

Appendix L – Dust Impact Assessment (GHD 2019e)

Talison Lithium Australia Pty Ltd

Greenbushes Lithium Mine Expansion

Dust Impact Assessment

January 2019



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Abbreviations and glossary

Abbreviation	Term
AAQ NEPM	<i>National Environment Protection (Ambient Air Quality) Measure</i>
BoM	Bureau of Meteorology
BWIP	Building Wake Input Program
CGP	Chemical Grade Plant
DWER	Department of Water and Environmental Regulation
g/m ² /month	Grams per square metre per month
GHD	GHD Pty Ltd
Ktpa	Kilo tonnes per annum
Mtpa	Million tonnes per annum
NEPC	National Environment Protection Council
PM ₁₀	Particulate matter with an aerodynamic diameter less than 10 micrometres
SEPP-AQM	<i>State Environment Protection Policy (Air Quality Management)</i>
SWWA	South-West Western Australia
TEOM	Tapered element oscillating microbalance
Talison	Talison Lithium Australia Pty Ltd
TGP	Technical Grade Plant
TSF	Tailings storage facility
TSP	Total suspended particulates
µg/m ³	Micrograms per cubic metre
WRL	Waste Rock Landform

1. Introduction

1.1 Project description

Talison Lithium Australia Pty Ltd (Talison) own and operate the Talison Greenbushes Lithium Mine (the Project), in Greenbushes, Western Australia. The mine is located within the Shire of Bridgetown – Greenbushes immediately south of the Greenbushes town site, approximately 250 km south of Perth and 80 km south-east of Bunbury in Western Australia (Figure 1-1).

Talison is proposing to expand the existing Project to increase the production of spodumene ore and lithium mineral concentrate from the operation. The expansion will increase throughput at the Mine from the current approved production rate of 4.7 Mtpa to 9.5 Mtpa of spodumene ore to produce up to 2.3 Mtpa of lithium mineral concentrate. The approved boundary for the mining operation (Mine Development Envelope) will expand from the current 1591 ha area to 1989 ha.

This Dust Impact Assessment has been undertaken to support environmental approval applications for the proposed expansion under Parts IV and V of the WA *Environmental Protection Act 1986* (EP Act) and the *Mining Act 1978*.



Figure 1-1 Location of Talison Greenbushes Lithium Mine, Western Australia

1.2 Scope of works

GHD Pty Ltd (GHD) was commissioned by Talison to quantify current dust impacts and develop an air dispersion model. The scope of works for the dust impact assessment included:

- A desktop review of nearby sensitive receptors, meteorological data and air quality monitoring data.
- Generation of an emissions inventory to determine onsite emission modelling rates for TSP and PM₁₀ for the expansion project only. Emissions from the existing mine and processing facilities will be characterised using dust monitoring undertaken at the site.

- Development of site representative meteorological data for air dispersion modelling purposes.
- Air dispersion modelling for the expansion project for the operating year with the highest estimated dust emissions.
- Assessment of predicted ground level concentrations (GLCs) from air dispersion modelling against relevant air quality criteria to determine impacts as a result of the expansion project incrementally and cumulatively with the existing mine and processing facilities.
- Provide a dust management framework with abatement measures for the expansion project to reduce dust impacts at nearby sensitive receptors.

1.3 Limitations

This report has been prepared by GHD for Talison Lithium Australia Pty Ltd and may only be used and relied on by Talison Lithium Australia Pty Ltd for the purpose agreed between GHD and the Talison Lithium Australia Pty Ltd as set out Section 1.2 of this report.

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2. Project overview

2.1 Project background

The Mine is located within the Shire of Bridgetown – Greenbushes immediately south of the Greenbushes town site, approximately 250 km south of Perth and 80 km south-east of Bunbury in Western Australia (Figure 1-1).

The Greenbushes region is the longest continuously operated mining area in WA, when the mining of tin commenced in 1888. Since 1888, tin, tantalum and lithium have been mined. The current Mine has been operated as a modern open cut, hard rock operation on a continuous basis since 1983, with both tantalum and spodumene (lithium) ores being extracted and processed.

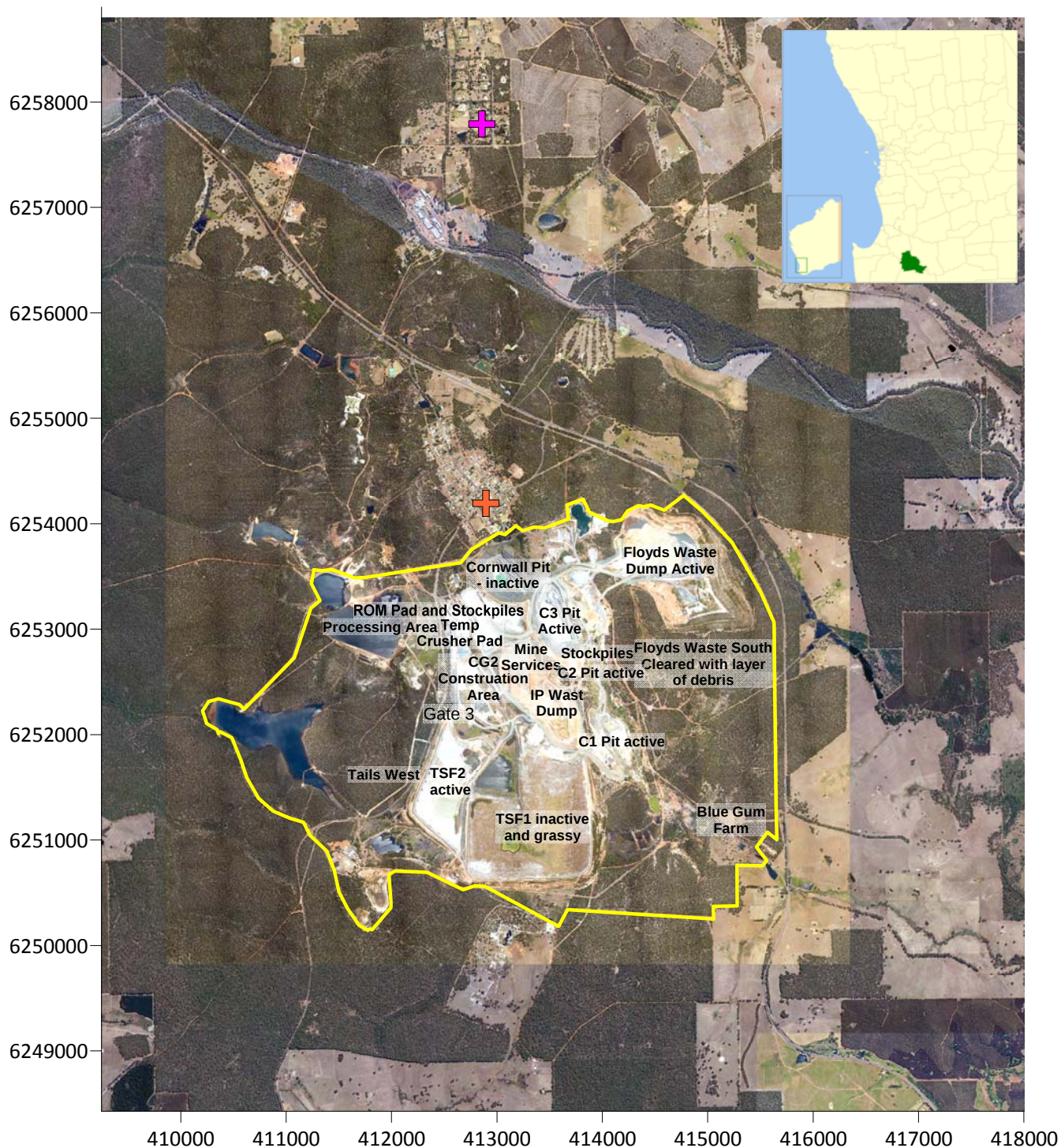
Currently there are two processing plants at the Mine, with an approved production rate of 4.7 Mtpa of spodumene ore.

Spodumene ore is mined from three existing pits. Mining consists of traditional drill and blast method within an open cut mine, and includes the stockpiling of ore. Waste rock is trucked to a designated area, Floyds Waste Rock Landform (WRL).

Progressive rehabilitation of the WRL is undertaken as part of the site annual rehabilitation program. Spodumene ore is trucked to one of two existing processing plants for treatment, the Technical Grade Plant (TGP) or the Chemical Grade Plant (CGP1), to produce lithium mineral concentrate. A second chemical grade plant, CGP2, is currently under construction at the Project and is expected to commence operation in 2019.

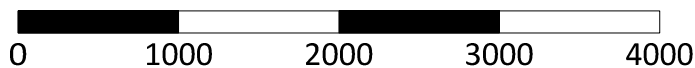
Currently, tailings resulting from processing of spodumene ore are transferred to the Tailings Storage Facility (TSF2) located south of the processing plants. The TSF is operated as a sub-aerial deposition storage. There is also an additional tailings facility, TSF1, which is currently inactive but use of this facility will recommence as part of the mine expansion.

The current site layout is shown in Figure 2-1.



Legend

-  Existing mine boundary
-  Greenbushes Township
-  Greenbushes North



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TALISON GREENBUSHES DUST IMPACT ASSESSMENT
AIR QUALITY IMPACT ASSESSMENT

Existing site layout

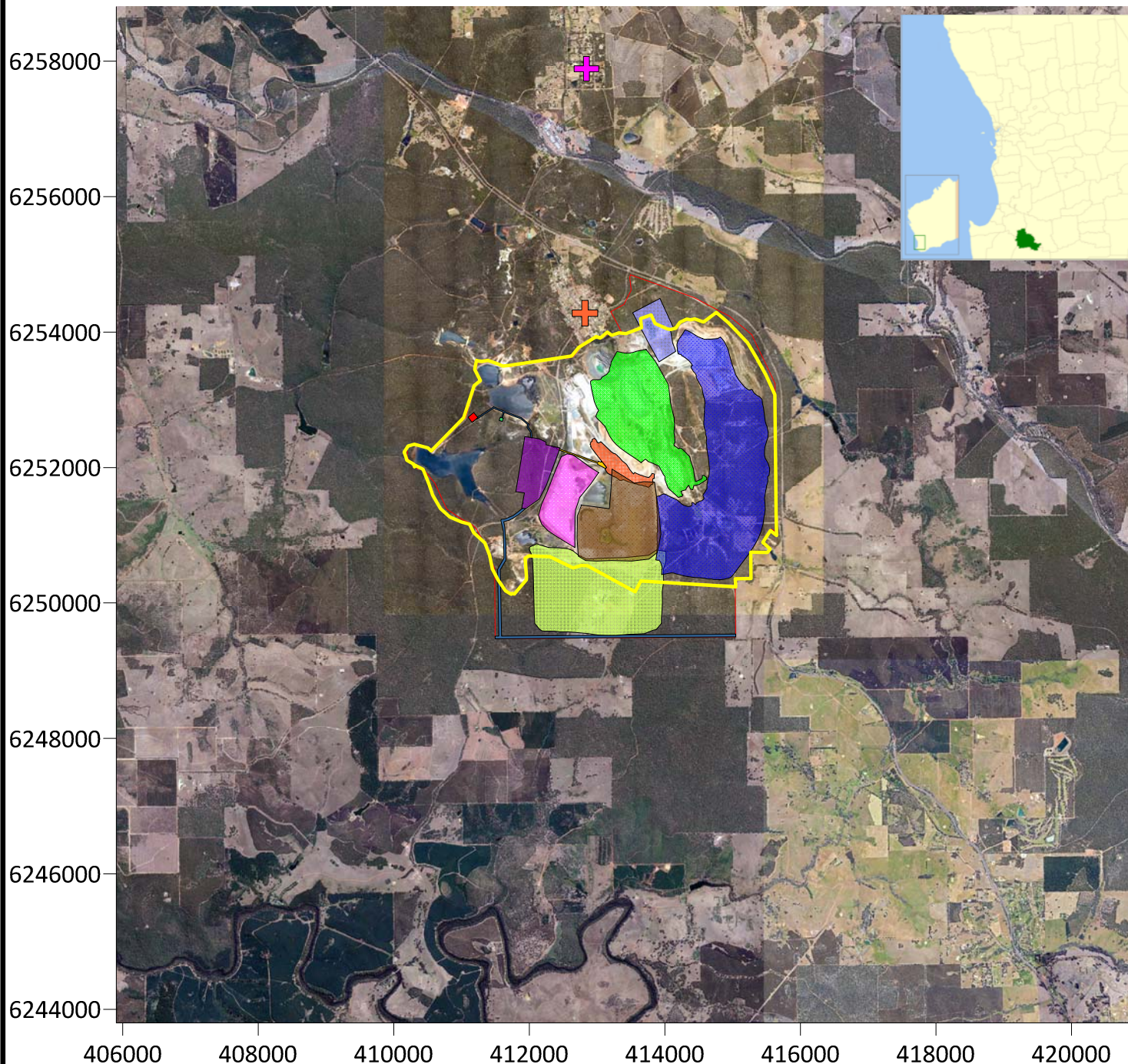
FIGURE 2-1

2.2 Project expansion

The expansion will increase throughput at the Mine from the current approved production rate of 4.7 Mtpa to 9.5 Mtpa of spodumene ore to produce up to 2.3 Mtpa of lithium mineral concentrate. Lithium mineral concentrate from the Mine is currently, and will continue to be, transported to the Port's of Bunbury and Fremantle for export. The expansion will result in increased supply of lithium mineral concentration which will be transported to the Tianqi Lithium Process Plant under construction in Kwinana, and the Albemarle Lithium Process Plant proposed for construction in the Kemerton Strategic Industrial Area north of Bunbury.

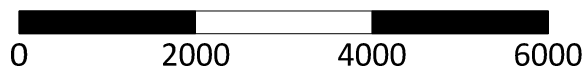
The approved boundary for the mining operation (Mine Development Envelope) will expand from the current 1591 ha area to 1889 ha. The expansion will involve the merging and expansion of three existing open pits, extension of the Floyds WRL, development of additional water catchment dams within the Floyd's WRL catchment, establishment of a new TSF4 to accommodate increased tailings production, and construction and operation of new infrastructure including a new Mine Services Area, explosive storage facilities, a new crushing circuit and three new CGPs (CGP3, CGP4 and a Tailings Retreatment Plant (TRP)).

A general layout of the proposed expansion to the Project is shown in Figure 2-2.



Legend

- | | |
|--------------------------------|--------------------|
| TSF2 | TSF1 |
| Explosives Batch Facility | Mine Services Area |
| Magazine | Magazine |
| Pit LOM 3 Plants | Floyds Waste Dump |
| CPG3 & 4 | Conveyor |
| Proposed mine boundary | Run of Mine |
| Existing mine boundary | TSF4 |
| Greenbushes Township | |
| Greenbushes North | |
| Linear Infrastructure Corridor | |



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AIR QUALITY IMPACT ASSESSMENT

Proposed mine expansion site layout

FIGURE 2-2



3. Emission sources

This section summarises the predominant sources, typical release types and major dust emissions from the proposed expansion. The emissions have been divided into construction and operational impacts.

3.1 Types of dust emissions

The majority of airborne particulates from the site are likely to be visible dust (TSP), with a low proportion of fine particulates. This is confirmed by site dust monitoring activities.

Emissions from the site operations are generated primarily from mining and process activities. The main pollutant of concern is dust and to a lesser extent emissions associated with the combustion of diesel fuel in mobile equipment. Emissions from site related activities comprises of the following dust particulate sizes:

- Total suspended particulates - particulates with an aerodynamic diameter less than 90 µm
- PM₁₀ - particulates with an aerodynamic diameter less than 10 µm
- Deposited dust

3.2 Construction emissions

Emissions during construction include fugitive dust emissions from wind erosion, vehicle generated dust and minor emissions from fuel combustion from construction equipment and vehicles. Emissions occurring as a result of construction work include:

- Topsoil removal and vegetation clearing to expand the pits
- Construction of TSF4 and WRL

Installation and building of new TSF4, Mine Services Area, explosive storage facilities, a new crushing circuit and two new CGPs. Generally, construction emissions associated with the expansion of the mine are variable and have a short-term nature, and it would be anticipated that the impact from construction to dust emissions would not be significant.

3.3 Operational emissions

The majority of dust from mining activities consists of coarse particles (around 40%) and particles larger than PM₁₀, generated from natural activities such as mechanical disturbance of rock and soil materials by blasting and drilling, dozing, excavation, loading and dumping, and trucks on haul roads. A small amount of dust emissions can be associated with crushing and processing. Dust is also generated when wind blows over bare ground and different types of stockpiles. The potentially significant sources of airborne particulates from the site have been assessed as being:

- Dust from drilling and blasting of the expanded pit
- Dust from excavation and dozing in the expanded pit and expansion of Floyds waste rock landform
- Dust from loading and dumping of spodumene ore product at the new pit and the additional run of mine (ROM). To a lesser extent, loading and dumping of spodumene ore at the new processing plants would also cause dust emissions.
- Dust from additional crushing and conveying activities
- Wind erosion dust from both the new TSF4 and the existing TSF1 and TSF2.

- Wind erosion dust from the expanded WRL
- Wind erosion dust from the exposed expanded mining pit
- Wind erosion dust from additional stockpiles (ROM, crushed ore and finished goods)
- Wind erosion dust lift off from new haul roads and internal roads resulting from light vehicle and heavy vehicle traffic

4. Air quality criteria

The impact of airborne particles as a result of mining operations are assessed by comparing air quality monitoring data or model estimates to appropriate criteria. The criteria referred to in this report are referenced from:

- *National Environment Protection (Ambient Air Quality) Measure (AAQ NEPM)*, National Environment Protection Council (NEPC)
- *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999* (Kwinana), WA EPA
- *State Environment Protection Policy (Air Quality Management) (SEPP-AQM)*, EPA Victoria (2002)
- *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (Approved Methods), NSW EPA (2005)
- Licence conditions set out in Licence Number L4247/1991/13

Air quality impacts have been assessed both at an incremental and cumulative level (signal from mine plus background) to the respective guideline.

4.1 Assessment criteria

The AAQ NEPM was developed to provide benchmark standards for ambient air quality to ensure all Australians have protection from the potential health effects of air pollution. AAQ NEPM standards have been developed for carbon monoxide, nitrogen dioxide, photochemical oxidants (ozone), sulphur dioxide, lead and particulate matter (NEPC, 1998), however as the main pollutants of concern for this assessment are particulates, AAQ NEPM standards for particulate matter only will be shown (Table 4-1).

The AAQ NEPM does not outline any 1-hour PM₁₀ criteria, TSP or monthly deposition criteria. Accordingly, the *State Environment Protection Policy (Air Quality Management)* (EPA Victoria, 2002) *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999* (EPA WA) and *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (NSW EPA, 2005) have been used for this assessment.

These three additional guidelines set limits for criteria as indicated in Table 4-1.

Table 4-1 Criteria for ambient air quality

Pollutant	Averaging period	Maximum allowable concentration	Guideline
TSP	24-hour	90 µg/m ³	Kwinana
	Annual	90 µg/m ³	Approved Methods
PM ₁₀	1-hour (99.9 th percentile)	80 µg/m ³	SEPP-AQM
	24-hour	50 µg/m ³	AAQ NEPM
	Annual	25 µg/m ³	AAQ NEPM
Deposited dust	Maximum increase	2 g/m ² /month	Approved Methods
	Maximum total	4 g/m ² /month	Approved Methods

4.2 Ambient Air Quality Monitoring Conditions

Condition 3.4.1 of Talison's current operational licence issued under Part V of the EP Act (L4247/1991/13) requires that ambient air quality monitoring is carried out at a specified monitoring location. The condition requirements are provided in Table 4-2, and the location of the dust monitor is shown in Figure 5-8.

Table 4-2 Required monitoring of ambient air quality for Licence Number L4247/1991/13

Parameter	Averaging period	Maximum allowable concentration	Method
PM ₁₀	24 hours	90 µg/m ³	Talison Lithium Environmental Procedure ENV 2010: Air quality monitoring – High volume sampler

5. Existing environment

5.1 Topography and land use

The Mine is located predominantly within the Greenbushes State Forest with a small area located on private property (rural). The surrounding area includes areas of native vegetation interspersed with historical and current mining operations, townsites, farmland, water storages, plantations, power infrastructure and roads. The mine is immediately south of the town of Greenbushes with the closest residences located approximately 100 m from the inactive Cornwall Pit. A Sound Wall (bund) is located between the town and mine. Current primary land uses within the Mine Development Envelope are for mining, agriculture, conservation and forestry (State Forest) and water catchment.

The Mine is located at a high point of the Darling Plateau. The Plateau is characterised as an expansive undulating landscape with green forest vegetation and occasional rocky outcrops and peaks. The open pits are located along a ridgeline at approximately 300 m AHD which runs from the Greenbushes town site to the south east. Development of the pits will continue along the ridge line for the expansion of the Mine.

Floyds WRL is located on an east facing hill slope between the open pits and the South Western Highway. The WRL acts as a buffer to receptors to the east of the Mine.

5.2 Climate and meteorology

The Mine is located within the South West of Western Australia (SWWA) which experiences a climate which is typically Mediterranean, characterised by hot, dry summers and mild, wet winters (Morgan, 2012). Climate data from the Bridgetown weather station (located approximately 13 km south-east of the Project) are available from the Bureau of Meteorology (BoM) for the years 1998 to 2018 (BoM, 2018).

On average, the maximum temperature at Bridgetown ranges from 16°C to 30°C, with the maximum recording reaching 41°C. The average minimum temperature ranges from 5°C to 14°C. Figure 5-1 shows annual temperatures recorded at Bridgetown.

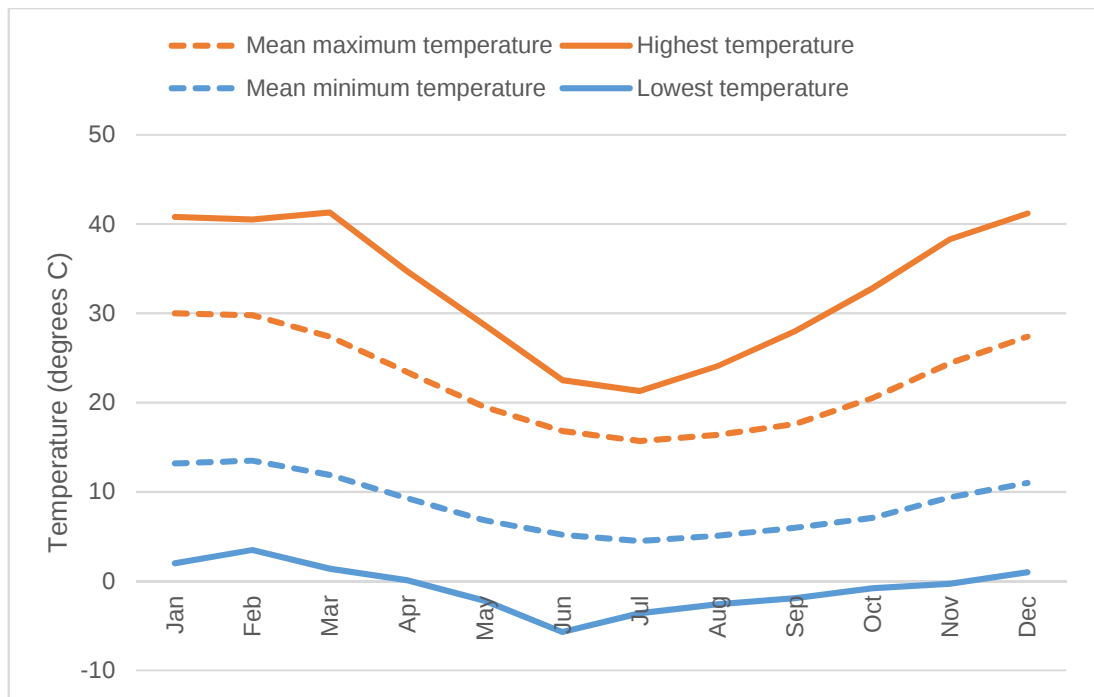


Figure 5-1 Temperature observations for Bridgetown, for years 1998 to 2018

Annual mean rainfall at the station is 721 mm, peaking in winter, with a maximum monthly mean of 128 mm during July. The lowest monthly mean rainfall is recorded in February with 12 mm. On average, the number of rain days per year is 156. Monthly rainfall observations for Bridgetown are shown in Figure 5-2.

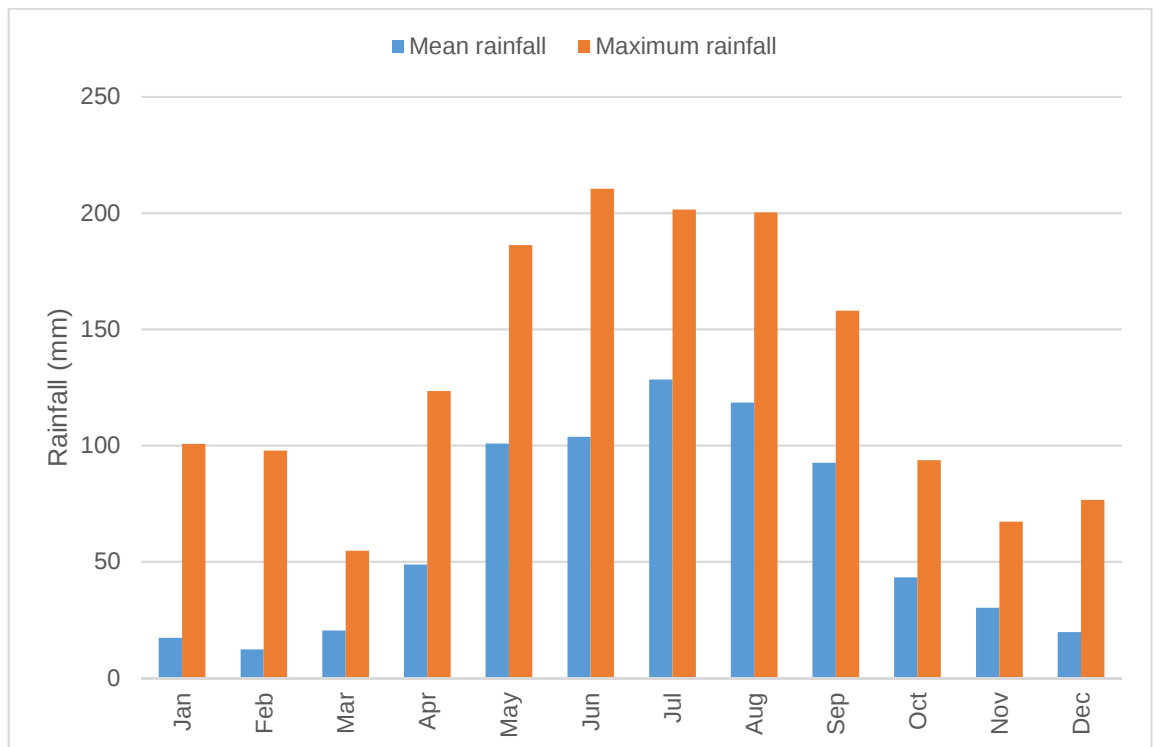


Figure 5-2 Rainfall observations for Bridgetown, for years 1998 to 2018

In Bridgetown, relative humidity peaks in winter during July and declines in summer, reflecting the dry climate of the SSWA region in the summer months. Minimum relative humidity occurs during December to February. 9:00 am and 3:00 pm relative humidity are shown in Figure 5-3.

