and the City of Kalgoorlie Boulder, it is considered not to be the legal responsibility of Norton.

13 July 2017 – Coolgardie

Member of the community raised concerns about sheep deaths caused by dogs from Bullabulling Pastoral. Community member sent photos of dead lambs and have made accusation that these are caused by dogs from Bullabulling pastoral property. Norton considers that the dogs are coming from Coolgardie and travelling through the country, including land controlled by other parties. Norton also considers that it meets its feral dog obligations with a contract dog control contractor on site between two

and four days per month. However, as part of Norton's good neighbour process it was agreed to fund 50% of a dog proof fence in the area of concern.

13 September 2017 – Broad Arrow

Complaint by the community member regarding dust from the Mulgarrie Road, apparently from hauling road base from Golden Cities to Bullant. Norton had one quad road train working in the area on the day in question. The Mulgarrie Road is a public road vested with the City of Kalgoorlie Boulder.

Notwithstanding the above, Norton is keen to increase road transport in this area and is working with local residents to minimise the potential impact of dust and noise. To that end approximately 1,000 native trees and shrubs have been planted in a green belt with members of the local community provided access to free fresh water to improve chance of survival. To date, 90% of these plantings have survived.

29 November 2017 – Broad Arrow to Mulgarrie

A local prospector complained about baseline environmental surveys being undertaken beside the Broad Arrow to Mulgarrie Road. Flora, Fauna and Aboriginal Heritage surveys had been undertaken in an area that they considered close proximity to their camp. Norton apologised for any inconvenience and has opened up lines of communication with this prospector.

10 December 2017 – Janet Ivy

A member of the public was accessing the Janet Ivy mine site for water and ice. Whilst the member of the public acknowledges they did not have permission to be in this area, they considered that unreasonable aggression was used to get them to leave the site. Norton investigated this claim and found no evidence to support.

Norton has had significant numbers of thefts and unauthorised access into this area (including around heavy mining equipment), and encourages supervisors and employees to be assertive when asking the public to leave an active mining area. Members of the public are welcome to come to reception areas in mining operations and ask for assistance, but not into active mining areas, workshops or offices.

6.8 ENVIRONMENTAL MANAGEMENT SYSTEM

DMIRS 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 in 2016 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 2018 reporting period.

A number of procedures and management plans were drafted and finalised, or revised and updated in 2017. Some of these included:

- Mined Waste Management Plan;
- Groundwater Management Plan;
- Surface Water Management Plan;
- Environmental Hazardous Substances Management Plan;
- Tailings Management Plan;
- Surface and Groundwater Monitoring Procedure;
- Bushfire Management Plan; and
- Groundwater Operating Strategy.

Further procedures and management plans will continue to be revised and updated throughout 2018 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. This trench was utilised for the 2017 reporting period.

6.9.2 Hydrocarbons

The management of hydrocarbon waste is an important part of 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, Paddington, Janet Ivy, 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 23 – Hydrocarbon Waste Recycled at Norton's Paddington Operations 2017.

Table 23 – Hydrocarbon Waste Recycled at Norton's Paddington Operations 2017

Site	Waste Oil and Coolant (L)	Oily Water (L)	Hydrocarbon bin	Oil Filter Bin
Paddington Mill	29,300	24,600	15	-
Bullant	35,400	28,000	14	-
Homestead	11,700	-	4	-
Janet Ivy	30,900	-	6	1
Enterprise	110,150	-	13	15