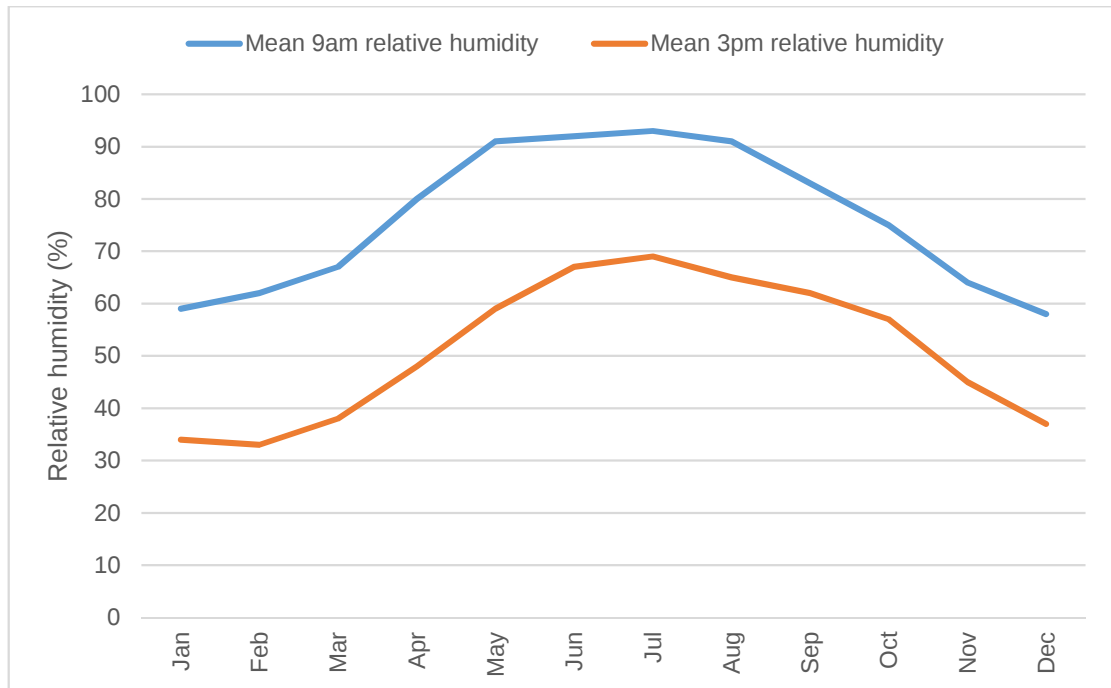


Figure 5-3 Mean relative humidity for Bridgetown, for years 1998 to 2010

Bridgetown is subject to mild variable winds with south-east winds dominating in the morning, and either south or north-westerly winds dominating in the afternoon.

5.3 Air quality

5.3.1 Existing emissions

It is useful to examine existing air quality to provide a general description and understanding of the current local airshed as a result of current mine operations and other contributing sources.

Regional dust sources in the local airshed of the site are:

- Mechanical land disturbance from surrounding pastoral properties;
- Vehicle movement along unsealed roads;
- Burning and incineration (e.g.. backyard burning, residential wood fired heaters, prescribed burns and wildfires); and
- Emissions from the existing Mine, including wind erosion from the TSF1, TSF2, Floyds WRL, existing pits, stockpiles and haul roads. Other dust sources to a smaller extent include blasting, crushing, conveyors and loading/unloading activities.

5.3.2 Project dust monitoring

PM₁₀ is monitored by a permanent high volume dust monitor (HiVol), located at the north end of the site, shown on Figure 5-8.

Figure 5-4 shows the daily (24- hour average) concentrations of PM₁₀ recorded using the HiVol between 2013 and 2018. Occasional exceedances of 50 µg/m³ at this location have been recorded at the monitoring location but these have been associated with smoke resulting from burning in the region, or unrelated construction/earthworks activities occurring in proximity to the

dust monitor. No exceedances of the operating licence limit of $90 \mu\text{g}/\text{m}^3$ PM_{10} (refer to Section 4.2) have occurred.

Table 5-1 shows the circumstances surrounding concentrations above $50 \mu\text{g}/\text{m}^3$.

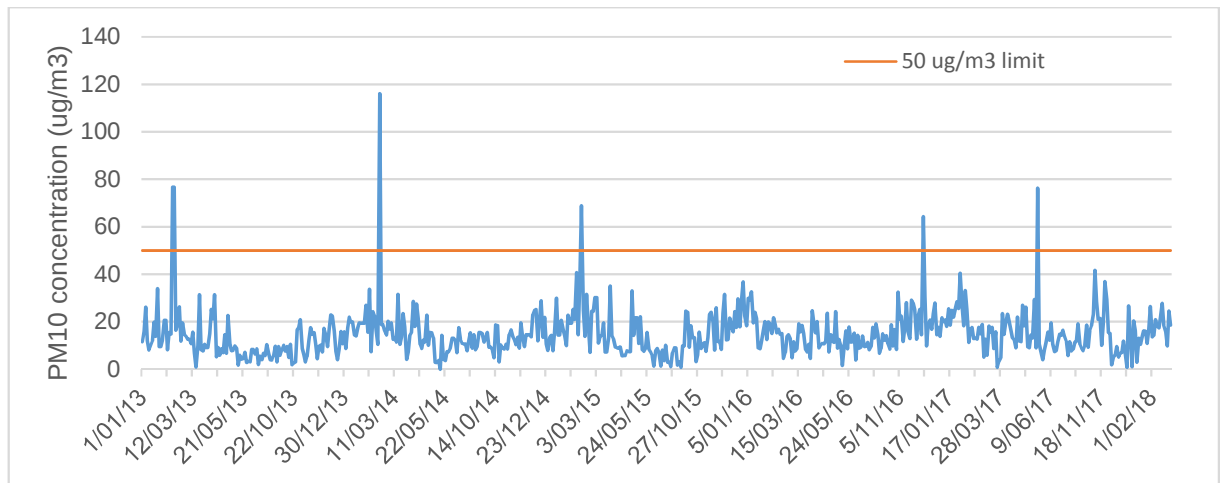


Figure 5-4 Daily time series PM_{10} concentrations recorded by the HiVol for years 2013 to 2018

Figure 5-5 shows the hourly averaged concentrations of PM_{10} recorded using the TEOM between July 2015 and June 2016 (this is the meteorological modelled year, discussed further in Section 6. Several exceedances of the $80 \mu\text{g}/\text{m}^3$ occur throughout the year

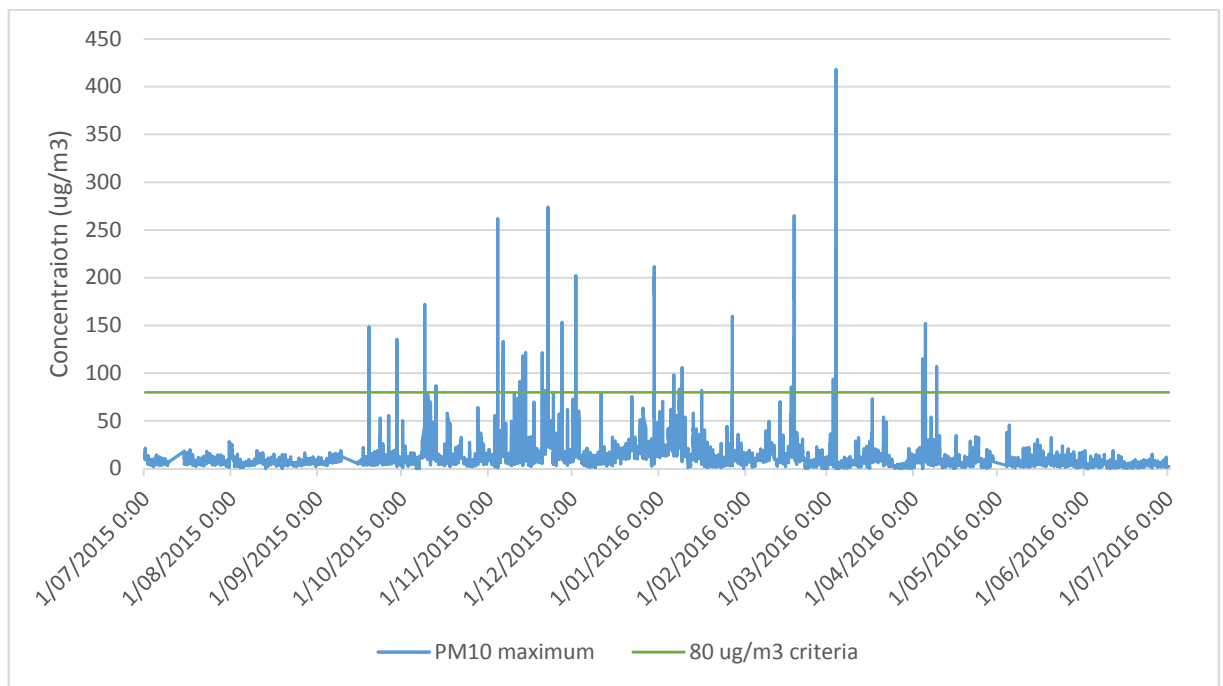


Figure 5-5 Hourly time series PM_{10} concentrations for the 2015-2016 modelling year recorded by the TEOM

Table 5-1 Explanations for concentrations over 50 µg/m³

Date	Concentration (µg/m³)	Explanation
12 February 2013	77	Southampton bushfire
14 February 2013	77	Southampton bushfire
18 February 2014	117	Water Corporation dozer clearing alongside dust monitor
10 February 2015	69	Northcliffe and Boddington bushfire
8 December 2016	64	Smoke
18 May 2017	76	Prescribed burning at Maranup Ford Road

5.3.3 TSP concentration

TSP monitoring was conducted at the site using a HiVol from December 1998 to June 2001, thus a five year review of TSP levels cannot be conducted. The HiVol is shown in Figure 5-8.

Where TSP data are available, paired datasets (i.e. days only considering both measurements) of TSP and PM₁₀ can be used to assess the PM₁₀ to TSP concentration ratio, which can then be used to calculate a TSP concentration where TSP data is unavailable but measurements of PM₁₀ exist. Measured values of TSP and PM₁₀ are shown in Figure 5-6 as paired datasets for the period December 1998 to June 2001. Both dust pollutants show a similar trend in varying concentrations.

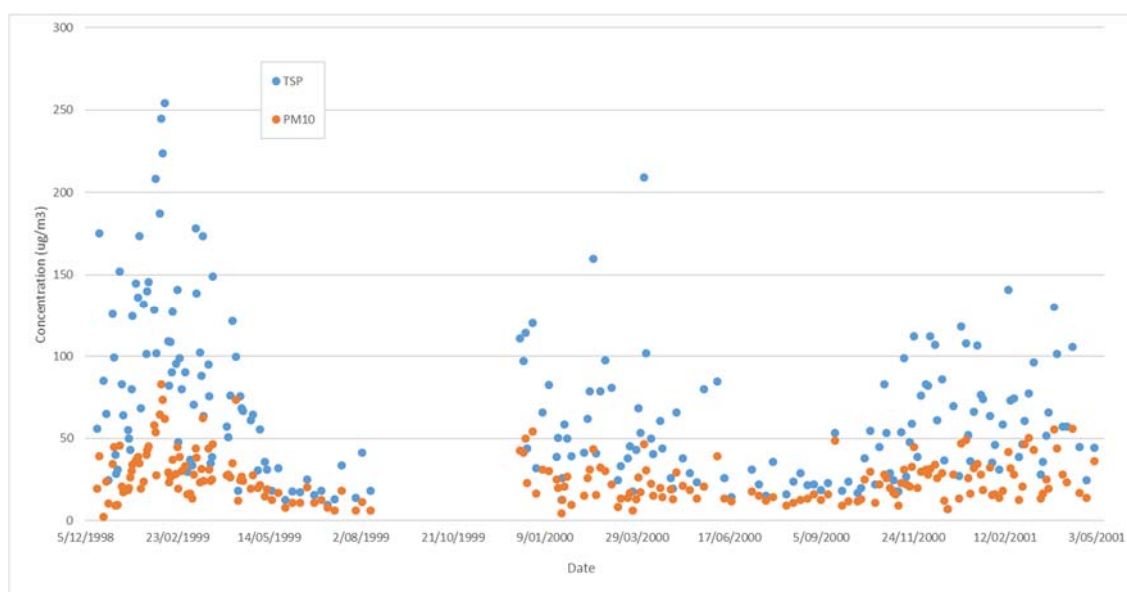


Figure 5-6 24-hour average time series PM₁₀ and TSP concentrations recorded by the HiVol for December 1998 to June 2001.

For further analysis, a quantile-quantile plot (Q-Q plot) can be undertaken to assess how closely TSP and PM₁₀ fit a common particle concentration distribution. A Q-Q plot PM₁₀ and TSP concentration distribution is shown in Figure 5-7. The points in the Q-Q plot are strongly positioned just above the diagonal (1:2 line), indicating a strong relationship between PM₁₀ and TSP.

Overall, the PM₁₀ particle size mass fraction is in the order of 40% of the recorded TSP mass between December 1998 and June 2001.

On this basis, and in the absence of site-specific monitoring data for TSP between 2013 and 2018, TSP concentrations will be derived from PM₁₀ concentrations recorded from the HiVol for the period 2013 to 2018.

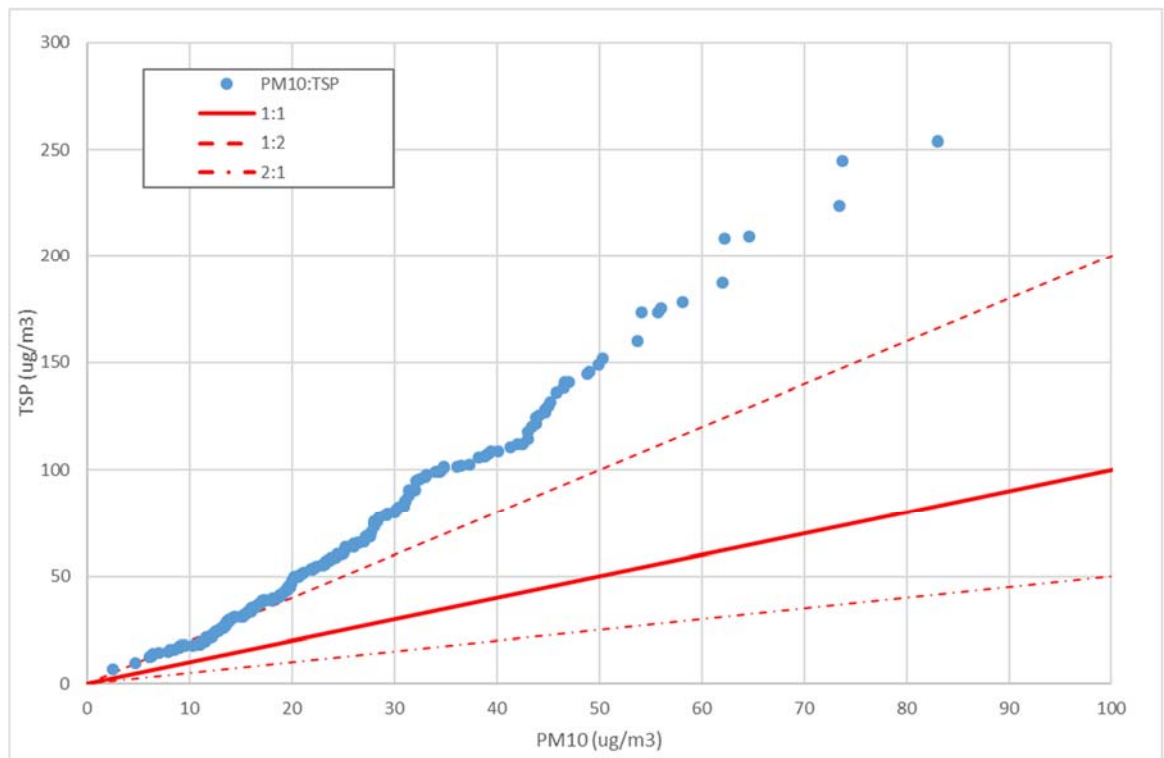


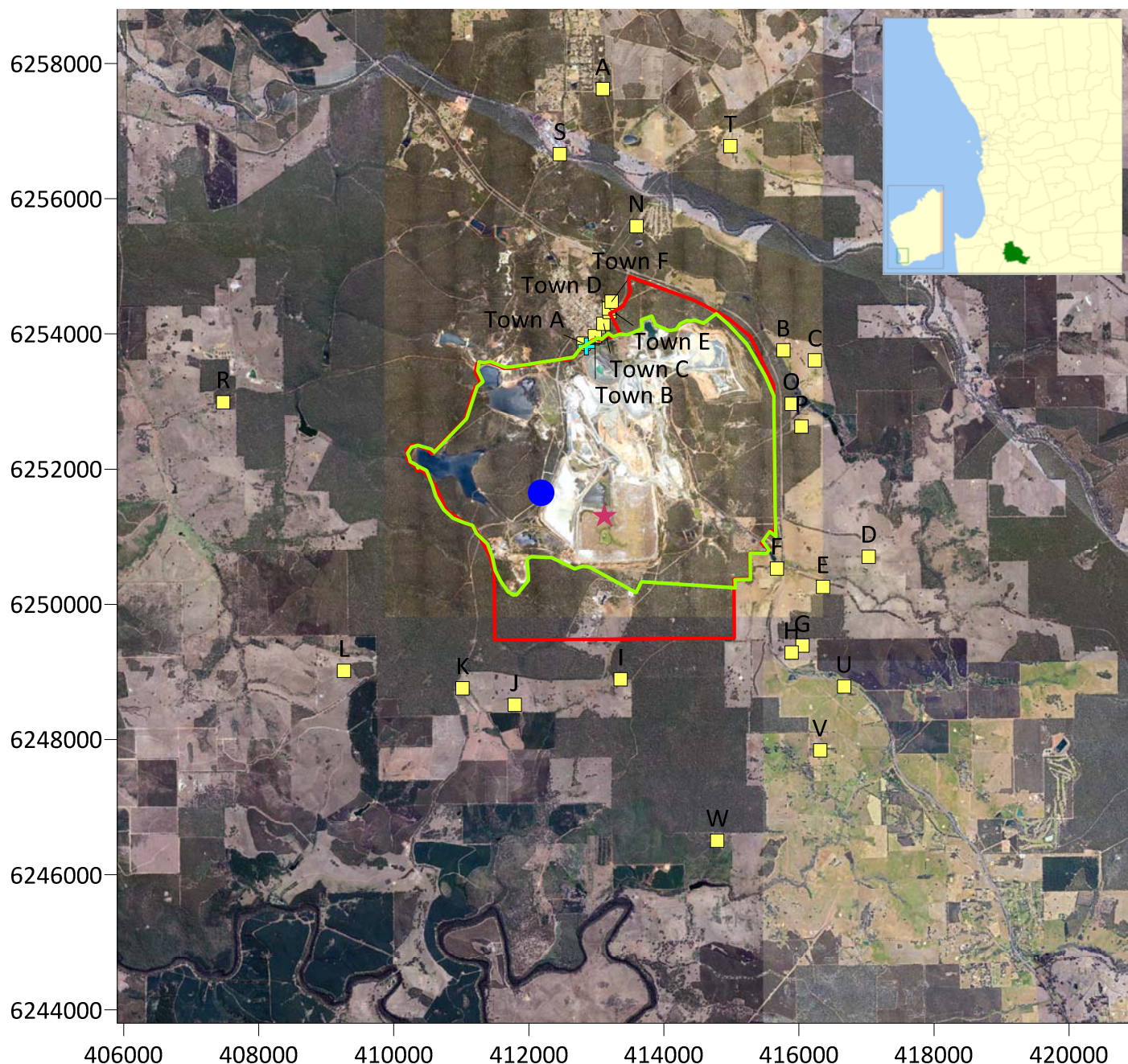
Figure 5-7 Q-Q plot PM10 and TSP particulate concentration distribution

Sensitive receptors

Sensitive receptors are classified as places where people are likely to work or reside. This may include dwellings, schools, hospitals, offices or public recreational areas (NSW DEC, 2005). There are 28 identified sensitive receptors within a 10 km radius of the Talison Greenbushes Lithium Operations. Of the 28, six are residences in the town of Greenbushes and the closest receptors to the Mine within the township. These are identified in the modelling and this report as Town A-F with the remaining 22 identified as receptors A to W. Due to the town's proximity to the Mine, residents of Greenbushes (population of 362 (ABS, 2016)) are considered sensitive receptors.

Figure 5-8 shows the location of the sensitive receptors, including the HiVol dust monitor and the TEOM location.

Table 5-2 displays the sensitive receptors and their distance to the site.



Legend

- Sensitive receptor
- HiVol
- Existing mine boundary
- Proposed expansion mine boundary
- TEOM
- Meteorological station

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Identified sensitive receptors and dust monitor locations

FIGURE 5-8

Table 5-2 Sensitive receptors locations

Sensitive receptor	Land classification	Easting (m E UTM)	Northing (m S UTM)	Elevation (m AHD)	Distance from proposed mine boundary (km)
Town A	Residential (Greenbushes Township)	412813	6253855	330	<1
Town B	Residential (Greenbushes Township)	412980	6253966	326	<1
Town C	Residential (Greenbushes Township)	413106	6254150	322	<1
Town D	Residential (Greenbushes Township)	413196	6254323	332	<1
Town E	Residential (Greenbushes Township)	413190.2	6254373	341	<1
Town F	Residential (Greenbushes Township)	413227	6254476	331	<1
A	Residential	413599	6255592	289	2.8
B	Residential	415772	6253756	287	<1
C	Residential	416238	6253607	283	<1
D	Residential	415896	6252964	247	1.6
E	Residential	416360	6250255	264	1
F	Residential	417034	6250703	250	<1
G	Residential	416360	6250255	274	1.3
H	Residential	415676	6250526	280	<1
I	Residential	416054	6249386	267	<1
J	Residential	415894	6249284	284	<1
K	Residential	413363	6248888	282	<1
L	Residential	411793	6248510	267	2.3
N	Residential	413599409264	6249013	288	<1
O	Residential	405054	6249792	264	<1
P	Residential	407477	6252988	333	<1
Q	Residential	412460	6256660	278	6.3
R	Residential	413097	6257623	289	2.9
S	Residential	412460	6256660	287	2.3
T	Residential	414987	6256777	293	2.8
U	Residential	416674	6248781	241	1.5
V	Residential	416316	6247838	247	2.1
HiVol	Dust monitor	412855	6253814	326	Site existing northern boundary

6. Meteorology

6.1 Surface and profile meteorological file

Onsite meteorological data (location shown in Figure 5-8) was used to prepare meteorological data in required formats for the AERMOD dispersion model. Two meteorological data files were required: surface met file and upper air file. The following onsite meteorological observation were used for input to the surface file into AERMOD

- Wind speed
- Wind direction
- Temperature
- Relative humidity
- Convective mixing height
- Mechanical mixing height
- Monin-Obukhov length
- Surface roughness height
- Bowen ration
- Albedo
- Cloud cover

The upper air file for AERMOD provides information on the vertical structure of the atmosphere and requires minimum two soundings per day: around sunrise and sunset. These data were also extracted onsite meteorological data and formatted into a profile file. In applying the meteorological processor to prepare the meteorological data for the AERMOD model appropriate values for five surface characteristics needed to be determined:

- Wind speed
- Wind direction
- Temperature
- Sigma-theta
- Sigma-W

The surface roughness length is related to the height of obstacles to the wind flow and is important in determining mechanical turbulence and the stability of the boundary layer.

The albedo is the fraction of total incident solar radiation reflected by the surface back to space without absorption. The daytime Bowen ratio, an indicator of surface moisture, is the ratio of sensible heat flux to latent heat flux and is used for determining planetary boundary layer parameters for convective conditions driven by the surface sensible heat flux.

Average land use characteristics were derived from satellite imagery. From this visual data, land use parameters were input into AERMOD across all sectors and are shown in Table 6-1 to Table 6-3.

Table 6-1 Land use characteristics input into AERMOD - Albedo

Season	Albedo
Summer	0.181
Autumn	0.181
Winter	0.199
Spring	0.181

Table 6-2 Land use characteristics input into AERMOD - Bowen ratio

Months	Bowen ratio
December to February	0.87
March to August	1.05
September to November	0.52

Table 6-3 Land use characteristics input into AERMOD - Surface roughness

Wind direction	Surface roughness
360/0° - 20°	0.27 m
20° - 340°	0.1 m
340° - 360/0°	0.27 m

6.2 Meteorological confirmation

Onsite site-specific meteorological data were used to generate a meteorological file from July 2015 to July 2016. This was compared to a five year average and based on a comparison of average rainfall and solar radiation. This qualifies with the recommendations with the *Requirements for Preparation, Adoption, and Submittal of State Implementation Plans (Guideline on Air Quality Models)* (US EPA, 2000) as the most representative meteorological year, as specifically onsite meteorological data has been used to generate a meteorological file, as opposed to a prognostic model.

6.3 Wind Roses

A plot of the wind roses generated based on surface output meteorological data is presented in Figure 6-1. Surface file wind rose (left) and onsite wind rose (right) for period 1 June 2015 to 30 June 2016

, together with the corresponding wind rose from the 1 June 2015 to 30 June 2016 modelling period. From these wind roses, it is evident that the surface wind direction and wind speed used in AERMOD input resembles the raw onsite data, although the frequency varies slightly. East south-easterly winds dominate the site with the majority of winds speeds between 3.6 and 8.8 metres per second. Wind speeds increase slightly in the west north-westerly to up to 11.1 metres per second.

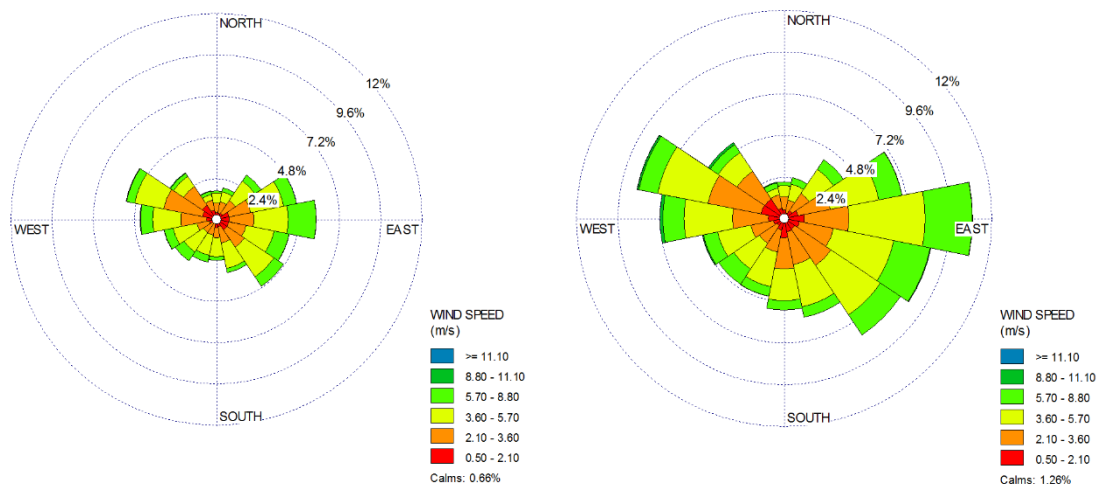


Figure 6-1 Surface file wind rose (left) and onsite wind rose (right) for period 1 June 2015 to 30 June 2016

7. Emission estimation

This section outlines the emission estimation process used to develop the emission inventory for operation of the expansion project.

7.1 Emission estimation process

Emissions were estimated for key dust sources during the operational phase of the expansion project.

While emissions from the operational phase of the expansion project will be referenced in the dispersion modelling, construction emissions associated with the expansion of the site will not be considered due to their short term nature, variable spatial distribution of these activities and the challenges associated with modelling such emissions.

Dust impacts associated with construction activities at the site have been discussed in Section 3.2.

7.1.1 Sources of emissions - Operational phase

The emission sources for the operation phase of the expansion project are discussed in detail in Section 3.3. To summarise, dust for TSP and PM₁₀ sources included:

- Drilling
- Blasting
- Excavation at the pits
- Material loading and unloading by loaders
- Bulldozers on ore and waste
- Wheel generated dust from haul roads
- Wind erosion from stockpiles, pits, TSF's and Floyds WRL

The year considered for predicted dust impact was 2028. This year represents the maximum amount of activity at the site. A Life of Mine (LOM) summary is presented in Table 7-1. This includes processing ore from the pits at a maximum rate of 9.5 Mtpa. Of this, 0.4 Mtpa will be processed at the TGP plant, and the remaining 9.1 Mtpa will be processed via the CPGs. During the year 2028, an estimated 66 Mtpa of waste will be dumped at Floyds WRL.

Table 7-1 Production output during LOM

Activity	2020	2024	2028	2032	2036
Product mined (Ktpa)	12,242	14,701	32,938	8,318	14,943
Waste mine (Ktpa)	29,256	41,259	66,000	5,769	39,848
Bulk explosives (tpa)	5,827	7,505	18,009	3,055	-

Further details including drilling, blasting and waste volume are shown in Table 7-2. The dust control factors applied in the emissions estimation process are defined in Table 7-3. The resulting annual PM₁₀ emissions from operations at the expansion project are presented in Table 7-4.

Table 7-2 Site-specific data – Operational phase

Item	Amount
Area per blast	4000 m ²

Number of blasts	1 /day
Number of holes drilled	250 /day
Quantity of ore processed	9.5 Mtpa
Quantity of waste to facility	66 Mtpa

Table 7-3 Dust control factors (source: NPI EET Manual for Mining v3.1, Table 4)

Item	Dust reduction (%)
Level 1 watering of haul roads	50
Water sprays (50%)	50
Water sprays (70%)	70
In pit retention (TSP)	50
In pit retention (PM ₁₀)	5
Water sprays with chemicals	90
Vegetation established	90
Wind break	30
Rock armour/topsoil applied	30
Hooding with fabric filters	83
Hooding with scrubbers	65
Telescopic chute with water sprays (processing plant)	75

Table 7-4 TSP and PM₁₀ emissions – Operational phase expansion project (kg/yr)

Activity	TSP	PM ₁₀	Control
Drilling	37,686	19,801	Water spray (70%), total enclosure
Blasting	300,750	155,778	Water sprays (70%)
Excavators	613,200	294,336	Wind breaks
ROM loaders	613,200	294,336	Wind breaks
Rock breakers/Excavators	459,900	220,752	Wind breaks
Transfer stations	208	685	Hooding with fabric filters
3 stage crusher	54,750	5,475	Telescopic chute with water sprays, hooding with scrubbers, water sprays (50%)
2 stage crusher	54,750	5,475	Telescopic chute with water sprays, hooding with scrubbers, water sprays (50%)
Stockpiles (loading and unloading)	399,806	173,218	Enclosure and water sprays
Haul trucks (pits and site)	12,118	3,581	Water sprays with chemicals, Level 1 watering (2L/m ² /h), wind breaks
Haul trucks (waste dump)	47,462	14,025	Water sprays with chemicals, Level 1 watering (2L/m ² /h), wind breaks
Dozer (pit)	208,488	50,282	Wind breaks
Dozer (waste dump)	187,639	45,254	Rock armour/ topsoil applied, vegetation established
Stockpiles (wind erosion)	8,497	4,249	ROM stockpiles - none Fine ore stockpile - Telescopic chute with water sprays and water sprays (50%) Final product stockpile - Enclosure

The emission rates used for modelling based on the assumptions discussed above are shown in Table 7-5. The modelling source location is shown in Figure 8-1. Further site specific information and NPI emission factors used for estimating emissions to be used in AERMOD are shown in Appendix B.

Table 7-5 Emission rates used for AERMOD

Activity	Unit	Period (daily)	TSP	PM ₁₀
Blasting	g/s	5:00 PM– 6:00 PM	4.3	2.4
Drilling	g/s	5:00 PM– 6:00 PM	0.02	0.01
Excavators	g/s	All	1.32	0.63
Rock breakers	g/s	5:00 AM -5:00 PM	1.75	0.84
Dozers at pits	g/s	All	3.31	0.80
Dozers at WRL	g/s	All	1.98	0.48
Haul trucks to WRL	g/s	All	0.08	0.02
Haul trucks to pits	g/s	All	0.06	0.02
Conveyor transfer points	g/s	2:00AM -00:00AM (8000 hrs p/yr)	0.004	0.01
3 stage crusher	g/s	5:00 AM -5:00 PM	0.46	0.05
2 stage crusher	g/s	5:00 AM - 5:00 PM	1.43	0.14
Unloading ore stockpiles	g/s	All	2.19	0.95
Loading fine ore stockpile at TIL	g/s	All	0.01	0.00
Loading final product stockpile	g/s	All	0.14	0.06
ROM stockpile (for TIL, CPG1 & CPG2)	g/s/ha	All	0.004	0.002
ROM stockpile (for CPG 3 & CPG4)	g/s/ha	All	0.004	0.002
Fine ore stockpile	g/s/ha	All	0.001	0.0003
Final Product Stockpile	g/s/ha	All	0.001	0.0007
Pits-1	g/s/ha	All	1.4	0.7
Pits-2	g/s/ha	All	1.4	0.7
Pits-3	g/s/ha	All	1.4	0.7
TSF1-1	g/s/ha	All	0.30	0.15
TSF1-2	g/s/ha	All	0.12	0.06
TSF4-1	g/s/ha	All	0.5	0.2
TSF4-2	g/s/ha	All	0.5	0.2
WRL	g/s/ha	All	0.38	0.2

8. Dispersion modelling

This section describes the model used to predict ground level concentrations (GLC) resulting from the expansion project based on derived emission rates and meteorological data.

This section provides further information on the model parameters selected for the dispersion model AERMOD. It also summarises the dispersion modelling results.

AERMOD is a steady state model and assumes that over time, the average concentrations distribution within a plume is Gaussian. AERMOD was used to predict the dispersion of TSP, PM₁₀ and dust deposition at 35 receptors within the region (Figure 5-8). A sample AERMOD output file typical of those used in this assessment is presented in Appendix A. The main model options and assumptions used are listed below.

The emission estimations for all modelled sources are presented in Appendix B. AERMOD was run individually for each particle size (TSP and PM₁₀) with their corresponding emission rates. The TSP model run was configured to output dust deposition at the receptors.

8.1 Deposition modelling

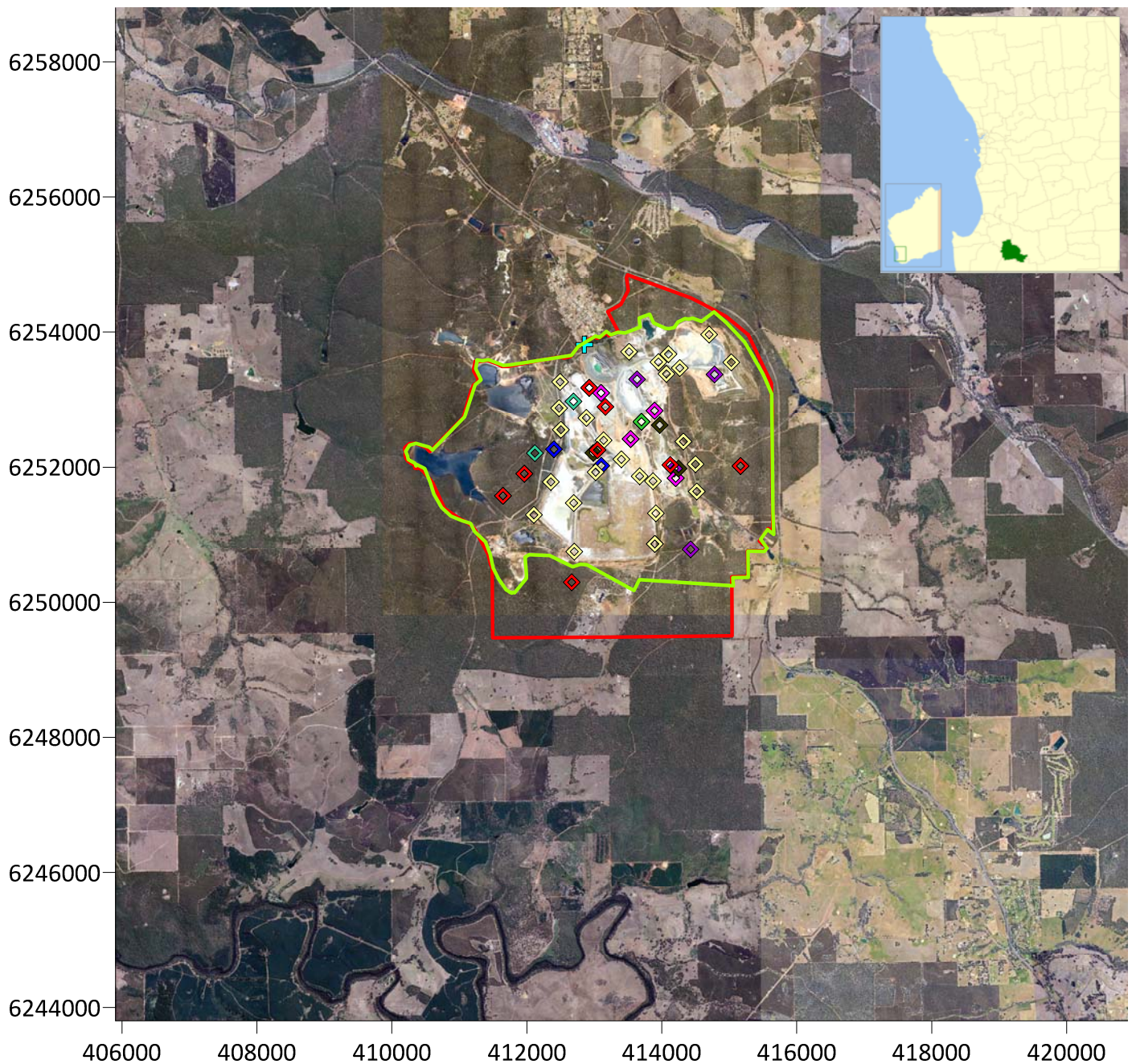
One emission file was generated for each particle size category for TSP and PM₁₀ with their corresponding particle size distributions; pollutant concentrations were modelled accounting for dry depletion. The TSP model run was configured to output dry deposition. Character particle source emissions to calculate deposited dust from TSP are shown in Table 8-1

Table 8-1 Character particle source emissions

Particle diameter (μ)	Mass fraction	Particle density (g/cm ³)
1	0.31	1
4	0.26	1
7	0.23	1
9	0.2	1

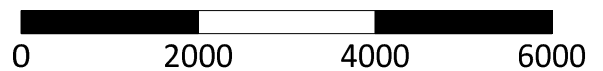
8.2 Source characteristics

A total of 60 volume sources were used to represent emissions: 34 sources to represent operational emissions including wind erosion and 26 sources to represent emissions of wheel generated dust (Figure 8-1). Sources were modelled as shown in Table 7-5. Modelling source characteristics parameters are shown in Appendix C.



Legend

-  Existing mine boundary
-  Proposed expansion mine boundary
-  Stockpile
-  Wind erosion
-  Blasting
-  Conveyor
-  Crusher
-  Dozer
-  Drilling
-  Excavator
-  Haul truck
-  Loader
-  Rock breaker



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AERMOD source locations

FIGURE 8-1



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8.3 Grid system

AERMOD has the capability to calculate concentrations on both a uniform grid (gridded receptors) and at specified individual locations (discrete receptors, or 'sensitive receptors'). The model was configured to predict the ground-level concentrations on a 15 km square grid. The model domain south-west corner was located at 403805 m E, 6241702 m S (50 H UTM) with a grid resolution of 200 m.

8.4 Background concentrations

When conducting air dispersion modelling, it is important to consider the existing background concentrations. Background concentrations consist of dust from the existing mine and processing facilities as well as regional background dust.

PM₁₀ onsite monitoring data discussed in Section 5.3.2 was used in this assessment. The annual average, and both the 70th percentile of the 1-hour and 24-hour average concentrations from July 2015 to June 2016 were used as the existing background concentrations in consideration with cumulative modelling (Table 8-2)

The 70th percentile background concentration selected is conservative and contributes to one third of the PM₁₀ criterion for every 24-hour period in the model. In reality, background particulate concentrations due to natural sources, like bushfires, are highly variable, and the probability of peaks in background concentration and impact due to mining operations occurring simultaneously is low (GHD, 2017).

A PM₁₀ to TSP ratio of 0.4: 1 µg/m³ has been applied to determine a background TSP concentration of 45 µg/m³ (refer Table 8-2).

Table 8-2 Air quality statistics for PM₁₀ and TSP throughout July 2015 to June 2016 (µg/m³)

Parameter	TSP 24 hour average ¹	PM ₁₀ 1 hour average	PM ₁₀ 24 hour average
Minimum	2	0.02	0.8
30 th percentile	23	6	9
50 th percentile	33	8	13
Average	35	12	14
70th percentile	45	12	18
90 th percentile	60	22	24
Maximum	93	418	37

1 Calculated using 40% PM₁₀:TSP ratio

8.5 Model results

This section presents the results for the model outputs for TSP, PM₁₀ and dust deposition. Results presented are for the predicted contribution from the expansion project (incremental) and for the expansion project inclusive of the existing mine and processing facilities (cumulative) by including the background, as discussed in Section 5.3. The emissions used in the modelling are presented in Section 7 while the assessment criteria are discussed in Section 4. Section 8.5.1 to 8.5.3 show the results from predictive air dispersion modelling for TSP, PM₁₀ and deposited dust. A discussion of results is included at Section 8.6.

Whilst air dispersion modelling has been conducted using the most appropriate model AERMOD, any dispersion model cannot consider all aspects of what is a highly complex

atmospheric environment within which dispersion occurs. Coupled with this is, uncertainty with the estimation of dust emissions from various sources across the proposed expansion.

Model predictions are provided based on the best available practices but due to the above factors do not necessarily lead to pollutant predictions that are in line with measured pollutant concentrations. Dispersion modelling is used as an assessment tool, in conjunction with on site management and mitigation measures.

8.5.1 TSP

Table 8-3 shows the predicted maximum 24-hour average and annual average concentration of TSP.

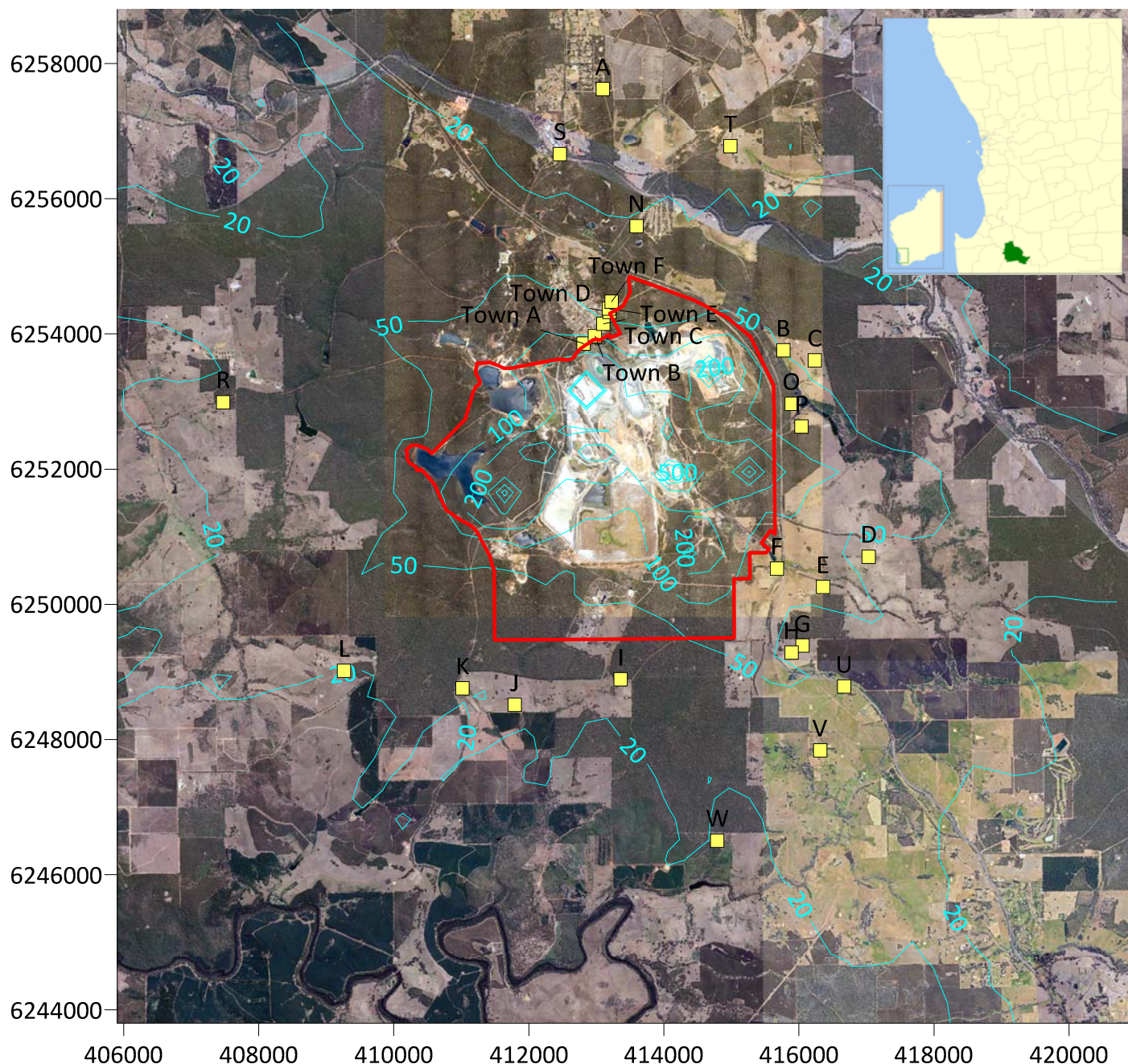
Dispersion modelling results for predicted maximum incremental 24-hour average and predicted maximum cumulative 24-hour average are presented as contours in Figure 8-2 Maximum incremental 24-hour average TSP concentrations

and Figure 8-3.

Annual average concentrations are presented as contours in Figure 8-4.

Table 8-3 Predicted maximum 24-hour and annual average concentrations for TSP ($\mu\text{g}/\text{m}^3$)

Receptor	24-hour average maximum		Annual average	
	Incremental	Cumulative	Incremental	Cumulative
Criteria	90		90	
Town A	61	105	13	47
Town B	75	119	13	48
Town C	51	95	10	45
Town D	31	76	7	41
Town E	25	69	5	40
Town F	23	68	4	39
A	24	68	4	39
B	12	56	2	37
C	18	63	2	37
D	51	95	14	49
E	72	116	17	51
F	31	76	11	45
G	69	113	19	53
H	74	118	15	50
I	42	87	9	44
J	41	85	9	44
K	39	84	7	42
L	42	87	6	40
N	18	63	3	38
O	43	87	10	44
P	43	88	8	43
Q	15	59	2	37
R	30	74	6	41
S	22	66	4	39
T	21	65	3	38
U	26	70	3	38
V	18	62	2	37
W	36	80	6	41
HiVol	45	89	12	47



Legend

-  Maximum 24-hr average TSP concentration ($\mu\text{g}/\text{m}^3$)
-  Proposed expansion mine boundary
-  Sensitive receptor

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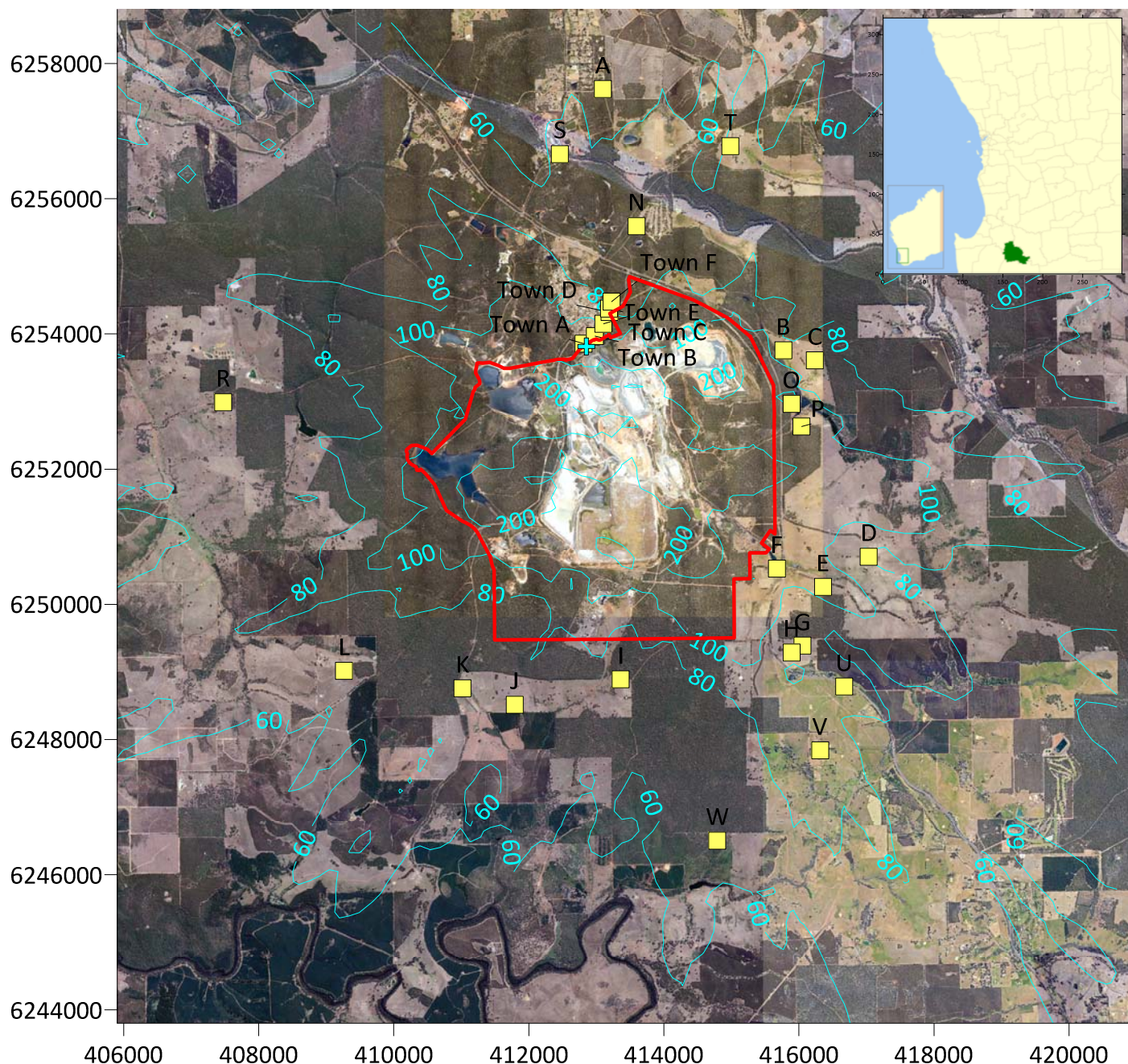
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Maximum incremental 24-hour TSP concentrations

FIGURE 8-2





Legend

-  Maximum 24-hr average TSP concentration ($\mu\text{g}/\text{m}^3$)
-  Proposed expansion mine boundary
-  Sensitive receptor

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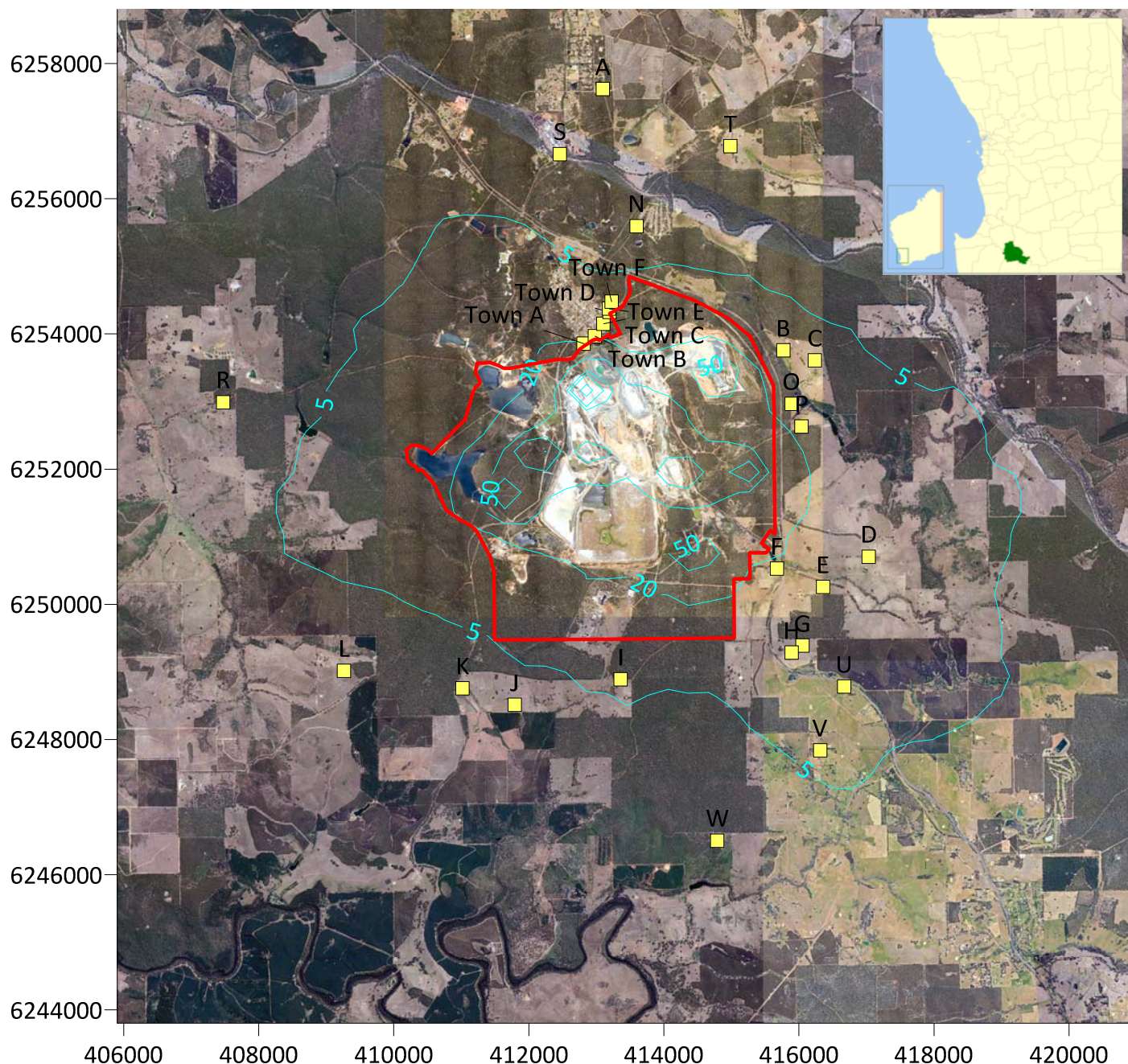
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Maximum cumulative 24-hour TSP concentrations