Numerous hydrocarbon spill response kits are located around workshops and near fuel bays at Paddington Mill, Janet Ivy, Enterprise, Bullant, and Homestead Underground, and also at active standpipes and generators. 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, Bullant and Homestead Underground and have continued to be used to effectively dispose of hydrocarbon contaminated soil. The biopads have been constructed in accordance with DWER 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 biopads are sprayed routinely 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 2017 reporting period, Paddington continued its recycling services for waste management across all of site. Paddington Administration, Homestead Underground, Janet Ivy, Enterprise and Bullant sites had recycling stations assigned and set up. 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 deferred a majority of the rehabilitation planned in the fourth year of a five year rehabilitation and remediation plan established in consultation with the DMIRS in 2014. A rolling five year plan will be established during 2018 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 24 - 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	Completed
	Racetrack WRD erosion minimisation works	Moderate	Completed
Ora Banda TSF*	High	Completed	
3 (2016)	Enterprise progressive rehabilitation	High	Ongoing
	Fort Scott WRD	High	Completed
	Janet Ivy upper lift	High	Completed
	Racetrack West progressive rehabilitation	High	Completed
	Quarters 040 progressive rehabilitation**	Moderate	Ongoing
4 (2017)	Black Lady TSF	High	To be deferred
	Miscellaneous abandonment bunds	Low	Not started
	Enterprise progressive rehabilitation	High	Ongoing
	Racetrack West progressive rehabilitation*	High	Ongoing
5 (2018)	Quarters WRD – complete battering & topsoil	Mod	Started
	Enterprise progressive rehabilitation	High	Ongoing
	Baseline In-pit TSF*	Moderate	Not started
	Mt Pleasant TSF6*	Moderate	To be deferred

*project timeframe re-allocated from the original plan

**project added to the five year plan

Rehabilitation has not commenced on the Baseline in-pit TSF but is budgeted to begin in 2018. The Black Lady and Mt Pleasant TSF6 projects are to be deferred from the five year plan as economic resources of gold are considered to be in or under these facilities. These projects will be re-allocated to a later timeframe to maximise materials movement efficiencies in line with the LOM.

A revision of costs associated with rehabilitation tasks and closure tasks was conducted over the 2016 and 2017 period and 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. This revised cost model has enabled better budget planning processes such that the Baseline in-pit TSF is considered highly likely to be achievable in the 2018 calendar year.

During the year, progressive rehabilitation occurred on the Racetrack West waste rock dump and on the Enterprise waste rock dump. The Enterprise facility underwent additional approvals in 2017 that has seen substantial redesign of the facility which has essentially meant that earlier preliminary earthworks are required to be re-done. The design has been modified from a 20m bench/ 10m berm design to a concave slope up 80m in height going from 15deg down to 12deg. The design also calls for a shallow 0.5m NAF layer of gabbro meaning that the pushing of material occurs in three passes (pre Gabbro, post Gabbro and post topsoil). As of the end of Dec 2017, about 50% of the external face has been battered down. The implementation of this re-design will enable effective management of PAF materials as well as drainage across the landform.



Figure 11 - Progressive rehabilitation of the Racetrack West waste rock dump, ongoing

The Janet Ivy East waste rock dump commenced formation during 2017 and battering has already progressively commenced. The upper lift on the Janet Ivy West waste rock dump was also reopened, after being seeded 12 months earlier, to enable expansion of the facility. Progressive shaping of these two landforms will enable final rehabilitation to be completed promptly at the completion of this stage of mining.

Seeding with native vegetation occurred on the Ora Banda TSF, Fort Scott and Wattlebird waste rock dumps during 2017. This area of 90.8ha is showing early germination, indicating encouraging results at this stage.



Figure 12 - Fort Scott waste dump rehabilitation showing good vegetation growth as of January 2018

Remedial rehabilitation works were undertaken on the Paddington TSF3, Ora Banda TSF2, Natal WRD1 and Racetrack South predominantly associated with rock armouring weak points in the facilities.



Figure 14 - Establishment of rock drains in erosion gullies on Paddington TSF 3



Figure 13 - Establishment and progress of recently seeded Natal 2 waste rock dump

7.1.1 Exploration and Rehabilitation

Drill holes from recent Norton's Paddington Operations exploration programs were rehabilitated to DMIRS 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 DMIRS standards. 5.7ha of exploration has been rehabilitated during 2017.