FIGURE 8-3





Legend

-  Annual average TSP concentration ($\mu\text{g}/\text{m}^3$)
-  Proposed expansion mine boundary
-  Sensitive receptor

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Maximum incremental annual average TSP concentrations

FIGURE 8-4



8.5.2 PM₁₀

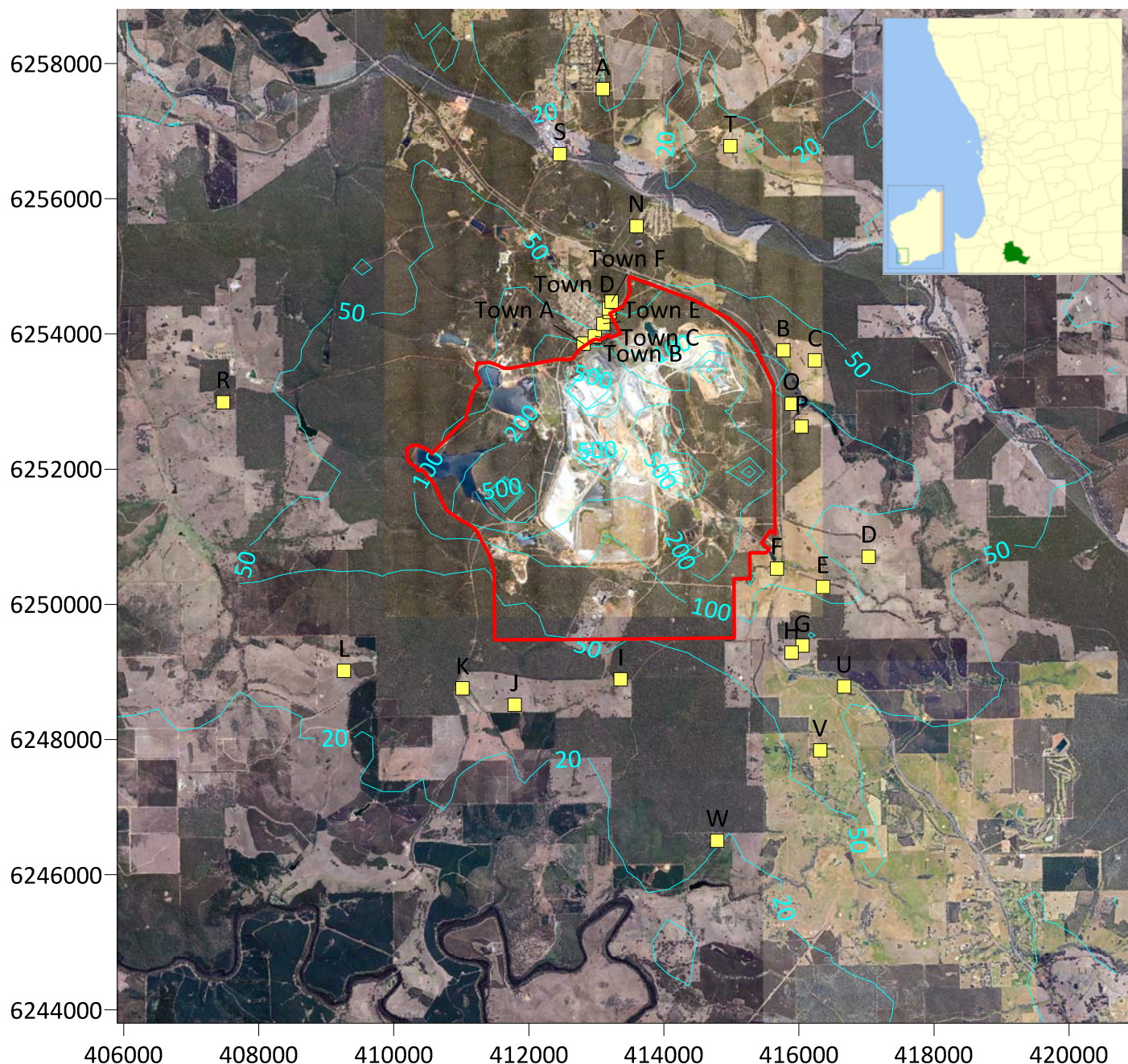
Table 8-4 shows the predicted 1-hour 99.9th percentile, maximum 24-hour and annual average concentration for PM₁₀ for incremental (i.e. operational emissions from the expansion project only) and cumulative (including existing mine and regional background concentrations).

Predicted concentrations at the HiVol (Section 5.3.2) have been provided in order to determine licence compliance (Section 4.2) at the monitoring station.

Dispersion modelling results are also presented as contours in Figure 8-5, to Figure 8-8.

Table 8-4 Predicted 99.9th percentile, maximum 24-hour and annual average concentrations for PM₁₀ (µg/m³)

Receptor	1-hour 99.9 th percentile		24-hour maximum		Annual average	
	Incremental	Cumulative	Incremental	Cumulative	Incremental	Cumulative
Criteria	80		50		25	
Town A	101	113	21	38	5	19
Town B	108	120	28	46	5	18
Town C	60	73	21	39	3	17
Town D	43	56	13	30	2	16
Town E	37	50	10	28	2	16
Town F	37	49	10	28	1	15
A	31	43	10	27	1	15
B	16	28	5	23	1	15
C	25	37	7	24	1	15
D	73	85	17	35	5	19
E	110	122	30	48	6	20
F	69	81	13	30	4	18
G	120	133	26	43	7	21
H	129	141	27	45	5	19
I	52	64	15	33	3	17
J	64	76	15	33	3	17
K	54	67	16	33	3	16
L	72	84	16	34	2	16
N	25	37	6	24	1	15
O	90	102	17	35	3	17
P	84	96	15	33	3	17
Q	34	46	7	24	1	15
R	41	54	12	30	2	16
S	39	51	9	27	1	15
T	25	37	8	26	1	15
U	39	51	11	28	1	15
V	21	33	7	24	1	15
W	40	52	15	32	2	16
HiVol	101	113	19	37	5	18



Legend

-  Incremental 99.9th percentile 1-hour PM₁₀ concentration (µg/m³)
-  Proposed expansion mine boundary
-  Sensitive receptor

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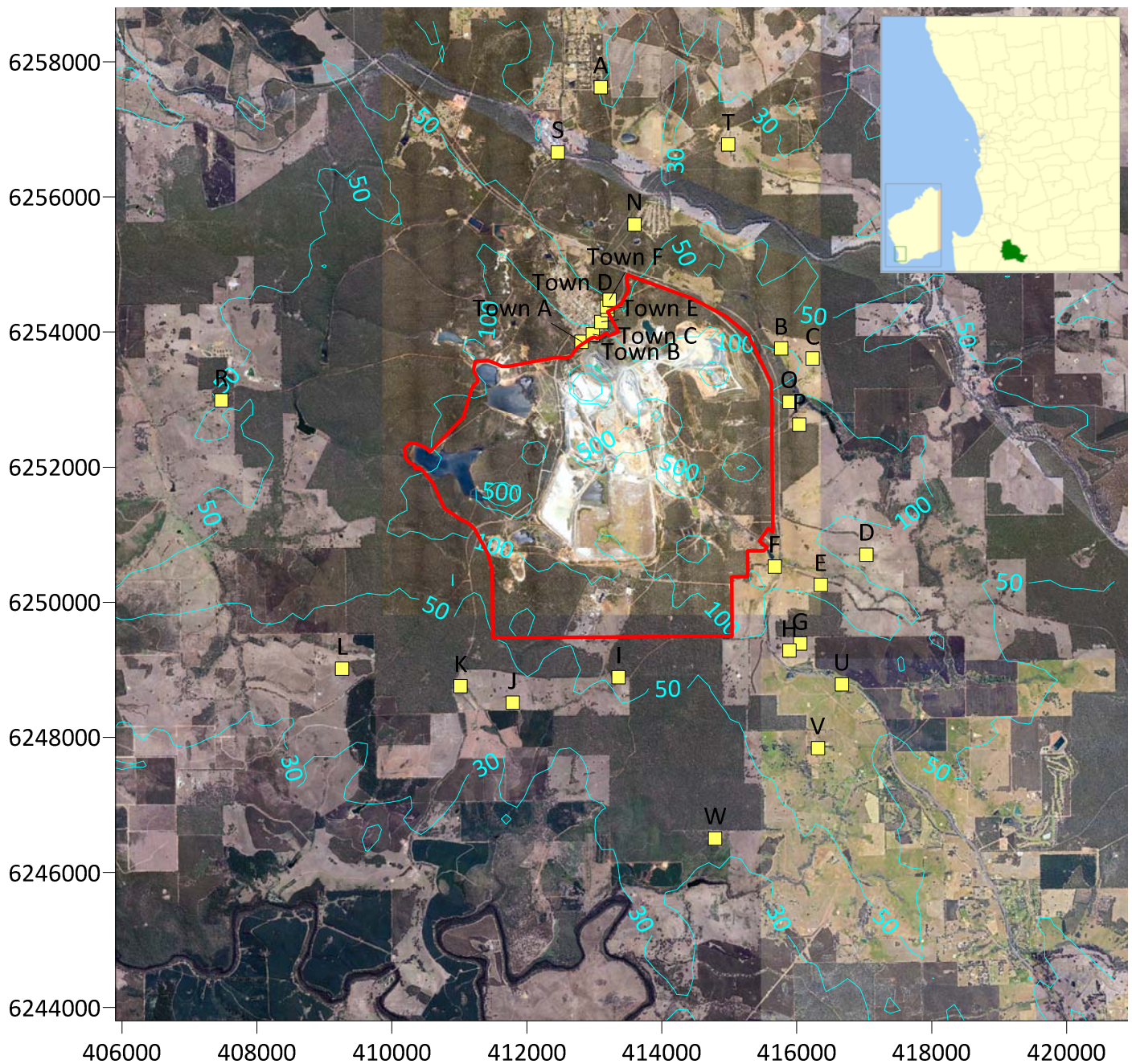
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Incremental 99.9th percentile 1-hour PM₁₀ concentrations

FIGURE 8-5



Legend

-  Incremental 99.9th percentile 1-hour PM_{10} concentration ($\mu g/m^3$)
-  Proposed expansion mine boundary
-  Sensitive receptor

0 2000 4000 6000

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DATE 7.12.2018	FILE LOCATION: G:\6136950\Tech\ Dust Assessment\WP1 REV3\FIGURES_28Sept	
REVISION 5	DRAWING NO 6136950-FIG-8-6	

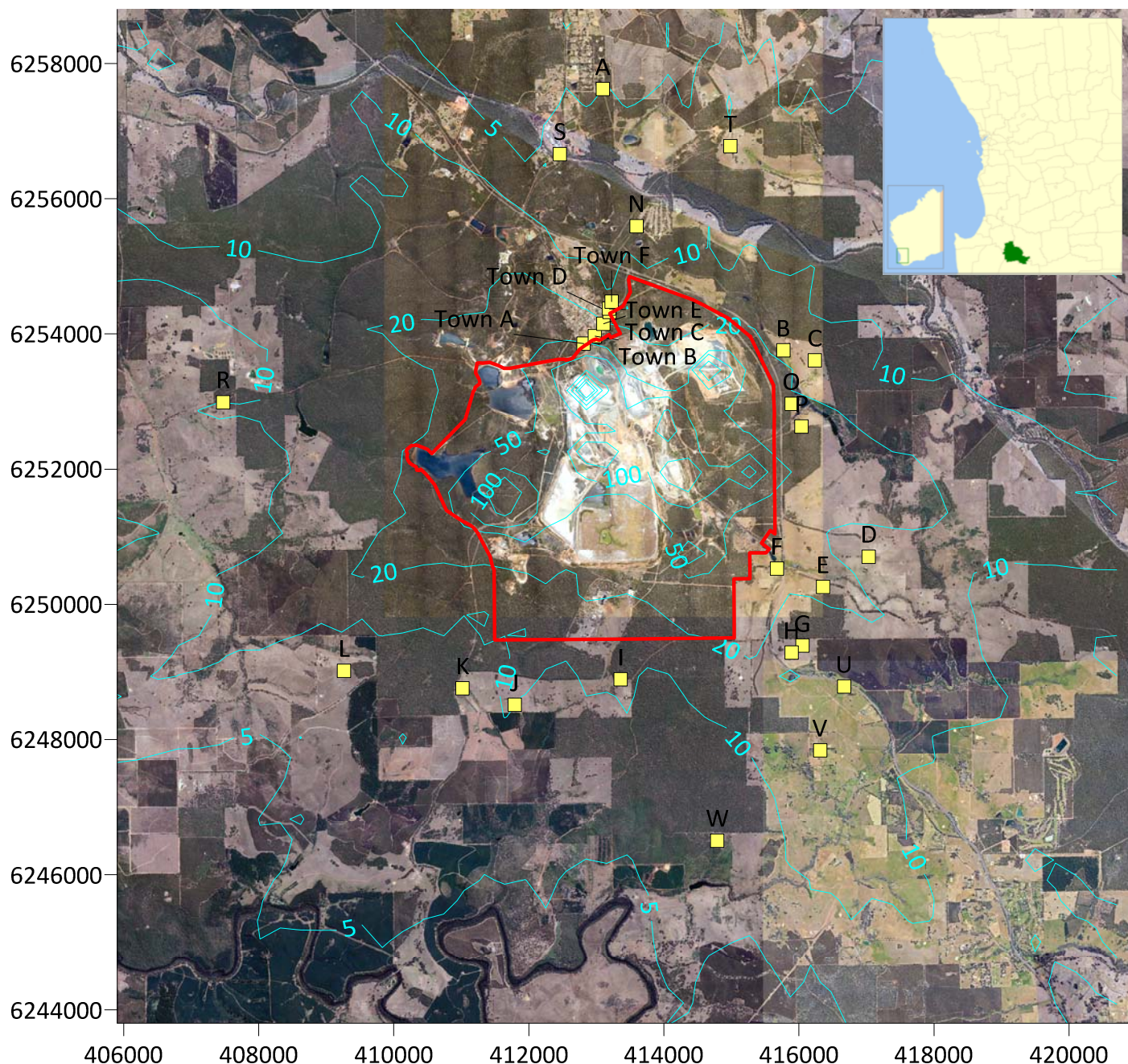
TALISON LITHIUM LIMITED TALISON GREENBUSHES DUST IMPACT ASSESSMENT AIR QUALITY IMPACT ASSESSMENT

Cumulative 99.9th percentile 1-hour PM_{10} concentrations

FIGURE 8-6



CLIENTS | PEOPLE | PERFORMANCE



Legend

-  Maximum incremental 24-hr average PM₁₀ concentration (µg/m³)
-  Proposed expansion mine boundary
-  Sensitive receptor

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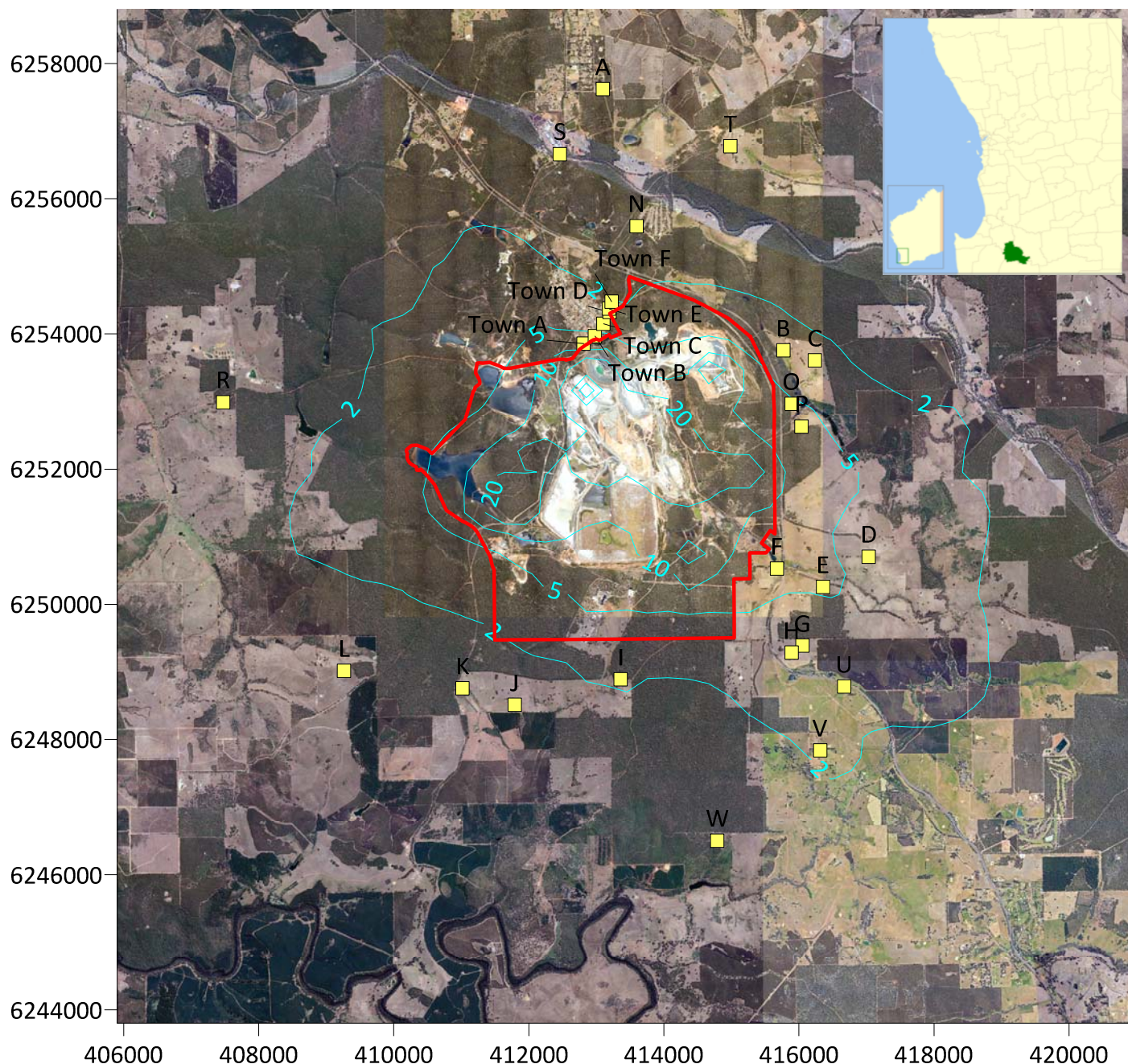
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HORIZONTAL DATUM: WGS 84 PROJECTION: UTM Zone 50 H HEIGHT DATUM: m AGL		
DATE 7.12.2018	FILE LOCATION: G:\6136950\Tech\Assessment\WP1 REV3\FIGURES_28Sept	
REVISION 5	DRAWING NO 6136950-FIG-8-7	

TALISON LITHIUM LIMITED
TALISON GREENBUSHES DUST IMPACT ASSESSMENT
AIR QUALITY IMPACT ASSESSMENT

Maximum incremental 24-hour PM₁₀ concentrations

FIGURE 8-7





Legend

-  Annual average PM_{10} concentration ($\mu\text{g}/\text{m}^3$)
-  Proposed expansion mine boundary
-  Sensitive receptor

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AIR QUALITY IMPACT ASSESSMENT

Incremental annual average PM_{10} concentrations

FIGURE 8-8

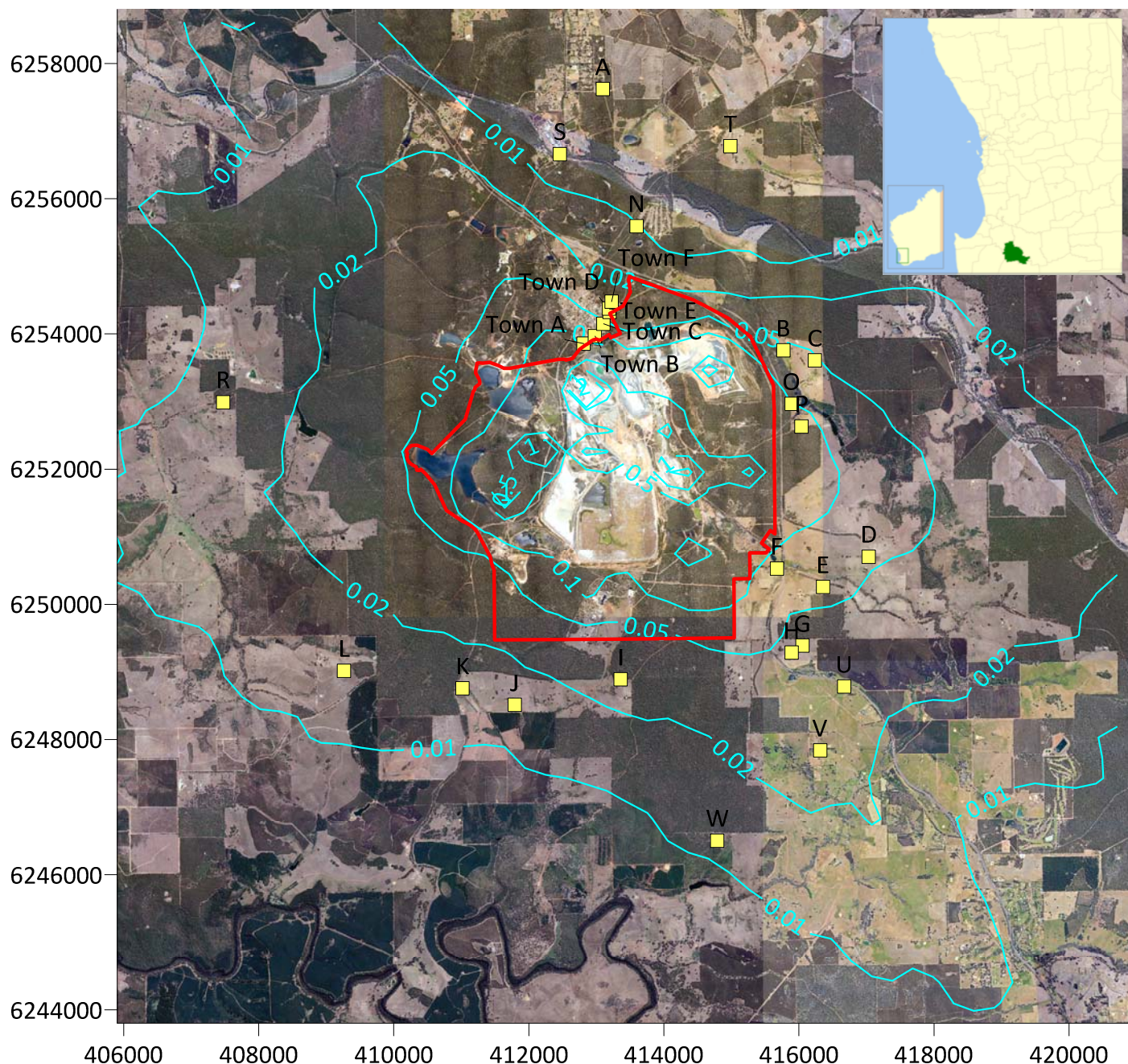
8.5.3 Dust deposition

Table 8-5 shows the predicted maximum total monthly incremental dust deposition rates. As there is no background monitoring data for TSP, incremental results only are included.

Dispersion modelling results are presented as contours in Figure 8-9.

Table 8-5 Maximum total deposited dust per month (g/m²/month)

Receptor	Maximum monthly total
	Incremental
<i>Criteria</i>	4
Town A	0.08
Town B	0.08
Town C	0.05
Town D	0.03
Town E	0.02
Town F	0.01
A	0.01
B	0.00
C	0.00
D	0.06
E	0.06
F	0.09
G	0.12
H	0.05
I	0.09
J	0.06
K	0.04
L	0.04
M	0.03
N	0.03
O	0.01
P	0.03
Q	0.01
R	0.01
S	0.01
T	0.01
U	0.01
V	0.01
HiVol	0.01



Legend

-  Maximum incremental monthly average dust deposition levels ($\text{g}/\text{m}^2/\text{mth}$)
-  Proposed expansion mine boundary
-  Sensitive receptor

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REVISION 5	DRAWING NO 6136950-FIG-8-9	

TALISON LITHIUM LIMITED
TALISON GREENBUSHES DUST IMPACT ASSESSMENT
AIR QUALITY IMPACT ASSESSMENT

Maximum incremental monthly dust deposition levels

FIGURE 8-9



8.6 Discussion of results

Model predicted TSP, PM₁₀ and deposited dust concentrations indicate:

- All incremental maximum 24-hour average TSP concentrations are predicted to comply with the criteria at all identified sensitive receptors, as shown in Table 8-3. The highest concentration was 75 µg/m³ at Town B, or 83% of the TSP 24-hour average criterion.
- The cumulative maximum daily average for TSP concentration are predicted to exceed the air quality criteria at seven receptors (Town A, Town B, Town C, D, E, G and H). The maximum predicted cumulative daily average for TSP was 119 µg/m³ at Town B, which is 32% higher than the air quality criteria (90 µg/m³).
- Incremental and cumulative annual average concentrations for TSP are not predicted to exceed the air quality criterion, as shown in Table 8-3. The maximum incremental annual average concentration was 19 µg/m³, and the cumulative concentration was predicted to be 53 µg/m³ (G). This predicted cumulative concentration is 59% of the annual average TSP criterion.
- PM₁₀ predicted concentrations are shown in Table 8-4. Incremental 1-hour 99.9th percentile concentrations for PM₁₀ were predicted to reach a maximum of 129 µg/m³ at receptor H, which is above the 1-hour criterion (of 80 µg/m³). The criterion was exceeded at a total of seven receptors (Town A, Town B, E, G, O and P) for predicted incremental concentrations. The criterion was exceeded at a total of ten receptors for cumulative results (Town A, Town B, D, E, F, G, H, L, O and P). The maximum predicted cumulative daily average was 141 µg/m³ at receptor H. Considering these predicted exceedances stringent dust management measures have been recommended (refer to Section 9).
- The 24-hour and annual average PM₁₀ concentrations were all predicted to be below the respective criteria (refer to discussion point below).
- The incremental maximum daily average for PM₁₀ concentrations is predicted to be 30 µg/m³ and the cumulative is predicted to be 48 µg/m³ (E). The predicted cumulative concentration is 90 % of the air quality criteria. The maximum predicted cumulative annual average concentration for PM₁₀ was 21 µg/m³, which is 80% of the air quality criteria (G).
- The predicted maximum 24-hour average concentration for PM₁₀ at the HiVol was 37 µg/m³ (Table 8-4, includes background concentrations). This does not exceed the 24-hour average license condition of 90 µg/m³.
- The highest deposited dust level was predicted to be 3% of the total monthly criteria of 4 g/m²/mth (G) (Table 8-5).

From 2020 to 2024 there are plans to excavate and re-mine tailings from TSF1 for reprocessing. The modelled scenario year, 2028 did not include work associated with this activity, and therefore dust impacts have not been considered in modelling. Mining production conducted in 2028 is more than double in comparison to 2020 to 2024 (Table 7-1). As dust impacts were considered to be much larger from mining production in 2028, only 2028 was considered for modelling.

Current dust management strategies associated with mining and loading product (refer Section 9), including wet down ahead of excavation, and ceasing non-essential mining activities during excessively windy conditions and dust control of roads will be appropriately implemented during re-mining of TSF1 tailings for processing.

Results presented in this study show predicted concentrations which are indicative of worst-case scenarios. Predicted 24-hour TSP and 1-hour 99.9th percentile PM₁₀ concentrations

exceed the relevant criteria, however this does not necessarily indicate that the site and surrounding local area will experience this level of impact.

An analysis for the exceedances determined that exceedances of the TSP and PM₁₀ criterion occurred during periods of low wind speed (2.2 m/s or less) between the hours of 9:00 PM and 5:00 AM during the cooler months of the year (May to September). During these meteorological conditions, the atmosphere experiences calm and stable conditions in the cooler parts of the year, when the sun has not risen far above the horizon and solar heating is relatively weak. Therefore there is more a likelihood for higher pollutant concentrations as the pollutants are not dispersed by wind or atmospheric convection. Taking these meteorological conditions into account, weather conditions, particularly during the evening should be included in dust management practises. Refer to Section 9 for recommended dust management practises, noting the night alert for wind speeds less than 2 m/s.

Predicting air pollution is an extremely complex application and there are limitations with advanced dispersion models. Measured air quality concentrations are likely to be highly variable depending on emission levels and the persistence of particular meteorological conditions. The concentrations predicted in this study provide an assessment of worst case impacts from the highest amount of activity. On site management and mitigation measures will be in place such that during adverse conditions, dust management is able to be increased to offset such adverse meteorological conditions.

Furthermore, it is likely that results are conservative, as the model has not included the practical assumption of implementing additional ad-hoc dust management practises when PM₁₀ alert concentrations are triggered by the air quality monitoring system (refer to Section 9.2). Therefore in this assessment the model has most likely over-predicted concentrations, in particular PM₁₀ 1-hour concentrations, as this is the pollutant and timeframe so susceptible to variability in concentration levels. A recommended dust management framework for the Project is detailed in Section 9.

9. Dust management

A dust management plan provides the framework to ensure management strategies will protect human health and the environment, including amenity impacts resulting from dust emissions. This section gives a dust management framework in reference to the dust assessment above. Current dust management is also considered in this section.

9.1 Dust mitigation

Current dust management practices for the Project are summarised in Table 9-1.

Table 9-1 Current dust mitigation strategies onsite

Activity	Mitigation method
Blasting and drilling	Wet down ahead of blasting
Mining	Application of dust suppressant to haul roads Operate water carts on haul roads and open areas during summer Wet down ahead of blasts Cease non-essential mining activities during excessively windy conditions
TSF	Physical and chemical stability of TSF1 & TSF2 including: TSF1 & TSF2 operated to maintain maximum area of moisture Application of dust suppressant (e.g. Gluon) Application of soft rock to edges TSF1 & TSF2 seeded with ryegrass during winter for coverage over the summer period TSF1 & TSF2 rehabilitate batters as soon as practicable TSF1 & TSF2 has suitable capping and uses windbreaks
Stockpiles	Cover on the finished product stockpiles Sprinklers on the fine ore stockpiles Application of dust suppressant to non-active stockpiles
Crushing	Dust extraction system with wet scrubber Stockpile deposits from crusher are through a telescopic chute Sprinklers on crusher chutes and stockpiles
Conveying	Dust extraction on conveyor transfer stations
Processing plant	Dust extraction systems with bag houses on plant's driers Regular maintenance inspections and repairs on dust extraction ducting and bag houses
Haul/unsealed roads	Applications of dust suppressants to haul roads as required, Operate water carts during dry, windy conditions and summer months
Sealed roads	Onsite road sweeper to clean roads, either weekly or as required.
Trucks	Implement loading and unloading procedures to ensure dust emissions from material handling is minimised
Light vehicles	All site traffic is required to adhere to the site speed limit to minimise dust generated by vehicle movement
Education	All employees are educated regarding dust management onsite in reference to licence conditions, including reporting and best dust management practices
Meteorological conditions	Working in consideration with wind and weather forecasts and dust alerts from the Bureau of Meteorology.
Complaints Register	Talison maintain a register of community complaints (which can potentially relate to dust). Complaints are investigated and mitigation undertaken where necessary.

In consideration of the outcomes of this assessment the following additional management and mitigations strategies are recommended:

- As discussed in Table 9-1, the existing TSF1 and TSF2 already have management practices in place for dust control. Current management measures for dust control at TSF1 & TSF2 should be incorporated into the design of TSF4 to ensure dust emissions are minimised from all TSFs
- Continue the program of progressive rehabilitation (vegetation re-establishment) of landforms, particularly the WRL as soon as practicable
- Configure an alarm on the meteorological monitoring station when a wind speed threshold value of 45 km/h or more is reached.

9.2 Dust monitoring plan

Current dust monitoring practises implemented at the Mine are discussed in Table 9-2.

Table 9-2 Current dust monitoring conducted at the Project

Monitoring	Description
Continuous real time meteorological monitoring	Observations captured at the onsite meteorological station. Observations captured include, rainfall, wind speed and direction, temperature, solar radiation, barometric pressure and relative humidity.
High volume sampling	Conducted at the northern end of the site at the boundary with the Greenbushes town site. This location has been agreed with DWER as a part of the regulatory licence L4247/1991/13. Monitoring is undertaken every second day from November to May and weekly from June to October.
Continuous particulate monitoring	Continuous particulate monitoring by the TEOM conducted at a location west of the TSF2 and Maranup Ford Road since January 2013. Between 1998 and 2013 the TEOM was located east of mine site at a location between TSF1 and the South West Highway.

Recommended additional dust monitoring which should be considered for implementation include:

- Commission and install dust deposition gauges. Suggested evenly spaced locations for the gauges around the site are shown in Figure 9-1.
- Check of meteorological conditions prior to blasting events in consideration of a southerly wind to ensure minimal dust impacts to Greenbushes Township.
- Relocate the site's TEOM to the southeast corner of the WRL, to provide a monitoring network for TSP and PM₁₀ (additional or upgraded TEOM may be required to monitor both parameters) between the WRL's operations and receptors located southeast of the Mine, as these receptors were predicted to have exceedances for 24-hour TSP and 1-hour PM₁₀.
- Place an additional TEOM at the boundary of Greenbush's township near receptor Town B to provide a monitoring network for TSP and PM₁₀ between the Mine operations and the Greenbushes Township, where exceedance of the 24-hour TSP and 1-hour PM₁₀ are predicted to occur.
- The TEOMs can be configured with an alarm system, which can be triggered when set levels (outlined in Table 9-3) are exceeded. Following this, dust control management should be actioned, which could include ceasing non-essential mining activities during poor atmospheric conditions. All recommended trigger actions are shown in Table 9-4.
- Automated remote warning system that can send simultaneous emails and SMS alerts when TSP and PM₁₀ concentrations exceed trigger values to nominated site personnel.

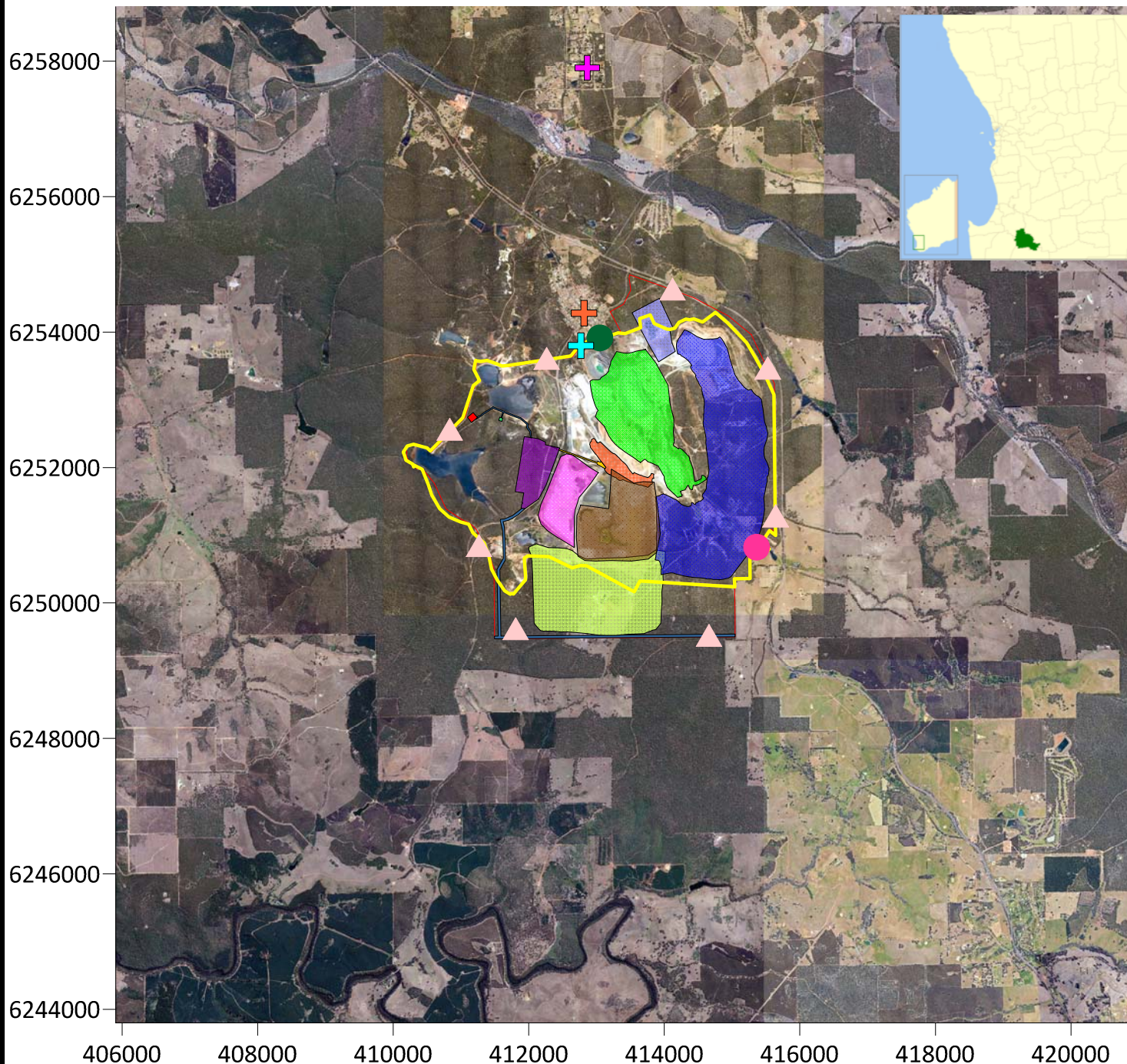
- Undertake training for nominated individuals to understand dust triggers and the response measures. Response measures for an alert are outlined in Table 9-4. It should be noted that if TSP and PM₁₀ concentrations are above the screening alert levels it does not, necessarily indicate an exceedance, but does act as a trigger for additional dust mitigation and management.

Table 9-3 Recommended monitoring alert levels

Parameter	Normal	Alert Level
TSP (24-hour average)	<20 µg/m ³	>80 µg/m ³
PM ₁₀ (1 hour average)	<30 µg/m ³	>70 µg/m ³
Meteorological conditions – alert triggered when both wind speed and direction alert levels occur		
Wind speed	4 m/s (day)	Average hourly wind speed >5 m/s
	3 m/s (night)	Average hourly wind speed <2 m/s
Wind direction	NA	TEOM 1: 70 - 160°
		TEOM 2: 315 - 45°

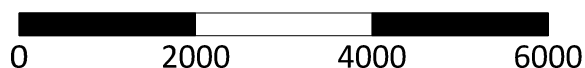
Table 9-4 Trigger Action – list of potential responses

	Normal	Response to Alert
Dust Monitor Alarm (PM ₁₀)	Continue work in accordance with dust management procedures	• Notify nominated site personnel. • Review site meteorological conditions and monitoring results. • Review operations and consider additional dust mitigation which can be implemented. • Cease or move activities, if required. • Consider aerial application of dust suppressant. • Spray ore before loading and dumping into haul trucks. • Engage any additional water carts. • Continue or initiate sprinkler operation on stockpile area.



Legend

- | | |
|---|--------------------|
| TSF2 | TSF1 |
| Explosives Batch Facility | Mine Services Area |
| Magazine | Magazine |
| Pit LOM 3 Plants | Floyds Waste Dump |
| CPG3 & 4 | Conveyor |
| Proposed mine boundary | Run of Mine |
| Existing mine boundary | TSF4 |
| Greenbushes Township | TEOM 1 |
| Greenbushes North | TEOM 2 |
| Existing HiVol | |
| Recommended dust deposition gauge locations | |
| Linear Infrastructure Corridor | |



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REVISION 5	DRAWING NO 6136950-FIG-9-1	

TALISON LITHIUM LIMITED
TALISON GREENBUSHES DUST IMPACT ASSESSMENT
AIR QUALITY IMPACT ASSESSMENT

Recommended dust monitoring locations

FIGURE 9-1



10. Conclusion

The dust impact assessment has evaluated the potential dust impacts from the proposed expansions at the existing Greenbushes Lithium Mine, located approximately 250 km south of Perth. The expansion will increase production at the Mine from the current approved production rate of 4.7 Mtpa to 9.5 Mtpa of spodumene ore to produce up to 2.3 Mtpa of lithium mineral concentrate.

The year 2028 was considered for predictive air dispersion modelling, as this year represents the maximum amount of activity at the site and thus would have the potential to result in the highest dust emissions. Nearby sensitive receptors were identified and an air dispersion model was developed and used to predict incremental ground level concentrations of dust resulting from the mine expansion as well as cumulative (signal from mine plus background) ground level concentrations for the receptors identified.

The assessment used AERMOD to predict TSP, PM₁₀ and deposited dust concentrations from the proposed expansion of the Mine.

Predictive air dispersion modelling indicated:

- The predicted incremental maximum daily average and the incremental and cumulative annual average for TSP were below the relevant air quality criteria for all sensitive receptors. Exceedances at seven receptors were predicted for the cumulative maximum daily average.
- Exceedances at seven sensitive receptors were predicted for the incremental 99.9th percentile 1-hour PM₁₀ concentrations. The cumulative 99.9th percentile 1-hour PM₁₀ concentrations were predicted to exceed the air quality criteria at ten sensitive receptors. Exceedances were attributed to low wind speeds.
- Predicted cumulative maximum daily average and annual average concentrations were below the relevant air quality criteria for all sensitive receptors.
- Concentrations are not predicted to exceed the 24-hour average license condition of 90 µg/m³ at the HiVol located north of the site.
- Dust deposition rates are predicted to be below the monthly criteria.

Dust management and mitigation methods have been included in this assessment.

Implementation of a program of real time dust monitoring and trigger levels to implement additional real-time dust management measures, including trigger alerts, will reduce the likelihood of exceedances of air quality criteria.

11. References

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Appendices

Appendix A – AERMOD output file

**

**

** AERMOD Input Produced by:

** AERMOD View Ver. 9.2.0

** Lakes Environmental Software Inc.

** Date: 8/06/2018

** File: G:\61\36950\Tech\Dust Assessment\04. Dispersion\PM10\TalLith_nogrid.ADI

**

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** AERMOD Control Pathway

**

**

CO STARTING

TITLEONE C:\TalLith\TalLith.isc

MODELOPT CONC VECTORWS

AVERTIME 1 24 ANNUAL

POLLUTID PM_10

RUNORNOT RUN

ERRORFIL TalLith_nogrid.err

CO FINISHED

**

** AERMOD Source Pathway

**

**

SO STARTING

** Source Location **

** Source ID - Type - X Coord. - Y Coord. **

LOCATION 1	VOLUME	413702.000	6252672.000	308.240
------------	--------	------------	-------------	---------

** DESCRSRC Drilling

LOCATION 2	VOLUME	413702.000	6252672.000	308.240
------------	--------	------------	-------------	---------

** DESCRSRC Blasting

LOCATION 3	VOLUME	413103.000	6253097.000	325.920
------------	--------	------------	-------------	---------

** DESCRSRC Excavators

LOCATION 4	VOLUME	413897.000	6252834.000	260.810
------------	--------	------------	-------------	---------

** DESCRSRC Excavators

LOCATION 5	VOLUME	413541.000	6252417.000	317.230
------------	--------	------------	-------------	---------

** DESCRSRC Excavators

LOCATION 6	VOLUME	414209.000	6251837.000	236.120
------------	--------	------------	-------------	---------

** DESCRSRC Excavators

LOCATION 7	VOLUME	413103.000	6253097.000	325.920
------------	--------	------------	-------------	---------

** DESCRSRC Loaders

LOCATION 8	VOLUME	413897.000	6252834.000	260.810
------------	--------	------------	-------------	---------

** DESCRSRC Loaders

LOCATION 9	VOLUME	413541.000	6252417.000	317.230
------------	--------	------------	-------------	---------

** DESCRSRC Loaders

LOCATION 10	VOLUME	414209.000	6251837.000	236.120
-------------	--------	------------	-------------	---------

** DESCRSRC Loaders

LOCATION 11	VOLUME	414250.000	6251978.000	246.160
-------------	--------	------------	-------------	---------

** DESCRSRC Rockbreakers

LOCATION 12	VOLUME	413973.000	6252620.000	256.230
-------------	--------	------------	-------------	---------

** DESCRSRC Rockbreakers

LOCATION 13	VOLUME	412987.000	6252210.000	277.470
-------------	--------	------------	-------------	---------

** DESCRSRC Rockbreakers

LOCATION 14	VOLUME	413104.000	6252020.000	273.840
-------------	--------	------------	-------------	---------

** DESCRSRC Conveyor transfer point 1

LOCATION 15	VOLUME	412404.000	6252262.000	265.640
** DESCRSRC Conveyor transfer point 2				
LOCATION 16	VOLUME	412692.000	6252971.000	287.550
** DESCRSRC 3 stage crusher (for CPG 1 & CPG2)				
LOCATION 17	VOLUME	412123.000	6252207.000	257.000
** DESCRSRC 2 stage crushing (for CPG3 & CPG 4)				
LOCATION 18	VOLUME	412928.000	6253174.000	319.760
** DESCRSRC ROM stockpile (for TIL, CPG1 & CPG2)				
LOCATION 19	VOLUME	413048.000	6252252.000	283.040
** DESCRSRC Fine ore stockpile - CPG3 & CPG 4				
LOCATION 20	VOLUME	411964.000	6251901.000	265.910
** DESCRSRC Final Product Stockpile - CPG3 & CPG 4				
LOCATION 21	VOLUME	411649.000	6251575.000	259.690
** DESCRSRC ROM stockpile (for CPG3 & CPG4)				
LOCATION 22	VOLUME	413636.000	6253298.000	289.130
** DESCRSRC Dozer - pits				
LOCATION 23	VOLUME	414185.000	6251979.000	248.830
** DESCRSRC Dozer - pits				
LOCATION 24	VOLUME	414784.000	6253373.000	298.000
** DESCRSRC Dozer - waste				
LOCATION 25	VOLUME	415171.000	6252015.000	273.520
** DESCRSRC Dozer - waste				
LOCATION 26	VOLUME	414428.000	6250782.000	267.610
** DESCRSRC Dozer - waste				
LOCATION 27	VOLUME	415031.000	6253549.000	273.100
** DESCRSRC Haultruck1 - north end to waste dump				
LOCATION 28	VOLUME	414704.000	6253963.000	277.030
** DESCRSRC Haultruck2 - north end to waste dump				
LOCATION 29	VOLUME	414100.000	6253671.000	301.170
** DESCRSRC Haultruck3 - north end to waste dump				
LOCATION 30	VOLUME	413954.000	6253554.000	307.310

** DESCRSRC Haultruck4 - north end to waste dump

LOCATION 31	VOLUME	414271.000	6253468.000	305.030
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** DESCRSRC Haultruck5 - north end to waste dump

LOCATION 32	VOLUME	414070.000	6253379.000	309.120
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** DESCRSRC Haultruck6 - north end to waste dump

LOCATION 33	VOLUME	413517.000	6253705.000	323.320
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** DESCRSRC Haultruck7 - north end to waste dump

LOCATION 34	VOLUME	412497.000	6253262.000	284.090
-------------	--------	------------	-------------	---------

** DESCRSRC Haultruck8 - south end to processing facility

LOCATION 35	VOLUME	412480.000	6252874.000	267.580
-------------	--------	------------	-------------	---------

** DESCRSRC Haultruck9 - south end to processing facility

LOCATION 36	VOLUME	412506.000	6252553.000	273.050
-------------	--------	------------	-------------	---------

** DESCRSRC Haultruck10 - south end to processing facility

LOCATION 37	VOLUME	412883.000	6252727.000	307.410
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** DESCRSRC Haultruck11 - south end to processing facility

LOCATION 38	VOLUME	412357.000	6251781.000	252.100
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** DESCRSRC Haultruck12 - south end to processing facility

LOCATION 39	VOLUME	412106.000	6251292.000	237.000
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** DESCRSRC Haultruck13 - south end to processing facility

LOCATION 40	VOLUME	412704.000	6250747.000	264.330
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** DESCRSRC Haultruck14 - south end to processing facility

LOCATION 41	VOLUME	412696.000	6251466.000	260.070
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** DESCRSRC Haultruck15 - south end to processing facility

LOCATION 42	VOLUME	413021.000	6251924.000	268.370
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** DESCRSRC Haultruck16 - south end to processing facility

LOCATION 43	VOLUME	413139.000	6252398.000	311.780
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** DESCRSRC Haultruck17 - south end to processing facility

LOCATION 44	VOLUME	413405.000	6252114.000	301.470
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** DESCRSRC Haultruck18 - south end to processing facility

LOCATION 45	VOLUME	413676.000	6251863.000	290.230
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** DESCRSRC Haultruck19 - south end to processing facility

LOCATION 46	VOLUME	413872.000	6251792.000	276.240
** DESCRSRC Haultruck20 - south end to processing facility				
LOCATION 47	VOLUME	413916.000	6251316.000	270.400
** DESCRSRC Haultruck21 - south end to processing facility				
LOCATION 48	VOLUME	413901.000	6250863.000	268.800
** DESCRSRC Haultruck22 - south end to processing facility				
LOCATION 49	VOLUME	413901.000	6250863.000	268.800
** DESCRSRC Haultruck23 - south end to processing facility				
LOCATION 50	VOLUME	414522.000	6251639.000	257.720
** DESCRSRC Haultruck24 - south end to processing facility				
LOCATION 51	VOLUME	414502.000	6252041.000	275.570
** DESCRSRC Haultruck25 - south end to processing facility				
LOCATION 52	VOLUME	414324.000	6252377.000	299.530
** DESCRSRC Haultruck26 - south end to processing facility				
LOCATION 53	VOLUME	412928.000	6253174.000	319.760
** DESCRSRC WE - ROM stockpile				
LOCATION 54	VOLUME	413048.000	6252252.000	283.040
** DESCRSRC WE - ROM stockpile				
LOCATION 55	VOLUME	411964.000	6251901.000	265.910
** DESCRSRC WE - Fine ore stockpile				
LOCATION 56	VOLUME	411649.000	6251575.000	259.690
** DESCRSRC WE - Final Product Stockpile				
LOCATION 57	VOLUME	414129.000	6252029.000	248.340
** DESCRSRC WE - Pits1				
LOCATION 58	VOLUME	413165.000	6252893.000	328.530
** DESCRSRC WE - Pits1				
LOCATION 59	VOLUME	412668.000	6250295.000	278.100
** DESCRSRC WE - TSF				
LOCATION 60	VOLUME	415171.000	6252015.000	273.520
** DESCRSRC WE -Waste dump				
** Source Parameters **				

SRCPARAM 1	0.0129166667	1.000	1.163	0.465
SRCPARAM 2	2.4 1.000	1.163	0.465	
SRCPARAM 3	0.6326103501	1.000	0.698	0.465
SRCPARAM 4	0.6326103501	1.000	0.698	0.465
SRCPARAM 5	0.6326103501	1.000	0.698	0.465
SRCPARAM 6	0.6326103501	1.000	0.698	0.465
SRCPARAM 7	0.6326103501	1.000	0.698	0.465
SRCPARAM 8	0.6326103501	1.000	0.698	0.465
SRCPARAM 9	0.6326103501	1.000	0.698	0.465
SRCPARAM 10	0.6326103501	1.000	1.304	0.465
SRCPARAM 11	0.8434804668	1.000	0.698	0.465
SRCPARAM 12	0.8434804668	1.000	1.304	0.465
SRCPARAM 13	0.8434804668	1.000	1.304	0.465
SRCPARAM 14	0.0117786022	2.000	0.435	0.930
SRCPARAM 15	0.0117786022	3.000	0.435	0.930
SRCPARAM 16	0.045582826	2.500	4.348	1.163
SRCPARAM 17	0.1426940639	2.500	4.348	1.163
SRCPARAM 18	0.9481227803	1.000	0.698	0.465
SRCPARAM 19	0.0042808219	1.000	0.698	0.465
SRCPARAM 20	0.0582191781	1.000	0.698	0.465
SRCPARAM 21	1.4840182648	1.000	0.698	0.465
SRCPARAM 22	0.3416666667	1.000	0.698	0.465
SRCPARAM 23	0.3416666667	1.000	0.698	0.465
SRCPARAM 24	0.4783333333	1.000	0.698	0.465
SRCPARAM 25	0.4783333333	1.000	0.698	0.465
SRCPARAM 26	0.4783333333	1.000	0.698	0.465
SRCPARAM 27	0.0081106815	1.000	0.410	0.465
SRCPARAM 28	0.0081106815	1.000	0.410	0.465
SRCPARAM 29	0.0081106815	1.000	0.410	0.465
SRCPARAM 30	0.0081106815	1.000	0.410	0.465
SRCPARAM 31	0.0081106815	1.000	0.410	0.465