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).

MCPs have been submitted for Lady Bountiful Area in August 2014 with triennially reviewed and reassessed Paddington and Mount Pleasant submitted in March 2016. All were approved in 2017.

No MCPs were submitted for review in 2017.

Table 25 - 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	12/04/2017
Paddington	29/03/2016	05/04/2017
Lady Bountiful	15/08/2014	22/03/2017

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 disturbances on Norton's tenement package was initiated in late 2016 by an external consultant and continued throughout 2017. This process involved taking advantage of advances in more recent technology, with a subsequent audit of AER and MRF data completed for all project areas. Environmental Department staff must undertake review of the datasets to ensure accuracy and

consistency prior to updating into the LandManager database, which includes verification in the field of the data capture.

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 in the future to reflect these changes, and reviewed to ensure the program is still meeting the needs for efficient and accurate annual reporting to required agencies.

By December 2017, the following datasets were deemed complete and therefore able to be used for this AER reporting;

- Ora Banda;
- Golden Cities; and
- Paddington.

It is anticipated all project areas will be complete by June 2017 and therefore, the next MRF and AER report periods.

Methods of updating the data into LandManager are under investigation as the program may need to be re-designed to sufficiently capture the information under a new information storage format.

7.2.2 Research and Trials

No independent research or trials were conducted in 2017.

7.2.3 Future Research and Trials

Norton 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.

8 FUTURE WORK PROGRAMME

In general terms the program for 2018 is outlined below.

8.1 MINING

Currently the mining plan for 2018 includes:

- Continued mining of the Enterprise open cut mine throughout 2018;
- Continued mining of the Janet Ivy deposit, expected to be completed in 2018;
- Continued mining at Bullant;
- Small scale mining of remaining resources at Homestead Underground;
- Further exploration and resource definition at Tuart Underground;
- Possible open cut mining at Castle Hill pending Right to Mine agreement and relevant approvals;
- Possible open cut mining at Golden Cities pending further feasibility; and
- Continue processing operations at the Paddington Mill for the full year.

8.2 PROCESSING

Tailings from the Paddington Mill will continue to be deposited into the 2009 approved Paddington 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 and Leeks 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.

A groundwater modelling and seepage investigation is ongoing to seek approval to increase the current remaining deposition level in the Paddington in-pit TSF, increasing remaining years of operation. Currently, approvals allow the tailings level to reach the 331RL (32m below the crest of the pit) which will take approximately five years at the current rate of deposition.

8.3 REHABILITATION

Rehabilitation objectives for the next 12 months include progressive rehabilitation for both the Enterprise waste landform and Janet Ivy waste landforms. 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 2018.

8.4 EXPLORATION

RC & DD Drilling

The planned expenditure for the Geology/Exploration Budget for 2018 is approximately \$10M. The exploration and resource development programs for the 2018 reporting period will focus on resource to reserve conversion and resource definition as well as exploration targets. This drilling includes:

Surface Drilling

- Tuart 060 (underground targets drilled from atop the Tuart TSF);
- Bullant Super South (underground targets drilled from surface);
- Tuart 115 (underground target drilled from surface);
- Havana-Suva (resource definition);
- Mulgarrie (resource definition);
- Bullabulling (resource and exploration targets); and
- Mulgarrie/Mt Jewell (exploration targets).

Underground Drilling

- Tuart-Pattenden (part of Tuart 060 load); and
- Bullant UG – East Lode.

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 2018.

These include:

- Continue to update Annual Environmental Report to DMIRS guidelines;

- Continue liaising with DMIRS and begin drafting of all Environmental Group Site areas under 2016 guidelines for preparing mining proposals;
- Complete update GIS disturbance layer for all Environmental Group Sites, 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 and rehabilitation monitoring, i.e. drone technology;
- Continuing rehabilitation activities; and
- Continuing review and implementation of the Environmental Management System to a level consistent with ISO14001.

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