SRCPARAM 32	0.0081106815	1.000	0.410	0.465
SRCPARAM 33	0.0081106815	1.000	0.410	0.465
SRCPARAM 34	0.0081106815	1.000	0.410	0.465
SRCPARAM 35	0.0234074503	1.000	0.410	0.465
SRCPARAM 36	0.0234074503	1.000	0.410	0.465
SRCPARAM 37	0.0234074503	1.000	0.410	0.465
SRCPARAM 38	0.0234074503	1.000	0.410	0.465
SRCPARAM 39	0.0234074503	1.000	0.410	0.465
SRCPARAM 40	0.0234074503	1.000	0.410	0.465
SRCPARAM 41	0.0234074503	1.000	0.410	0.465
SRCPARAM 42	0.0234074503	1.000	0.410	0.465
SRCPARAM 43	0.0234074503	1.000	0.410	0.465
SRCPARAM 44	0.0234074503	1.000	0.410	0.465
SRCPARAM 45	0.0234074503	1.000	0.410	0.465
SRCPARAM 46	0.0234074503	1.000	0.410	0.465
SRCPARAM 47	0.0234074503	1.000	0.410	0.465
SRCPARAM 48	0.0234074503	1.000	0.410	0.465
SRCPARAM 49	0.0234074503	1.000	0.410	0.465
SRCPARAM 50	0.0234074503	1.000	0.410	0.465
SRCPARAM 51	0.0234074503	1.000	0.410	0.465
SRCPARAM 52	0.0234074503	1.000	0.410	0.465
SRCPARAM 53	0.0039269908	2.500	1.163	1.163
SRCPARAM 54	0.0039269908	2.500	1.163	1.163
SRCPARAM 55	0.0117809725	2.500	1.163	1.163
SRCPARAM 56	0.0017671459	2.500	1.163	1.163
SRCPARAM 57	0.2402777778	0.500	46.512	0.116
SRCPARAM 58	0.2402777778	0.500	46.512	0.116
SRCPARAM 59	0.0604333333	0.500	93.023	0.116
SRCPARAM 60	0.0828333333	0.500	209.302	0.116

SRCGROUP ALL

SO FINISHED

**

** AERMOD Receptor Pathway

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**

RE STARTING

GRIDCART UCART1 STA

XYINC 405905.00 75 200.00 6243802.00 75 200.00

ELEV 1 296.60 275.30 241.60 215.30 258.20 254.90

ELEV 1 243.20 221.50 176.00 173.50 200.30 236.50

ELEV 1 250.50 228.70 198.20 184.90 150.10 139.10

ELEV 1 148.20 112.00 112.90 111.10 119.10 125.40

ELEV 1 145.90 153.30 149.30 119.30 118.60 129.90

ELEV 1 168.20 182.80 182.50 210.10 228.90 210.00

ELEV 1 191.10 157.50 115.80 126.00 133.60 183.40

ELEV 1 235.90 235.10 245.90 243.10 258.90 254.30

ELEV 1 264.80 262.60 271.40 290.00 303.30 315.40

ELEV 1 313.00 306.40 297.20 279.10 264.40 257.90

ELEV 1 241.80 230.30 223.60 216.80 203.00 204.30

ELEV 1 225.90 206.10 193.40 190.60 170.60 190.20

ELEV 1 209.20 223.90 248.50

ELEV 2 258.20 261.90 233.60 187.50 231.40 212.40

ELEV 2 183.20 167.30 142.30 189.60 204.50 230.00

ELEV 2 221.70 199.50 153.50 140.80 131.90 110.00

ELEV 2 124.50 104.90 110.80 114.30 122.10 134.50

ELEV 2 144.80 181.20 160.30 118.70 118.20 143.60

ELEV 2 137.60 135.10 173.70 197.30 226.50 236.00

ELEV 2 224.70 202.70 166.90 119.00 119.70 158.70

ELEV 2 185.50 202.30 220.00 229.60 244.80 244.90

ELEV 2 257.70 268.80 267.10 288.80 301.70 311.30

ELEV	2	317.70	311.80	304.30	299.30	280.40	269.70
ELEV	2	258.50	244.60	236.20	221.40	221.90	198.80
ELEV	2	193.90	187.60	181.60	186.60	173.50	193.90
ELEV	2	227.40	237.20	250.10			
ELEV	3	227.80	211.30	186.50	165.00	194.30	182.30
ELEV	3	148.00	145.60	155.20	170.20	195.40	213.80
ELEV	3	208.50	150.60	124.70	114.30	116.80	108.50
ELEV	3	112.00	115.40	110.00	108.50	139.80	151.30
ELEV	3	188.20	164.90	148.10	111.00	114.80	134.40
ELEV	3	116.60	123.20	151.30	167.00	181.10	218.80
ELEV	3	192.00	177.00	164.40	136.50	112.60	140.90
ELEV	3	185.70	225.10	235.20	235.90	251.10	252.60
ELEV	3	274.60	291.50	288.30	289.40	301.00	309.10
ELEV	3	318.90	319.30	316.50	308.30	277.00	276.00
ELEV	3	275.90	267.10	248.00	240.50	230.80	219.20
ELEV	3	202.60	198.90	194.70	177.80	178.60	203.90
ELEV	3	222.90	248.60	263.30			
ELEV	4	178.50	154.60	138.50	134.00	159.70	167.20
ELEV	4	130.50	127.40	124.50	168.30	200.90	205.50
ELEV	4	181.10	138.70	109.50	153.20	157.50	119.00
ELEV	4	122.00	120.90	115.20	108.20	138.50	153.70
ELEV	4	156.10	155.20	132.00	107.50	134.30	121.80
ELEV	4	114.90	117.10	140.70	148.30	167.80	189.60
ELEV	4	176.80	149.50	142.00	124.20	137.00	172.60
ELEV	4	216.00	245.40	258.70	272.50	282.30	272.40
ELEV	4	271.40	294.40	305.80	308.40	314.20	303.40
ELEV	4	300.30	302.50	303.20	288.10	266.90	271.10
ELEV	4	275.20	259.10	246.40	237.20	236.20	237.00
ELEV	4	224.30	210.00	185.00	181.30	197.40	213.10
ELEV	4	215.90	241.70	251.00			
ELEV	5	128.00	109.40	108.00	110.50	119.30	139.70

ELEV	5	107.40	115.90	109.70	122.30	169.30	213.30
ELEV	5	183.70	136.20	120.80	144.60	169.10	144.20
ELEV	5	123.40	125.60	109.30	105.50	112.70	134.20
ELEV	5	155.50	132.30	127.50	122.40	140.10	117.80
ELEV	5	132.50	123.20	119.80	112.70	118.90	160.60
ELEV	5	154.60	136.00	127.50	132.80	172.70	216.50
ELEV	5	212.70	244.90	269.10	253.10	265.70	265.90
ELEV	5	289.30	281.80	285.00	308.20	308.00	295.80
ELEV	5	280.00	281.20	280.30	259.50	265.70	279.50
ELEV	5	278.40	258.00	237.50	226.60	223.20	223.70
ELEV	5	216.70	199.10	182.20	193.80	210.00	222.20
ELEV	5	228.60	224.60	219.70			
ELEV	6	106.10	129.00	160.70	160.90	126.00	110.30
ELEV	6	125.00	160.00	130.10	108.70	154.80	213.00
ELEV	6	209.50	162.70	121.00	136.50	166.40	162.00
ELEV	6	171.90	160.40	138.70	131.70	120.30	156.70
ELEV	6	131.50	109.40	120.90	120.10	147.80	114.80
ELEV	6	129.40	148.40	146.90	134.60	131.10	122.90
ELEV	6	140.40	111.10	143.10	162.00	195.40	221.90
ELEV	6	232.50	223.10	231.30	232.00	246.90	268.10
ELEV	6	269.50	250.70	269.70	284.90	282.00	279.10
ELEV	6	265.40	244.10	234.80	241.90	261.60	267.90
ELEV	6	269.90	270.00	253.10	247.40	216.20	207.50
ELEV	6	207.80	189.60	185.70	192.60	200.20	198.20
ELEV	6	208.40	211.10	210.10			
ELEV	7	142.30	183.90	232.10	234.10	190.50	148.70
ELEV	7	173.20	189.80	130.40	110.30	159.30	213.30
ELEV	7	213.60	189.80	129.10	129.40	163.60	177.30
ELEV	7	196.30	198.00	155.10	121.80	148.10	158.20
ELEV	7	111.50	131.70	135.30	154.30	152.00	108.60
ELEV	7	128.20	150.70	179.00	164.00	125.40	134.70

ELEV	7	133.70	123.70	126.00	135.60	156.30	208.00
ELEV	7	207.30	199.40	209.00	232.90	237.00	240.50
ELEV	7	256.50	233.50	239.20	271.70	271.50	266.00
ELEV	7	244.90	231.10	225.50	244.00	264.40	268.00
ELEV	7	265.20	272.40	268.50	262.00	245.40	209.10
ELEV	7	209.30	209.10	220.40	197.70	203.60	201.00
ELEV	7	210.80	219.50	237.20			
ELEV	8	173.80	246.90	290.60	294.40	241.50	197.50
ELEV	8	241.20	202.50	137.10	111.20	163.40	173.70
ELEV	8	162.50	161.80	144.10	111.50	131.80	155.00
ELEV	8	192.60	219.30	190.80	145.70	143.30	159.10
ELEV	8	111.40	111.40	115.00	109.80	114.60	117.90
ELEV	8	137.20	160.10	196.90	169.30	122.70	131.30
ELEV	8	147.60	116.70	117.00	121.20	145.60	194.20
ELEV	8	188.40	174.40	210.10	195.30	176.20	193.30
ELEV	8	236.20	216.90	246.40	259.80	258.10	263.00
ELEV	8	227.10	209.00	224.70	244.50	244.70	246.10
ELEV	8	258.00	261.60	264.90	242.90	227.50	224.30
ELEV	8	216.60	215.20	234.30	230.20	236.20	228.70
ELEV	8	218.70	256.70	273.10			
ELEV	9	197.70	266.20	297.40	280.50	262.50	255.00
ELEV	9	279.60	216.40	144.90	101.90	115.00	132.70
ELEV	9	123.20	116.70	123.60	105.20	145.30	143.80
ELEV	9	177.50	205.30	231.90	176.50	145.70	174.80
ELEV	9	135.30	131.80	117.40	109.10	114.20	125.60
ELEV	9	162.50	184.50	207.80	175.10	123.80	120.00
ELEV	9	116.00	128.80	118.90	115.30	146.50	163.40
ELEV	9	154.00	166.50	194.90	147.70	135.70	169.30
ELEV	9	205.10	207.70	240.80	215.90	227.70	237.00
ELEV	9	197.80	212.30	241.90	239.70	230.50	216.90
ELEV	9	243.00	268.90	265.60	245.10	253.10	237.30

ELEV	9	229.10	219.10	238.60	268.30	265.80	263.70
ELEV	9	213.60	251.50	279.50			
ELEV	10	189.00	256.50	287.30	283.70	293.70	293.70
ELEV	10	286.80	244.70	186.70	137.40	117.40	105.00
ELEV	10	110.00	130.90	112.90	114.80	126.00	134.80
ELEV	10	152.70	170.80	204.90	203.50	175.50	193.20
ELEV	10	195.80	167.70	133.50	146.70	120.80	124.10
ELEV	10	175.40	200.50	210.70	181.90	138.50	121.30
ELEV	10	121.40	111.00	110.40	122.10	113.20	118.50
ELEV	10	118.40	144.10	159.90	133.80	129.30	142.70
ELEV	10	156.10	211.30	213.20	182.70	198.80	221.60
ELEV	10	197.00	182.70	221.00	217.70	209.60	215.10
ELEV	10	234.70	257.80	264.20	259.40	271.40	254.10
ELEV	10	234.30	237.00	243.10	254.60	265.30	266.30
ELEV	10	227.80	248.20	275.80			
ELEV	11	228.50	249.10	286.40	296.40	297.80	278.50
ELEV	11	265.10	254.70	239.50	187.30	136.70	125.80
ELEV	11	110.50	134.80	156.90	145.10	153.80	155.60
ELEV	11	178.50	187.60	208.40	223.50	226.90	205.80
ELEV	11	212.70	159.70	172.90	174.80	135.70	126.60
ELEV	11	178.20	220.30	196.50	151.20	135.00	134.00
ELEV	11	157.30	122.70	117.30	124.30	137.40	134.90
ELEV	11	121.00	118.30	125.60	124.70	139.90	146.00
ELEV	11	139.70	157.40	150.60	152.30	178.50	196.90
ELEV	11	193.90	172.90	197.10	194.70	207.50	218.90
ELEV	11	235.30	246.10	260.50	272.90	267.70	250.90
ELEV	11	252.00	254.30	265.60	274.50	284.90	282.00
ELEV	11	254.10	237.40	262.30			
ELEV	12	256.20	278.90	288.90	297.10	292.30	287.80
ELEV	12	273.20	231.40	212.40	178.70	175.10	190.90
ELEV	12	121.00	119.10	145.30	161.80	172.80	168.20

ELEV	12	171.50	196.00	210.00	226.20	238.30	249.10
ELEV	12	232.30	206.60	181.40	141.30	125.10	158.60
ELEV	12	194.10	229.60	210.80	179.50	160.90	138.00
ELEV	12	161.40	159.80	142.30	142.20	159.90	182.30
ELEV	12	184.90	152.10	140.70	161.40	192.90	218.10
ELEV	12	187.60	148.00	153.90	147.70	161.20	182.90
ELEV	12	172.10	172.70	186.50	197.00	205.60	208.90
ELEV	12	223.20	242.30	256.10	278.20	273.00	261.60
ELEV	12	270.30	272.90	276.20	295.10	296.70	294.40
ELEV	12	264.90	235.70	255.80			
ELEV	13	259.90	273.80	289.00	288.70	302.50	299.70
ELEV	13	286.80	245.50	214.70	232.60	235.00	219.50
ELEV	13	170.20	123.80	114.40	151.10	158.20	162.80
ELEV	13	193.70	207.90	212.60	220.50	245.30	233.70
ELEV	13	226.20	210.90	180.30	157.40	134.80	182.30
ELEV	13	213.70	237.80	235.80	209.90	161.10	144.60
ELEV	13	167.60	155.10	153.60	163.90	159.10	198.50
ELEV	13	238.50	212.40	175.80	196.30	224.20	248.80
ELEV	13	216.00	163.00	189.20	159.20	153.20	174.30
ELEV	13	158.20	175.20	211.90	224.60	239.30	244.40
ELEV	13	242.20	259.60	271.80	274.00	269.20	274.60
ELEV	13	284.50	272.60	273.90	287.60	288.40	290.90
ELEV	13	288.20	257.90	244.30			
ELEV	14	244.10	261.50	285.90	298.00	306.80	308.70
ELEV	14	280.10	266.90	235.50	235.30	244.70	220.10
ELEV	14	180.60	158.60	129.10	125.70	143.70	181.10
ELEV	14	204.50	229.70	217.10	233.20	240.30	210.20
ELEV	14	196.00	186.80	186.90	174.30	135.10	169.80
ELEV	14	176.50	200.90	223.20	199.60	163.00	171.90
ELEV	14	186.50	161.60	165.80	203.80	203.60	228.40
ELEV	14	272.20	271.90	245.60	229.50	234.50	259.10

ELEV	14	226.40	190.60	206.30	164.70	150.60	156.10
ELEV	14	153.30	186.30	202.10	228.40	249.30	258.40
ELEV	14	258.70	270.10	273.00	268.70	275.70	275.00
ELEV	14	270.60	270.70	268.40	271.70	284.70	281.70
ELEV	14	284.60	275.50	243.70			
ELEV	15	251.90	276.90	291.00	295.90	301.40	296.50
ELEV	15	284.00	279.30	258.10	245.60	240.50	196.60
ELEV	15	186.10	173.50	160.30	131.00	149.80	178.20
ELEV	15	188.30	205.60	191.80	214.70	224.40	217.30
ELEV	15	207.10	192.70	171.80	152.60	144.50	145.70
ELEV	15	152.40	173.30	205.50	225.00	223.60	223.30
ELEV	15	200.00	186.30	178.90	216.50	265.40	282.80
ELEV	15	285.30	282.80	265.00	263.00	270.10	278.70
ELEV	15	253.20	232.20	218.10	186.60	166.50	151.00
ELEV	15	150.40	173.30	200.40	228.50	243.70	260.60
ELEV	15	233.30	245.70	251.90	273.60	259.20	271.50
ELEV	15	257.80	260.80	272.10	266.10	278.10	293.10
ELEV	15	295.00	285.60	265.20			
ELEV	16	277.20	285.40	286.30	289.50	305.00	298.30
ELEV	16	286.70	277.80	259.50	248.60	235.80	215.90
ELEV	16	229.30	195.20	160.40	136.20	133.30	142.00
ELEV	16	160.10	180.00	180.20	193.80	202.10	235.60
ELEV	16	233.10	203.10	194.30	177.50	199.50	183.20
ELEV	16	197.80	164.70	204.10	225.50	257.10	250.60
ELEV	16	232.30	230.00	216.70	230.60	293.50	301.00
ELEV	16	298.00	290.60	283.00	285.00	286.70	286.50
ELEV	16	278.30	249.20	227.50	199.20	180.00	160.80
ELEV	16	158.40	179.30	207.90	207.10	220.60	227.90
ELEV	16	212.70	218.80	254.60	274.30	254.30	243.80
ELEV	16	248.50	257.10	273.10	274.60	277.20	296.70
ELEV	16	297.50	293.90	288.10			

ELEV	17	268.10	260.30	274.10	284.90	299.80	295.10
ELEV	17	276.30	270.30	267.70	261.80	250.80	236.60
ELEV	17	211.80	177.70	156.80	141.90	169.20	188.00
ELEV	17	158.40	157.40	169.90	212.40	226.60	247.40
ELEV	17	227.20	206.00	223.50	199.80	220.90	199.30
ELEV	17	208.30	171.80	201.10	216.10	231.20	256.20
ELEV	17	270.50	279.00	259.50	249.20	296.10	306.40
ELEV	17	299.50	293.90	291.70	289.80	290.00	285.20
ELEV	17	275.80	245.70	221.40	188.40	191.80	166.50
ELEV	17	150.20	188.40	192.40	181.50	209.80	201.30
ELEV	17	198.30	236.70	271.10	270.50	232.70	241.00
ELEV	17	252.80	262.30	275.90	273.30	280.30	292.90
ELEV	17	299.50	298.50	299.20			
ELEV	18	255.60	254.40	269.10	272.80	283.80	275.70
ELEV	18	285.80	279.40	273.50	257.40	240.10	226.40
ELEV	18	207.90	205.10	198.70	168.80	167.10	195.50
ELEV	18	204.90	180.20	188.10	214.60	233.40	258.30
ELEV	18	265.20	256.60	239.70	225.30	247.60	232.30
ELEV	18	222.80	188.80	197.70	196.50	211.80	223.90
ELEV	18	253.00	283.20	282.10	287.00	293.70	299.90
ELEV	18	304.00	292.30	290.90	284.70	283.10	267.80
ELEV	18	255.50	237.60	222.80	198.00	162.60	157.80
ELEV	18	151.20	168.70	180.10	175.60	188.70	183.20
ELEV	18	218.60	260.50	260.30	250.90	235.90	262.60
ELEV	18	271.30	273.30	285.60	292.90	284.30	294.60
ELEV	18	304.20	307.30	305.10			
ELEV	19	237.60	245.40	261.10	276.80	284.80	275.40
ELEV	19	281.80	269.10	262.00	244.40	234.40	224.00
ELEV	19	231.20	209.30	194.80	180.50	176.20	190.20
ELEV	19	216.00	200.00	189.10	211.50	224.10	247.90
ELEV	19	270.50	275.70	256.80	237.60	254.00	238.10

ELEV	19	215.30	188.80	209.80	218.70	261.10	250.60
ELEV	19	251.70	264.50	281.20	285.80	288.40	298.50
ELEV	19	304.60	301.60	286.80	274.50	268.60	257.00
ELEV	19	233.30	215.70	209.20	189.70	197.80	181.50
ELEV	19	150.30	151.50	156.50	166.10	178.80	228.00
ELEV	19	244.70	244.30	235.30	227.90	249.40	266.60
ELEV	19	276.30	273.90	292.20	294.70	288.60	288.80
ELEV	19	307.10	305.90	307.50			
ELEV	20	245.60	273.60	275.00	288.50	297.10	289.80
ELEV	20	288.40	274.90	260.60	247.40	244.20	243.50
ELEV	20	240.30	204.50	179.90	165.00	178.50	205.00
ELEV	20	231.30	204.30	193.20	219.60	230.00	239.10
ELEV	20	262.50	279.20	277.40	267.00	257.50	227.10
ELEV	20	210.20	192.30	209.40	232.70	272.60	272.00
ELEV	20	272.00	279.00	274.80	285.00	288.10	296.60
ELEV	20	299.50	303.10	302.00	285.90	283.20	263.10
ELEV	20	230.50	222.70	209.10	221.80	223.20	213.00
ELEV	20	176.20	161.80	157.40	159.30	187.90	217.90
ELEV	20	223.80	219.30	215.70	250.20	269.20	274.20
ELEV	20	286.60	282.30	303.40	298.10	292.80	289.00
ELEV	20	302.10	300.80	312.90			
ELEV	21	276.30	280.90	278.10	284.20	289.70	283.80
ELEV	21	248.70	250.00	254.30	227.80	249.40	262.10
ELEV	21	234.20	218.50	198.60	186.10	214.20	224.70
ELEV	21	234.70	205.60	204.60	234.20	268.70	255.10
ELEV	21	262.70	286.80	282.90	278.80	231.90	210.60
ELEV	21	238.30	202.90	209.60	231.40	268.90	285.00
ELEV	21	287.10	289.50	284.00	282.00	289.60	292.50
ELEV	21	305.20	305.00	307.00	292.00	285.20	255.10
ELEV	21	251.00	259.40	228.50	223.00	238.00	201.80
ELEV	21	196.00	208.10	172.60	156.60	184.10	188.20

ELEV	21	195.60	216.10	234.60	256.60	279.00	289.60
ELEV	21	293.00	293.60	302.60	292.90	290.40	303.10
ELEV	21	307.10	306.70	314.10			
ELEV	22	281.20	284.60	285.30	291.00	285.50	261.00
ELEV	22	225.60	225.30	233.90	200.10	232.10	239.60
ELEV	22	244.70	225.80	202.00	194.70	226.40	229.00
ELEV	22	219.80	195.30	210.80	225.90	260.80	265.90
ELEV	22	274.20	278.00	276.50	258.10	243.70	238.50
ELEV	22	249.10	222.00	210.30	227.30	257.90	282.10
ELEV	22	285.70	282.30	279.80	281.40	288.70	289.50
ELEV	22	308.40	305.70	305.00	299.40	276.00	248.10
ELEV	22	260.70	258.90	243.30	240.90	253.70	230.10
ELEV	22	238.20	236.00	199.40	173.50	174.70	173.90
ELEV	22	205.80	228.50	229.80	243.40	260.60	284.40
ELEV	22	295.50	293.00	306.20	298.60	294.00	307.60
ELEV	22	318.80	325.80	323.40			
ELEV	23	264.00	263.50	265.80	286.40	275.00	252.20
ELEV	23	224.50	204.60	201.30	191.20	216.50	201.30
ELEV	23	223.70	240.20	220.40	221.30	229.10	234.40
ELEV	23	227.70	202.00	233.00	233.70	236.60	261.30
ELEV	23	275.00	285.80	266.10	253.70	236.40	261.70
ELEV	23	272.90	241.00	207.60	217.70	253.60	282.00
ELEV	23	280.10	273.30	277.10	283.60	286.00	288.60
ELEV	23	299.00	299.70	305.40	301.80	286.10	272.40
ELEV	23	280.60	281.80	280.50	264.30	261.10	262.30
ELEV	23	256.20	218.50	196.50	175.90	205.40	178.90
ELEV	23	192.80	202.70	219.90	248.50	269.20	289.40
ELEV	23	291.40	297.50	297.40	302.00	306.70	312.70
ELEV	23	319.40	322.60	319.80			
ELEV	24	237.90	241.90	245.90	264.40	247.50	235.80
ELEV	24	222.80	206.10	181.50	175.40	190.40	197.30

ELEV	24	229.40	224.80	227.80	234.30	247.30	256.30
ELEV	24	245.60	211.30	231.50	251.40	256.70	257.30
ELEV	24	277.30	279.00	262.20	239.00	259.80	259.80
ELEV	24	264.20	229.80	207.00	200.40	219.40	265.70
ELEV	24	262.10	254.90	265.10	286.00	289.00	295.50
ELEV	24	296.40	301.70	305.40	302.00	292.60	285.20
ELEV	24	285.60	281.90	282.10	257.10	243.80	243.20
ELEV	24	241.40	201.10	178.00	197.50	199.30	181.50
ELEV	24	189.60	217.20	233.90	248.20	262.20	274.30
ELEV	24	280.70	264.70	268.90	292.60	297.90	293.30
ELEV	24	305.00	307.70	304.30			
ELEV	25	252.30	254.20	250.00	266.40	239.40	217.70
ELEV	25	209.20	211.30	195.90	163.80	175.20	210.30
ELEV	25	211.30	206.20	216.00	227.50	251.80	266.20
ELEV	25	251.20	236.50	237.20	248.30	267.60	276.60
ELEV	25	278.60	272.90	247.50	246.30	262.40	265.90
ELEV	25	236.90	216.40	232.60	212.90	216.30	215.90
ELEV	25	239.30	246.30	264.90	282.20	290.00	294.90
ELEV	25	297.60	307.10	304.20	299.40	292.00	294.20
ELEV	25	283.70	270.00	269.50	253.40	234.30	216.20
ELEV	25	215.60	202.50	190.50	217.10	199.80	177.70
ELEV	25	200.70	215.80	208.10	227.00	236.00	241.80
ELEV	25	248.70	241.00	249.80	283.30	277.90	280.40
ELEV	25	284.80	284.90	286.50			
ELEV	26	276.20	267.10	272.10	249.80	224.00	201.50
ELEV	26	172.00	188.10	212.30	185.60	165.40	179.70
ELEV	26	187.10	206.00	223.30	241.80	260.70	261.50
ELEV	26	263.80	263.10	248.70	258.10	268.40	273.50
ELEV	26	285.50	279.20	253.70	266.50	271.60	256.60
ELEV	26	236.70	243.60	255.80	226.50	244.50	243.00
ELEV	26	231.30	247.40	270.30	284.00	290.70	292.70

ELEV	26	302.30	304.90	303.00	291.80	290.00	285.70
ELEV	26	281.80	259.00	244.60	250.40	237.60	220.40
ELEV	26	189.90	184.20	201.20	209.70	177.20	161.60
ELEV	26	161.10	170.70	168.70	204.90	214.60	213.00
ELEV	26	232.30	227.90	229.70	246.20	247.90	256.40
ELEV	26	277.20	280.20	292.10			
ELEV	27	294.40	285.30	278.50	265.00	231.60	191.00
ELEV	27	178.80	172.70	193.20	177.70	178.80	204.80
ELEV	27	203.50	219.70	234.20	234.80	259.90	251.40
ELEV	27	265.10	268.20	269.90	275.20	290.30	283.60
ELEV	27	286.30	278.40	276.70	281.40	282.90	272.00
ELEV	27	249.40	268.50	278.60	264.50	270.70	273.00
ELEV	27	249.60	271.60	280.40	284.40	285.00	295.60
ELEV	27	301.20	305.90	301.40	282.10	269.70	284.40
ELEV	27	279.80	255.30	229.10	209.70	202.20	196.70
ELEV	27	197.40	215.30	224.80	213.70	187.40	182.80
ELEV	27	203.00	181.90	182.00	208.00	242.10	251.00
ELEV	27	260.60	248.20	242.00	244.80	247.00	254.10
ELEV	27	281.30	304.60	297.20			
ELEV	28	277.90	286.40	264.50	255.60	236.40	213.40
ELEV	28	219.00	197.90	167.60	162.00	184.10	200.20
ELEV	28	207.90	202.20	213.30	220.50	231.10	230.30
ELEV	28	238.50	246.70	268.00	283.20	289.20	286.20
ELEV	28	286.00	279.20	284.10	277.60	286.90	276.40
ELEV	28	262.80	269.40	279.50	272.90	268.10	274.10
ELEV	28	259.70	266.00	278.40	282.00	290.10	298.00
ELEV	28	302.30	300.40	296.40	282.40	255.90	275.80
ELEV	28	283.40	256.60	259.80	234.90	231.10	230.40
ELEV	28	233.40	241.30	244.60	223.60	195.60	218.10
ELEV	28	222.20	181.40	182.00	215.80	239.20	262.40
ELEV	28	289.10	293.40	289.60	296.50	280.20	270.00

ELEV	28	263.50	276.90	291.00			
ELEV	29	277.60	280.00	266.50	263.70	239.30	208.20
ELEV	29	203.70	207.90	168.30	151.70	162.30	170.10
ELEV	29	190.30	183.40	196.60	200.30	203.60	225.30
ELEV	29	235.90	254.10	277.90	284.10	286.00	289.00
ELEV	29	291.20	287.30	289.10	289.90	287.70	275.50
ELEV	29	272.30	266.90	270.10	275.40	261.00	263.80
ELEV	29	250.20	255.20	273.40	281.20	287.50	296.00
ELEV	29	298.00	300.70	293.40	282.00	260.00	263.50
ELEV	29	277.40	273.50	267.90	264.10	259.00	253.60
ELEV	29	248.50	248.60	245.50	226.80	218.30	233.50
ELEV	29	209.10	172.00	190.70	213.60	239.50	245.40
ELEV	29	279.70	309.40	300.10	308.10	288.90	289.60
ELEV	29	283.80	283.10	294.90			
ELEV	30	222.10	244.20	244.00	264.10	236.10	200.10
ELEV	30	167.80	157.30	165.40	152.50	190.90	213.10
ELEV	30	212.80	207.20	231.20	253.20	248.40	256.70
ELEV	30	282.20	285.10	289.10	289.90	288.90	290.50
ELEV	30	289.60	288.70	291.00	293.30	291.50	289.70
ELEV	30	291.10	284.70	284.70	277.90	273.20	259.70
ELEV	30	250.80	250.20	271.00	283.30	286.90	293.40
ELEV	30	300.10	297.90	288.80	288.30	266.30	243.90
ELEV	30	253.90	275.50	280.50	278.50	272.20	263.80
ELEV	30	242.10	223.00	227.50	216.80	212.80	216.90
ELEV	30	202.70	177.30	183.50	201.20	229.80	255.60
ELEV	30	287.30	300.30	297.60	291.60	286.30	300.00
ELEV	30	294.10	295.00	300.50			
ELEV	31	163.90	218.90	256.70	261.90	227.80	208.90
ELEV	31	188.40	152.10	154.40	147.50	177.30	215.40
ELEV	31	240.90	234.40	246.60	274.60	272.50	273.80
ELEV	31	284.80	292.00	286.80	282.90	286.10	288.60

ELEV	31	285.10	284.20	286.10	291.40	291.80	290.10
ELEV	31	291.20	288.80	287.10	280.80	273.50	260.70
ELEV	31	254.00	256.40	262.40	278.30	290.90	297.20
ELEV	31	299.10	294.50	289.60	277.40	262.00	231.20
ELEV	31	252.50	257.00	270.40	273.10	267.20	255.60
ELEV	31	230.00	219.10	217.30	208.10	216.30	194.80
ELEV	31	179.70	177.50	199.20	208.60	230.30	261.70
ELEV	31	274.80	278.10	283.00	288.50	296.00	302.00
ELEV	31	300.80	296.60	297.00			
ELEV	32	177.10	220.00	236.70	248.70	223.90	182.20
ELEV	32	183.80	162.40	145.70	168.20	206.30	231.30
ELEV	32	258.70	267.50	256.60	284.10	284.00	281.00
ELEV	32	288.70	281.90	278.50	272.50	279.60	275.30
ELEV	32	268.70	270.40	279.00	288.90	290.90	287.50
ELEV	32	285.50	283.80	285.20	287.90	282.50	269.50
ELEV	32	262.40	258.20	256.70	278.80	288.30	292.50
ELEV	32	288.00	292.00	287.60	277.40	253.10	231.90
ELEV	32	236.80	242.60	253.10	258.50	260.70	249.40
ELEV	32	225.90	214.60	202.30	202.60	191.90	197.20
ELEV	32	185.60	179.80	186.90	215.70	220.50	248.00
ELEV	32	261.70	272.60	292.60	297.90	301.40	303.60
ELEV	32	298.10	289.30	300.50			
ELEV	33	150.80	173.30	182.50	211.00	205.40	173.70
ELEV	33	148.00	139.40	143.80	176.20	219.20	230.10
ELEV	33	255.60	276.80	286.90	278.70	271.90	268.00
ELEV	33	280.40	280.80	266.90	258.20	265.40	268.50
ELEV	33	271.40	276.20	283.50	286.80	286.60	269.30
ELEV	33	274.70	283.00	284.50	282.90	280.80	272.40
ELEV	33	265.10	264.40	260.00	274.90	285.90	286.90
ELEV	33	283.70	281.20	286.40	283.70	268.70	250.80
ELEV	33	228.90	232.60	236.80	242.20	228.60	218.30

ELEV	33	216.30	199.50	220.10	214.90	198.30	207.10
ELEV	33	198.70	183.60	191.10	228.70	242.80	258.90
ELEV	33	285.80	278.80	306.00	310.10	307.50	300.10
ELEV	33	290.90	279.80	290.40			
ELEV	34	126.60	128.30	130.80	157.80	170.30	171.30
ELEV	34	144.00	126.90	144.10	186.50	199.80	204.50
ELEV	34	247.40	269.50	262.60	251.10	259.40	254.40
ELEV	34	257.40	274.00	258.60	264.40	276.90	280.60
ELEV	34	278.00	281.10	283.90	289.30	284.20	277.10
ELEV	34	255.80	281.00	282.30	276.50	278.90	279.50
ELEV	34	266.40	260.30	261.00	269.00	275.50	278.10
ELEV	34	280.30	282.00	282.50	276.40	280.50	267.70
ELEV	34	238.60	220.40	218.00	223.90	214.40	208.90
ELEV	34	208.30	210.70	232.70	235.70	201.30	195.90
ELEV	34	192.70	177.90	193.30	217.10	242.60	281.30
ELEV	34	288.90	287.30	306.50	314.30	307.20	291.20
ELEV	34	288.40	277.60	272.30			
ELEV	35	136.50	123.80	126.40	129.70	154.50	149.80
ELEV	35	135.50	122.80	154.20	158.70	167.70	201.00
ELEV	35	226.90	233.60	226.70	241.00	252.20	235.80
ELEV	35	243.40	272.30	256.60	272.60	283.20	282.50
ELEV	35	278.50	272.50	277.70	284.80	282.40	268.80
ELEV	35	260.60	277.50	274.90	255.00	266.70	265.80
ELEV	35	267.10	267.70	270.50	270.10	268.50	274.80
ELEV	35	276.80	277.10	275.70	272.10	270.20	256.10
ELEV	35	228.70	221.60	216.60	217.30	225.50	221.20
ELEV	35	236.80	243.60	249.40	223.20	202.00	188.60
ELEV	35	177.70	186.00	207.40	236.80	265.80	290.40
ELEV	35	290.80	294.70	300.40	307.60	304.30	272.90
ELEV	35	261.80	267.30	261.30			
ELEV	36	184.90	182.30	125.10	122.30	138.00	132.00

ELEV	36	119.50	122.00	132.30	146.80	142.20	159.00
ELEV	36	176.20	179.90	210.80	225.70	229.70	224.70
ELEV	36	243.10	268.90	256.40	263.70	273.50	269.90
ELEV	36	261.90	264.80	278.60	279.80	275.90	267.40
ELEV	36	245.20	261.70	248.10	248.90	266.90	264.00
ELEV	36	264.00	270.20	266.00	266.00	270.00	267.90
ELEV	36	259.80	264.00	267.60	273.70	248.70	236.20
ELEV	36	225.10	234.00	237.90	238.50	248.40	241.80
ELEV	36	260.00	249.20	241.40	228.80	208.00	189.60
ELEV	36	190.60	199.40	225.70	246.50	276.10	295.90
ELEV	36	294.00	299.00	293.90	301.00	295.30	280.10
ELEV	36	257.50	256.50	247.30			
ELEV	37	254.30	228.50	171.30	125.90	112.00	115.60
ELEV	37	118.30	156.00	164.80	199.00	180.70	152.50
ELEV	37	191.90	200.20	193.20	199.60	201.50	209.80
ELEV	37	229.60	249.50	243.80	245.50	253.70	255.50
ELEV	37	267.10	272.10	271.90	266.60	271.80	250.90
ELEV	37	247.40	246.90	244.00	251.30	271.10	264.00
ELEV	37	264.00	269.50	266.00	266.00	269.10	250.10
ELEV	37	249.30	251.70	258.60	250.70	237.10	230.20
ELEV	37	236.10	248.60	248.00	258.30	263.10	268.90
ELEV	37	270.10	257.60	241.30	219.20	190.70	186.00
ELEV	37	184.90	202.50	230.10	246.50	262.40	283.70
ELEV	37	295.50	297.40	286.60	288.90	290.30	286.80
ELEV	37	270.60	245.80	239.00			
ELEV	38	229.10	208.40	202.40	136.20	111.00	112.40
ELEV	38	130.20	164.80	177.00	205.30	225.40	171.40
ELEV	38	161.40	184.50	220.50	225.30	217.90	212.50
ELEV	38	217.20	220.10	229.60	239.30	246.20	258.20
ELEV	38	263.20	260.90	266.90	261.20	242.10	236.90
ELEV	38	242.40	240.30	245.50	248.90	266.90	264.00

ELEV	38	264.00	271.70	268.60	266.00	269.50	262.90
ELEV	38	265.70	251.40	251.70	243.10	238.80	249.00
ELEV	38	252.30	261.90	277.80	262.30	257.10	260.60
ELEV	38	247.80	234.40	210.20	186.70	190.30	188.50
ELEV	38	188.90	205.40	246.80	266.20	268.90	291.50
ELEV	38	296.10	293.80	285.70	278.80	284.00	281.00
ELEV	38	264.80	240.50	269.40			
ELEV	39	191.70	174.00	168.60	152.80	113.70	123.20
ELEV	39	136.30	163.00	203.90	224.80	240.80	221.50
ELEV	39	172.20	168.80	206.80	236.00	252.30	243.80
ELEV	39	231.10	233.90	248.10	251.20	252.90	259.10
ELEV	39	256.70	247.30	258.20	248.40	239.10	263.10
ELEV	39	260.10	244.20	243.90	247.00	260.90	264.00
ELEV	39	264.00	273.70	271.20	270.50	273.90	265.40
ELEV	39	266.40	250.30	249.60	254.10	263.30	275.90
ELEV	39	275.10	271.40	265.30	247.90	245.00	239.40
ELEV	39	226.50	207.70	198.70	195.30	189.90	183.10
ELEV	39	187.50	223.30	270.20	286.70	280.40	293.60
ELEV	39	287.90	278.30	268.50	274.30	284.90	279.70
ELEV	39	247.70	254.60	285.70			
ELEV	40	212.60	209.30	173.40	130.20	115.00	135.10
ELEV	40	172.40	185.10	189.70	228.80	248.20	209.30
ELEV	40	192.50	205.00	212.70	237.10	269.20	261.60
ELEV	40	250.50	244.90	251.70	260.80	260.20	255.50
ELEV	40	255.10	255.40	232.90	233.00	253.20	264.20
ELEV	40	270.30	262.80	247.00	249.20	255.80	264.90
ELEV	40	264.20	269.20	269.10	276.30	275.10	255.60
ELEV	40	246.00	254.70	263.20	270.40	273.90	271.10
ELEV	40	274.90	271.20	254.50	241.10	229.50	229.60
ELEV	40	228.90	207.60	193.20	195.40	203.00	203.60
ELEV	40	215.00	255.60	279.10	287.10	287.90	295.40

ELEV	40	260.70	250.20	248.70	259.30	266.10	264.70
ELEV	40	237.30	264.70	287.00			
ELEV	41	237.50	202.70	181.50	133.70	125.70	152.00
ELEV	41	192.00	222.30	215.60	253.60	232.20	220.70
ELEV	41	186.40	205.40	232.40	251.10	249.40	250.20
ELEV	41	237.30	233.10	248.30	261.80	258.20	246.20
ELEV	41	239.90	244.50	232.00	248.10	261.30	260.20
ELEV	41	264.90	266.00	253.20	250.20	262.70	263.10
ELEV	41	265.70	276.50	277.70	284.90	267.90	250.80
ELEV	41	244.10	264.70	273.30	280.40	279.10	267.60
ELEV	41	265.90	262.10	269.00	247.90	228.80	215.10
ELEV	41	217.50	218.20	201.10	193.30	213.20	201.20
ELEV	41	234.30	273.80	294.60	296.60	292.00	277.50
ELEV	41	249.00	237.20	236.80	259.10	254.70	250.50
ELEV	41	230.80	266.60	284.80			
ELEV	42	227.20	190.20	156.40	132.60	137.10	164.20
ELEV	42	218.50	248.80	255.90	250.10	263.60	259.70
ELEV	42	222.10	186.70	217.40	226.20	228.90	232.80
ELEV	42	215.80	229.10	246.80	238.20	249.40	235.30
ELEV	42	232.00	232.00	232.00	252.30	253.90	261.40
ELEV	42	268.50	264.90	256.60	255.10	262.70	264.70
ELEV	42	273.40	274.60	299.70	296.80	278.30	248.10
ELEV	42	251.00	272.90	275.90	268.30	275.70	272.40
ELEV	42	259.20	246.10	253.90	258.00	238.90	212.90
ELEV	42	203.90	212.40	207.40	200.30	199.30	201.90
ELEV	42	221.00	245.00	301.10	300.70	288.50	268.30
ELEV	42	246.40	225.90	235.50	261.10	247.00	225.50
ELEV	42	247.60	248.50	261.90			
ELEV	43	204.60	176.50	159.60	134.60	144.50	185.00
ELEV	43	219.00	255.30	263.50	272.40	269.90	257.70
ELEV	43	222.90	180.80	203.70	204.60	210.70	208.00

ELEV	43	206.70	212.40	212.40	218.10	222.20	232.00
ELEV	43	232.00	232.00	232.00	233.50	245.70	259.70
ELEV	43	262.80	257.20	263.30	263.60	273.00	279.50
ELEV	43	289.00	309.00	314.20	306.90	278.10	242.50
ELEV	43	279.00	290.60	285.30	266.50	258.40	261.00
ELEV	43	262.20	241.60	251.50	261.00	242.70	215.50
ELEV	43	209.20	201.80	192.60	198.20	220.10	201.00
ELEV	43	202.00	230.00	259.90	289.20	285.10	269.70
ELEV	43	235.40	223.30	238.60	246.00	225.60	240.30
ELEV	43	274.40	282.40	274.40			
ELEV	44	172.60	174.30	190.30	136.00	153.10	195.90
ELEV	44	223.70	219.10	228.20	274.00	276.30	261.00
ELEV	44	238.20	192.40	186.00	191.40	192.50	213.60
ELEV	44	235.10	256.20	233.80	258.50	261.90	268.60
ELEV	44	258.90	248.10	248.20	241.70	239.70	245.10
ELEV	44	252.80	254.70	262.20	263.90	273.50	285.80
ELEV	44	307.50	333.20	319.00	304.00	273.30	270.20
ELEV	44	300.10	294.70	279.40	264.70	257.10	244.90
ELEV	44	243.90	239.00	242.90	252.00	238.40	219.30
ELEV	44	216.80	236.90	226.00	233.30	237.40	211.60
ELEV	44	204.20	208.50	223.00	256.50	271.60	255.90
ELEV	44	231.60	224.20	221.80	223.30	241.10	269.40
ELEV	44	283.50	291.80	289.20			
ELEV	45	195.70	161.60	162.60	138.00	158.10	170.40
ELEV	45	177.00	193.00	233.00	274.30	271.10	255.50
ELEV	45	227.40	205.40	181.50	202.20	225.10	238.20
ELEV	45	273.50	276.70	251.70	277.50	280.30	282.90
ELEV	45	269.50	261.00	263.50	248.70	250.10	256.10
ELEV	45	253.80	253.10	259.60	272.10	275.20	300.40
ELEV	45	329.50	336.50	316.60	306.60	259.10	296.10
ELEV	45	312.30	301.60	288.70	263.00	254.50	248.30

ELEV	45	235.80	227.30	229.90	234.70	231.70	204.20
ELEV	45	226.20	247.40	240.10	252.00	247.40	211.20
ELEV	45	206.20	204.50	212.10	225.00	237.40	242.00
ELEV	45	215.50	214.10	220.20	238.60	257.60	265.00
ELEV	45	282.20	283.90	289.90			
ELEV	46	218.40	186.70	165.10	150.30	160.30	161.70
ELEV	46	178.60	195.30	230.10	261.30	256.20	249.80
ELEV	46	233.10	207.40	200.50	230.00	251.40	267.40
ELEV	46	276.30	281.00	277.50	270.90	276.50	278.00
ELEV	46	277.50	268.30	271.10	262.10	262.30	256.10
ELEV	46	252.00	255.00	260.00	273.60	281.50	312.00
ELEV	46	333.40	333.60	327.20	309.90	261.00	309.60
ELEV	46	325.40	312.90	297.10	274.90	259.10	251.10
ELEV	46	248.30	237.20	220.70	215.40	208.00	217.30
ELEV	46	249.40	253.30	262.60	264.40	243.10	229.80
ELEV	46	210.50	218.10	202.40	201.10	218.50	214.60
ELEV	46	210.90	226.60	241.30	265.00	279.50	285.10
ELEV	46	286.60	281.90	283.90			
ELEV	47	202.40	187.30	147.20	178.50	183.20	187.30
ELEV	47	191.40	205.70	228.60	246.10	240.30	233.50
ELEV	47	227.70	202.50	211.70	236.80	248.10	260.60
ELEV	47	270.50	281.10	290.20	286.90	280.70	281.80
ELEV	47	280.80	280.00	279.30	269.90	252.00	252.00
ELEV	47	252.00	258.30	264.10	275.50	291.70	316.00
ELEV	47	323.20	331.90	302.20	247.60	271.90	312.60
ELEV	47	325.90	315.60	292.90	278.20	271.40	267.20
ELEV	47	260.10	253.10	232.70	210.90	230.10	241.50
ELEV	47	263.40	265.90	277.70	270.40	263.60	268.00
ELEV	47	270.70	254.60	201.10	207.50	206.70	223.50
ELEV	47	237.60	250.20	265.70	274.50	276.20	279.40
ELEV	47	275.00	278.00	274.00			

ELEV	48	216.20	165.40	158.70	197.00	224.70	229.30
ELEV	48	231.60	233.30	229.10	228.30	219.40	209.90
ELEV	48	192.70	195.60	205.40	219.10	239.30	261.30
ELEV	48	272.20	280.00	286.50	290.10	291.10	289.50
ELEV	48	286.50	284.80	276.20	263.60	252.80	252.00
ELEV	48	254.50	257.10	268.70	283.30	303.80	320.10
ELEV	48	327.60	329.90	274.20	284.50	305.80	315.70
ELEV	48	321.50	314.40	305.40	297.40	283.00	272.80
ELEV	48	254.90	241.30	220.40	231.60	239.50	264.20
ELEV	48	275.70	269.10	281.90	268.10	275.20	288.70
ELEV	48	285.60	264.10	206.00	202.60	210.20	240.10
ELEV	48	248.50	265.70	264.30	273.10	273.70	275.40
ELEV	48	269.10	273.20	277.50			
ELEV	49	204.50	163.00	170.70	213.40	253.00	277.40
ELEV	49	263.20	256.30	243.00	215.70	203.10	196.90
ELEV	49	210.60	230.90	214.60	208.40	226.00	241.80
ELEV	49	264.60	276.90	277.00	283.90	284.10	282.90
ELEV	49	274.20	275.70	275.90	253.60	252.00	260.00
ELEV	49	259.80	259.10	278.80	294.90	315.30	269.10
ELEV	49	201.90	252.20	299.20	291.90	302.80	310.40
ELEV	49	309.20	303.60	300.40	293.00	278.70	245.70
ELEV	49	243.90	227.60	217.10	232.70	240.30	273.00
ELEV	49	282.30	276.30	281.10	279.10	286.30	287.10
ELEV	49	284.30	251.30	221.40	206.50	213.90	225.40
ELEV	49	231.30	243.90	259.60	268.60	262.40	253.30
ELEV	49	265.70	276.00	271.50			
ELEV	50	193.40	173.00	189.10	213.70	255.20	273.00
ELEV	50	264.90	249.60	236.40	215.40	210.10	215.30
ELEV	50	232.10	251.00	249.90	223.90	214.90	248.50
ELEV	50	259.30	267.50	275.20	271.60	271.80	272.90
ELEV	50	276.50	271.20	265.30	250.60	253.00	260.90

ELEV	50	263.60	268.20	286.00	298.70	320.60	273.80
ELEV	50	185.30	278.40	304.60	304.20	304.30	306.10
ELEV	50	305.40	304.70	300.70	267.70	263.10	239.90
ELEV	50	227.10	223.90	227.20	259.20	266.50	286.70
ELEV	50	287.70	285.80	275.70	277.10	282.20	269.80
ELEV	50	254.50	239.80	222.80	209.50	232.00	243.50
ELEV	50	223.80	233.00	249.50	261.40	243.50	241.80
ELEV	50	244.10	255.20	258.30			
ELEV	51	187.40	185.90	204.50	223.50	252.20	252.10
ELEV	51	242.70	228.10	220.00	211.90	213.10	217.60
ELEV	51	240.10	257.80	260.50	220.00	223.00	256.40
ELEV	51	268.10	267.80	272.90	261.60	262.80	264.70
ELEV	51	258.80	259.70	251.90	251.50	255.20	262.10
ELEV	51	272.10	287.80	286.60	309.30	326.40	327.40
ELEV	51	282.20	330.90	325.00	320.60	312.10	304.20
ELEV	51	299.00	285.10	281.40	261.70	254.30	243.00
ELEV	51	226.80	221.30	238.00	254.80	271.40	286.40
ELEV	51	292.30	289.40	276.50	261.00	274.80	263.10
ELEV	51	245.40	231.40	221.40	223.30	238.00	251.70
ELEV	51	245.40	238.90	232.80	235.00	240.90	240.00
ELEV	51	238.60	243.30	259.60			
ELEV	52	202.80	188.80	210.20	214.10	241.40	271.20
ELEV	52	255.50	244.70	226.20	214.00	226.20	224.10
ELEV	52	253.80	259.60	257.30	231.10	213.30	255.50
ELEV	52	260.00	259.00	250.50	245.10	254.60	250.80
ELEV	52	253.10	252.60	261.10	260.90	265.70	258.60
ELEV	52	277.40	284.70	292.80	316.50	328.60	326.30
ELEV	52	324.90	336.80	332.20	320.20	308.40	323.00
ELEV	52	299.10	280.30	275.80	269.80	261.10	247.00
ELEV	52	234.50	248.40	263.70	273.40	278.90	293.60
ELEV	52	294.50	281.70	263.70	246.20	241.90	239.90

ELEV	52	228.90	229.40	213.50	221.20	247.70	268.70
ELEV	52	275.60	262.10	262.60	248.50	236.40	247.30
ELEV	52	248.60	252.30	263.30			
ELEV	53	203.30	195.20	211.20	235.80	248.10	261.20
ELEV	53	256.10	253.90	224.30	221.70	245.80	243.40
ELEV	53	257.70	251.30	247.20	244.30	207.90	236.90
ELEV	53	224.30	245.60	256.40	276.30	282.10	270.90
ELEV	53	272.40	259.20	267.60	283.70	274.00	271.90
ELEV	53	269.10	278.00	302.40	324.40	321.80	314.70
ELEV	53	319.50	339.30	342.80	314.00	328.60	315.10
ELEV	53	295.80	279.20	262.80	265.90	259.10	246.60
ELEV	53	237.40	257.30	270.70	282.60	286.70	300.10
ELEV	53	291.50	275.40	256.00	239.30	235.30	235.00
ELEV	53	226.00	209.30	210.00	229.60	252.60	276.40
ELEV	53	283.30	276.60	275.90	255.70	249.50	259.90
ELEV	53	268.20	273.40	273.40			
ELEV	54	209.80	211.00	233.70	255.10	260.80	268.90
ELEV	54	268.50	249.90	233.70	246.80	260.80	258.70
ELEV	54	260.70	253.40	266.10	250.50	213.40	226.80
ELEV	54	249.00	270.80	278.60	285.00	287.20	285.40
ELEV	54	285.00	280.90	269.00	275.60	285.00	276.00
ELEV	54	272.20	279.60	299.90	317.90	309.00	314.60
ELEV	54	325.80	342.10	338.90	309.40	310.70	307.30
ELEV	54	294.70	276.50	243.10	252.90	252.00	234.00
ELEV	54	246.60	255.90	272.10	283.40	295.70	302.60
ELEV	54	295.00	281.40	265.90	266.30	256.30	248.50
ELEV	54	236.70	214.70	209.90	230.90	250.10	273.10
ELEV	54	283.30	287.00	277.00	272.20	261.50	261.60
ELEV	54	272.40	280.60	293.70			
ELEV	55	215.30	227.00	249.20	265.00	262.00	257.60
ELEV	55	258.00	261.60	243.60	249.30	255.90	267.90

ELEV	55	256.20	262.10	265.30	255.90	223.70	235.40
ELEV	55	267.40	279.30	286.10	285.30	285.60	281.00
ELEV	55	281.80	270.40	269.00	272.70	284.30	274.80
ELEV	55	281.70	287.10	302.00	299.80	311.50	321.10
ELEV	55	344.20	342.60	324.90	293.20	285.90	295.90
ELEV	55	284.50	258.00	242.50	247.40	242.20	241.50
ELEV	55	262.20	276.00	280.10	287.10	291.90	296.90
ELEV	55	290.30	284.30	275.60	262.90	253.20	254.10
ELEV	55	233.00	215.90	212.30	231.20	248.70	279.10
ELEV	55	282.60	281.20	278.60	284.40	286.00	284.60
ELEV	55	279.70	285.90	303.20			
ELEV	56	226.10	237.80	248.10	261.70	266.20	271.40
ELEV	56	276.70	279.90	270.60	252.90	254.90	266.30
ELEV	56	265.90	272.00	259.70	244.90	229.00	226.50
ELEV	56	257.20	279.70	286.00	290.00	287.70	271.30
ELEV	56	280.60	283.20	281.10	284.50	278.70	274.20
ELEV	56	292.70	292.50	297.80	300.10	321.70	322.40
ELEV	56	333.10	328.10	313.20	302.20	291.70	274.80
ELEV	56	266.00	261.90	264.00	266.40	264.00	247.20
ELEV	56	269.50	278.20	287.20	287.80	287.00	289.00
ELEV	56	291.40	289.60	280.70	270.90	246.90	235.60
ELEV	56	224.20	217.60	227.00	263.90	271.50	275.40
ELEV	56	274.10	271.40	270.50	277.40	280.20	287.20
ELEV	56	286.80	291.90	309.20			
ELEV	57	218.20	232.80	249.70	268.00	273.10	278.60
ELEV	57	284.10	281.00	276.60	268.30	253.50	268.10
ELEV	57	269.80	269.60	267.60	242.60	246.10	225.90
ELEV	57	227.40	259.30	271.20	278.60	266.00	279.30
ELEV	57	289.00	288.20	286.60	284.60	278.30	277.60
ELEV	57	287.80	282.10	301.10	298.40	308.20	318.80
ELEV	57	312.50	312.00	309.50	303.00	285.90	282.20

ELEV	57	286.80	281.90	285.60	279.50	263.90	247.10
ELEV	57	276.00	283.10	288.90	285.00	281.10	281.30
ELEV	57	284.10	288.80	283.90	271.90	258.90	242.00
ELEV	57	220.30	213.30	247.00	265.80	273.00	253.10
ELEV	57	247.60	238.00	251.90	262.30	286.60	286.50
ELEV	57	288.90	293.60	301.00			
ELEV	58	233.40	244.50	257.10	268.40	278.80	285.40
ELEV	58	285.00	279.30	277.60	271.90	266.90	263.80
ELEV	58	262.60	256.90	255.30	246.30	254.90	234.10
ELEV	58	253.40	245.20	242.90	250.30	268.30	290.40
ELEV	58	293.30	293.00	288.60	280.40	285.30	274.10
ELEV	58	285.30	285.30	286.90	297.80	300.70	305.10
ELEV	58	305.80	305.50	296.30	300.20	289.60	294.00
ELEV	58	289.80	282.20	283.20	260.50	244.30	244.90
ELEV	58	277.50	288.10	287.40	280.00	277.30	274.40
ELEV	58	268.70	277.10	273.40	263.80	254.40	235.40
ELEV	58	212.90	215.70	239.20	247.90	250.10	240.90
ELEV	58	234.40	245.10	256.60	277.50	286.60	286.10
ELEV	58	287.90	295.50	308.70			
ELEV	59	232.20	238.80	245.70	255.00	270.80	274.10
ELEV	59	274.30	277.50	273.60	274.10	264.70	261.20
ELEV	59	256.40	263.00	261.10	265.90	265.70	239.90
ELEV	59	276.30	278.80	258.90	256.90	277.40	287.30
ELEV	59	290.90	287.40	288.70	277.10	280.10	273.50
ELEV	59	272.80	282.10	295.90	299.00	303.60	302.20
ELEV	59	309.60	306.50	302.30	294.70	292.20	290.30
ELEV	59	285.00	279.40	260.60	250.60	252.30	256.10
ELEV	59	280.60	286.70	282.60	283.60	282.70	279.50
ELEV	59	265.20	250.40	240.90	235.80	238.60	221.30
ELEV	59	217.50	214.00	219.80	227.00	225.90	236.80
ELEV	59	232.00	251.40	260.20	283.10	280.80	289.10

ELEV	59	284.90	295.70	302.00			
ELEV	60	215.90	223.60	233.90	240.80	254.70	258.90
ELEV	60	270.00	273.80	275.00	265.70	260.90	265.60
ELEV	60	270.30	279.80	281.50	276.80	260.70	252.20
ELEV	60	279.10	286.90	277.50	264.60	255.50	259.70
ELEV	60	265.40	281.20	269.60	267.80	276.20	272.30
ELEV	60	274.60	281.50	293.40	293.20	290.30	287.10
ELEV	60	293.40	294.10	297.60	295.10	289.90	281.10
ELEV	60	270.80	263.70	252.60	276.00	285.40	272.00
ELEV	60	271.60	287.80	286.50	276.90	282.50	285.50
ELEV	60	279.80	268.30	232.60	226.90	222.70	223.20
ELEV	60	227.20	223.70	212.60	220.80	235.60	250.60
ELEV	60	257.90	257.70	272.20	289.40	295.90	299.50
ELEV	60	302.30	305.20	311.10			
ELEV	61	205.80	214.70	224.90	230.60	248.40	256.00
ELEV	61	276.40	271.80	266.50	255.50	257.70	271.90
ELEV	61	281.70	284.60	278.60	269.70	252.20	259.20
ELEV	61	275.60	281.00	281.50	280.70	285.40	284.10
ELEV	61	279.70	267.80	279.10	291.90	295.80	294.00
ELEV	61	279.20	280.70	281.40	289.40	290.20	304.30
ELEV	61	294.90	298.70	298.50	295.60	280.40	279.10
ELEV	61	264.10	266.70	274.80	289.00	291.60	291.10
ELEV	61	291.50	289.30	285.20	280.90	272.50	281.80
ELEV	61	279.80	267.10	233.70	228.10	225.50	247.90
ELEV	61	242.80	223.70	218.70	230.90	254.40	266.90
ELEV	61	283.50	287.10	289.40	295.70	296.80	303.90
ELEV	61	307.50	313.10	313.30			
ELEV	62	210.30	219.30	226.40	236.80	258.30	272.10
ELEV	62	278.90	253.10	235.90	208.30	249.80	272.90
ELEV	62	284.10	278.00	273.40	259.90	241.50	263.00
ELEV	62	272.20	270.60	275.60	280.30	288.10	289.80

ELEV	62	289.50	289.50	295.90	305.10	302.20	293.70
ELEV	62	286.00	288.70	288.80	286.90	302.90	307.40
ELEV	62	300.40	302.90	300.70	294.70	285.50	278.70
ELEV	62	281.40	290.10	286.20	294.00	292.90	292.50
ELEV	62	293.90	284.20	283.30	284.70	267.40	276.00
ELEV	62	261.40	238.60	224.30	233.90	260.50	258.50
ELEV	62	241.80	219.50	223.80	237.70	248.70	259.20
ELEV	62	266.90	280.00	290.80	290.50	296.90	302.90
ELEV	62	309.30	307.80	302.80			
ELEV	63	209.70	205.00	212.60	230.40	248.10	267.90
ELEV	63	253.00	227.80	216.50	208.80	234.10	264.70
ELEV	63	280.10	270.10	265.50	262.30	248.50	255.40
ELEV	63	257.70	264.70	271.90	278.10	282.00	281.10
ELEV	63	283.00	293.50	301.50	300.60	303.10	304.10
ELEV	63	294.40	291.30	291.50	293.90	307.30	309.00
ELEV	63	306.30	302.90	290.90	287.30	288.80	296.40
ELEV	63	298.70	300.20	298.60	295.20	295.80	293.00
ELEV	63	280.60	271.10	261.10	250.20	244.10	239.70
ELEV	63	232.70	235.60	242.50	263.00	279.00	265.60
ELEV	63	236.10	222.00	223.20	234.30	236.90	249.50
ELEV	63	253.90	276.90	290.10	294.20	296.90	300.60
ELEV	63	303.20	301.90	295.50			
ELEV	64	201.00	198.20	198.10	205.30	235.30	251.60
ELEV	64	238.60	205.60	197.40	203.00	213.40	233.00
ELEV	64	264.10	272.40	268.90	261.10	250.80	246.60
ELEV	64	252.40	262.50	258.60	264.70	273.40	279.10
ELEV	64	273.70	288.60	298.30	309.90	313.90	310.10
ELEV	64	307.40	294.90	297.70	297.30	298.70	302.30
ELEV	64	302.80	291.20	282.80	285.10	290.00	300.00
ELEV	64	314.10	313.60	299.90	297.40	290.80	286.00
ELEV	64	264.40	256.20	252.50	245.70	243.10	242.00

ELEV	64	255.90	266.70	264.80	274.70	284.10	260.70
ELEV	64	243.30	223.00	236.00	248.00	248.60	254.40
ELEV	64	253.00	263.20	289.40	296.00	298.60	297.80
ELEV	64	303.10	301.20	291.60			
ELEV	65	190.80	185.80	185.80	206.80	217.70	228.30
ELEV	65	229.70	197.30	195.20	208.80	221.30	243.30
ELEV	65	256.10	264.10	263.40	260.60	252.30	262.50
ELEV	65	258.10	260.60	266.60	259.60	280.90	287.70
ELEV	65	289.50	294.10	304.60	317.10	319.90	313.50
ELEV	65	313.70	297.50	295.80	292.00	290.00	293.10
ELEV	65	292.60	293.20	272.10	285.00	289.70	288.60
ELEV	65	299.00	312.30	304.70	287.10	285.60	262.60
ELEV	65	277.20	286.30	285.80	254.50	245.10	256.30
ELEV	65	258.90	279.30	284.20	283.80	284.40	264.90
ELEV	65	241.30	226.00	250.30	274.70	272.00	270.90
ELEV	65	280.90	278.90	292.30	293.50	292.70	296.30
ELEV	65	298.30	284.90	272.00			
ELEV	66	188.40	182.00	188.90	188.40	197.10	209.40
ELEV	66	209.40	183.10	198.20	223.40	227.30	243.00
ELEV	66	266.20	262.50	253.30	251.10	259.20	270.60
ELEV	66	271.10	275.80	278.00	266.10	269.10	285.80
ELEV	66	287.90	296.90	304.40	310.80	324.20	317.60
ELEV	66	312.60	304.50	290.50	287.50	280.90	288.60
ELEV	66	290.60	280.50	267.00	273.20	278.30	271.90
ELEV	66	284.50	287.70	294.90	292.20	272.90	278.60
ELEV	66	295.10	293.40	288.10	251.40	256.00	279.50
ELEV	66	280.00	282.10	282.30	279.00	277.60	253.60
ELEV	66	232.60	220.50	252.50	268.90	270.00	266.30
ELEV	66	277.60	269.70	272.30	283.10	274.60	279.50
ELEV	66	292.20	270.50	269.20			
ELEV	67	179.90	171.00	172.80	172.50	180.80	185.40

ELEV	67	187.20	183.30	184.40	198.90	220.40	239.90
ELEV	67	268.30	268.70	260.50	253.40	264.20	279.60
ELEV	67	280.50	281.60	282.90	276.50	268.00	280.10
ELEV	67	289.20	287.40	293.60	315.80	316.00	317.60
ELEV	67	308.60	296.60	288.10	283.30	273.30	285.90
ELEV	67	286.60	284.50	268.10	265.10	264.40	263.00
ELEV	67	270.70	286.40	288.10	291.30	290.20	295.50
ELEV	67	294.00	292.30	276.90	257.00	270.80	282.10
ELEV	67	280.20	283.00	280.00	263.20	253.40	232.00
ELEV	67	220.40	224.50	242.20	250.30	253.90	255.90
ELEV	67	266.70	262.10	263.50	258.40	274.70	292.90
ELEV	67	277.30	258.50	274.90			
ELEV	68	165.50	164.50	164.00	163.00	167.80	166.70
ELEV	68	177.00	174.30	208.00	220.10	226.90	239.90
ELEV	68	254.50	259.80	275.70	260.40	270.70	284.00
ELEV	68	286.20	291.20	291.40	281.90	271.60	282.80
ELEV	68	292.30	294.20	306.50	316.10	314.90	316.40
ELEV	68	307.20	294.60	286.10	282.30	274.50	282.90
ELEV	68	289.20	287.30	280.10	260.00	248.70	255.30
ELEV	68	266.90	290.30	293.60	290.90	295.20	294.30
ELEV	68	288.50	267.00	254.80	250.90	277.90	277.50
ELEV	68	279.90	283.80	274.50	256.70	243.70	237.40
ELEV	68	224.30	228.80	228.80	231.00	245.20	248.00
ELEV	68	252.80	261.70	263.90	269.20	281.80	282.50
ELEV	68	259.30	256.00	271.30			
ELEV	69	148.50	158.00	158.20	178.90	194.60	190.00
ELEV	69	194.10	206.90	226.60	233.80	224.90	235.60
ELEV	69	257.90	271.00	277.80	269.50	277.10	290.50
ELEV	69	291.20	305.40	300.00	290.70	281.30	292.10
ELEV	69	296.80	295.30	300.00	311.10	307.80	305.10
ELEV	69	301.80	292.80	297.30	277.10	266.80	281.60

ELEV	69	290.20	295.00	294.90	280.70	258.30	256.50
ELEV	69	280.80	273.90	284.20	285.50	270.80	292.40
ELEV	69	288.80	268.40	271.10	259.20	269.40	276.10
ELEV	69	279.10	280.30	275.30	271.10	273.30	250.70
ELEV	69	232.90	232.80	238.30	228.90	228.20	230.80
ELEV	69	238.20	234.70	250.40	262.40	284.70	267.10
ELEV	69	249.90	274.90	267.80			
ELEV	70	175.10	187.20	191.10	177.20	219.60	233.20
ELEV	70	226.60	236.00	244.20	228.30	213.60	239.00
ELEV	70	263.70	266.30	264.50	272.70	272.70	282.80
ELEV	70	288.40	302.20	299.30	295.90	293.90	301.60
ELEV	70	308.60	305.40	302.30	310.60	307.90	306.60
ELEV	70	301.20	283.50	272.20	268.20	250.70	275.30
ELEV	70	287.90	299.00	293.20	286.50	267.30	255.50
ELEV	70	274.90	266.50	273.10	271.10	276.90	281.00
ELEV	70	281.20	283.80	272.50	269.10	275.20	269.40
ELEV	70	272.00	271.10	264.10	268.30	267.50	247.80
ELEV	70	243.20	256.50	240.70	233.60	234.40	236.80
ELEV	70	246.90	261.60	233.20	234.70	253.80	237.70
ELEV	70	255.70	264.70	263.00			
ELEV	71	205.60	210.50	210.00	212.60	233.60	259.20
ELEV	71	259.10	258.40	247.90	222.30	209.50	239.10
ELEV	71	242.20	241.90	256.40	269.40	270.10	273.70
ELEV	71	283.90	289.10	296.30	295.10	297.80	304.60
ELEV	71	310.70	313.30	304.40	308.50	302.70	300.50
ELEV	71	302.90	284.10	265.20	253.60	243.20	260.80
ELEV	71	274.40	296.10	291.70	286.30	266.30	266.10
ELEV	71	267.90	257.20	269.20	263.30	274.70	279.30
ELEV	71	286.40	282.60	279.90	273.70	267.60	261.10
ELEV	71	255.30	257.80	257.30	258.20	256.00	250.50
ELEV	71	263.20	275.90	248.80	242.60	256.40	273.20

ELEV	71	275.60	276.60	263.50	249.20	233.10	238.00
ELEV	71	257.10	264.00	254.00			
ELEV	72	196.20	212.60	197.30	201.40	223.80	260.50
ELEV	72	250.70	231.10	233.50	221.70	194.40	203.50
ELEV	72	206.30	227.90	251.80	268.50	272.80	276.90
ELEV	72	290.80	285.00	293.60	288.80	292.00	304.40
ELEV	72	306.20	312.00	304.10	296.00	297.80	292.40
ELEV	72	294.70	290.70	276.90	248.20	248.30	255.00
ELEV	72	281.60	284.90	290.10	289.50	266.90	264.40
ELEV	72	266.30	242.90	255.00	285.90	292.50	290.50
ELEV	72	282.60	283.20	276.50	281.90	273.90	276.50
ELEV	72	271.60	270.00	248.20	249.90	262.30	272.70
ELEV	72	284.20	274.60	251.50	248.30	282.60	290.50
ELEV	72	279.70	274.60	269.10	254.60	234.10	231.00
ELEV	72	245.50	266.40	244.40			
ELEV	73	196.70	192.80	187.30	215.70	239.30	261.80
ELEV	73	231.90	207.30	201.20	210.70	178.50	195.90
ELEV	73	228.70	256.20	262.20	275.90	272.00	276.00
ELEV	73	294.20	296.90	292.50	280.00	296.80	304.60
ELEV	73	304.70	305.80	292.60	290.70	284.90	282.60
ELEV	73	288.80	285.90	268.60	242.10	244.50	258.60
ELEV	73	278.60	286.60	271.50	282.40	266.30	234.50
ELEV	73	247.60	256.20	273.50	291.00	287.70	286.40
ELEV	73	278.30	278.30	283.10	277.90	278.80	274.20
ELEV	73	261.40	255.30	251.20	265.10	275.30	288.90
ELEV	73	288.30	283.10	253.30	259.20	268.00	276.50
ELEV	73	277.40	276.60	269.00	258.90	247.70	230.60
ELEV	73	253.90	253.60	244.40			
ELEV	74	187.40	177.70	181.50	209.90	239.20	229.00
ELEV	74	204.30	198.50	185.70	187.10	174.10	223.90
ELEV	74	244.10	268.20	277.70	272.40	270.30	283.10

ELEV	74	295.20	292.30	283.20	277.40	292.70	305.40
ELEV	74	302.50	284.40	262.80	283.30	282.70	276.20
ELEV	74	276.90	279.10	265.80	237.70	241.90	253.10
ELEV	74	272.40	282.80	249.60	241.40	233.40	237.90
ELEV	74	279.90	277.90	283.30	287.10	277.90	279.10
ELEV	74	280.60	290.70	279.80	286.80	273.10	265.70
ELEV	74	265.50	258.60	260.70	273.70	278.50	288.80
ELEV	74	293.00	283.00	255.20	261.00	271.40	279.30
ELEV	74	286.10	272.60	265.60	253.60	246.90	232.20
ELEV	74	252.80	251.50	247.30			
ELEV	75	169.70	160.90	175.30	195.80	221.20	197.60
ELEV	75	190.60	183.40	170.30	171.50	213.90	231.70
ELEV	75	257.30	268.00	270.50	270.00	273.90	286.00
ELEV	75	278.40	269.10	272.60	287.80	298.50	305.50
ELEV	75	299.10	277.80	252.40	282.90	273.90	283.50
ELEV	75	281.00	269.70	251.60	230.00	228.30	249.30
ELEV	75	280.80	280.70	269.60	229.40	226.60	245.30
ELEV	75	282.20	276.40	270.90	274.50	262.00	280.00
ELEV	75	280.30	287.80	287.30	274.50	261.50	259.40
ELEV	75	261.20	268.10	270.60	266.10	271.00	274.00
ELEV	75	287.10	286.00	257.60	267.10	272.00	270.60
ELEV	75	272.20	269.20	270.20	276.20	264.50	235.30
ELEV	75	232.50	246.30	238.40			
HILL	1	296.60	305.00	309.00	309.00	301.00	303.00
HILL	1	303.00	303.00	303.00	303.00	303.00	246.00
HILL	1	250.50	269.00	288.00	291.00	296.00	296.00
HILL	1	291.00	296.00	291.00	290.00	191.00	191.00
HILL	1	191.00	191.00	191.00	191.00	238.00	238.00
HILL	1	168.20	182.80	238.00	238.00	236.00	242.00
HILL	1	242.00	242.00	319.00	319.00	319.00	300.00
HILL	1	292.00	297.00	297.00	300.00	293.00	303.00

HILL	1	297.00	312.00	311.00	296.00	303.30	315.40
HILL	1	313.00	306.40	297.20	317.00	317.00	308.00
HILL	1	308.00	305.00	287.00	271.00	286.00	270.00
HILL	1	225.90	253.00	253.00	213.00	275.00	275.00
HILL	1	275.00	278.00	270.00			
HILL	2	309.00	308.00	309.00	309.00	303.00	303.00
HILL	2	303.00	303.00	303.00	303.00	302.00	245.00
HILL	2	255.00	270.00	296.00	296.00	296.00	296.00
HILL	2	296.00	296.00	291.00	217.00	191.00	191.00
HILL	2	191.00	191.00	191.00	191.00	238.00	143.60
HILL	2	238.00	242.00	242.00	238.00	238.00	236.00
HILL	2	242.00	242.00	242.00	319.00	319.00	319.00
HILL	2	300.00	300.00	300.00	298.00	292.00	310.00
HILL	2	315.00	310.00	315.00	288.80	301.70	311.30
HILL	2	317.70	311.80	313.00	312.00	317.00	308.00
HILL	2	294.00	294.00	287.00	268.00	233.00	252.00
HILL	2	253.00	253.00	253.00	186.60	276.00	276.00
HILL	2	233.00	275.00	276.00			
HILL	3	309.00	309.00	309.00	309.00	309.00	308.00
HILL	3	309.00	307.00	303.00	303.00	300.00	245.00
HILL	3	253.00	296.00	301.00	296.00	296.00	296.00
HILL	3	291.00	290.00	270.00	233.00	191.00	191.00
HILL	3	191.00	191.00	191.00	191.00	238.00	238.00
HILL	3	242.00	242.00	242.00	242.00	242.00	242.00
HILL	3	242.00	242.00	242.00	298.00	319.00	319.00
HILL	3	298.00	281.00	284.00	286.00	286.00	315.00
HILL	3	310.00	310.00	315.00	309.00	310.00	315.00
HILL	3	318.90	319.30	316.50	317.00	317.00	294.00
HILL	3	288.00	267.10	268.00	241.00	246.00	243.00
HILL	3	243.00	217.00	194.70	236.00	275.00	275.00
HILL	3	275.00	248.60	275.00			

HILL	4	309.00	309.00	309.00	309.00	309.00	309.00
HILL	4	309.00	309.00	305.00	303.00	214.00	225.00
HILL	4	255.00	294.00	303.00	270.00	269.00	290.00
HILL	4	273.00	269.00	233.00	233.00	191.00	191.00
HILL	4	191.00	191.00	191.00	191.00	145.00	238.00
HILL	4	242.00	242.00	242.00	242.00	242.00	242.00
HILL	4	242.00	242.00	285.00	300.00	300.00	293.00
HILL	4	277.00	275.00	275.00	274.00	282.30	289.00
HILL	4	315.00	315.00	315.00	308.40	314.20	314.00
HILL	4	327.00	318.00	317.00	318.00	318.00	282.00
HILL	4	288.00	288.00	265.00	248.00	243.00	242.00
HILL	4	224.30	217.00	230.00	231.00	232.00	233.00
HILL	4	275.00	252.00	251.00			
HILL	5	326.00	326.00	326.00	310.00	310.00	309.00
HILL	5	310.00	310.00	310.00	305.00	289.00	219.00
HILL	5	228.00	270.00	288.00	270.00	174.00	227.00
HILL	5	269.00	233.00	233.00	242.00	233.00	233.00
HILL	5	155.50	191.00	191.00	191.00	140.10	238.00
HILL	5	238.00	242.00	242.00	242.00	242.00	242.00
HILL	5	242.00	242.00	285.00	293.00	277.00	224.00
HILL	5	277.00	275.00	272.00	284.00	284.00	296.00
HILL	5	293.00	315.00	315.00	308.20	311.00	299.00
HILL	5	327.00	327.00	318.00	327.00	317.00	279.50
HILL	5	278.40	279.00	287.00	279.00	277.00	242.00
HILL	5	229.00	231.00	272.00	224.00	231.00	231.00
HILL	5	230.00	253.00	293.00			
HILL	6	326.00	310.00	309.00	309.00	310.00	310.00
HILL	6	310.00	305.00	310.00	310.00	295.00	228.00
HILL	6	228.00	228.00	270.00	269.00	182.00	227.00
HILL	6	227.00	233.00	233.00	233.00	251.00	165.00
HILL	6	233.00	251.00	191.00	162.00	147.80	230.00

HILL	6	224.00	224.00	224.00	242.00	242.00	242.00
HILL	6	242.00	277.00	275.00	275.00	232.00	231.00
HILL	6	232.50	277.00	284.00	286.00	286.00	280.00
HILL	6	297.00	315.00	315.00	314.00	315.00	312.00
HILL	6	316.00	327.00	327.00	327.00	261.60	284.00
HILL	6	269.90	277.00	279.00	277.00	277.00	277.00
HILL	6	269.00	269.00	272.00	273.00	272.00	293.00
HILL	6	293.00	293.00	293.00			
HILL	7	309.00	305.00	305.00	305.00	305.00	310.00
HILL	7	306.00	305.00	310.00	310.00	296.00	225.00
HILL	7	227.00	228.00	252.00	230.00	216.00	221.00
HILL	7	216.00	228.00	233.00	251.00	242.00	233.00
HILL	7	251.00	251.00	241.00	154.30	162.00	242.00
HILL	7	238.00	224.00	207.00	224.00	242.00	242.00
HILL	7	242.00	272.00	277.00	284.00	283.00	232.00
HILL	7	275.00	284.00	284.00	269.00	282.00	297.00
HILL	7	277.00	316.00	316.00	285.00	281.00	296.00
HILL	7	316.00	327.00	327.00	273.00	273.00	268.00
HILL	7	265.20	272.40	272.00	277.00	271.00	277.00
HILL	7	270.00	269.00	269.00	297.00	296.00	296.00
HILL	7	293.00	293.00	293.00			
HILL	8	306.00	305.00	305.00	300.00	305.00	305.00
HILL	8	295.00	305.00	310.00	310.00	299.00	294.00
HILL	8	294.00	228.00	228.00	233.00	233.00	233.00
HILL	8	230.00	219.30	233.00	251.00	251.00	251.00
HILL	8	252.00	252.00	251.00	251.00	251.00	242.00
HILL	8	242.00	231.00	207.00	224.00	242.00	224.00
HILL	8	147.60	304.00	307.00	307.00	285.00	232.00
HILL	8	275.00	286.00	272.00	300.00	315.00	315.00
HILL	8	280.00	316.00	310.00	269.00	270.00	263.00
HILL	8	316.00	327.00	317.00	246.00	273.00	269.00

HILL	8	271.00	279.00	276.00	279.00	277.00	274.00
HILL	8	274.00	269.00	269.00	272.00	273.00	290.00
HILL	8	296.00	293.00	293.00			
HILL	9	305.00	305.00	297.40	305.00	305.00	298.00
HILL	9	294.00	299.00	310.00	310.00	310.00	310.00
HILL	9	310.00	310.00	294.00	294.00	233.00	233.00
HILL	9	233.00	233.00	231.90	250.00	252.00	251.00
HILL	9	252.00	251.00	251.00	251.00	251.00	242.00
HILL	9	242.00	230.00	224.00	224.00	242.00	304.00
HILL	9	307.00	307.00	307.00	308.00	307.00	299.00
HILL	9	305.00	287.00	227.00	316.00	316.00	316.00
HILL	9	315.00	315.00	268.00	316.00	312.00	265.00
HILL	9	327.00	296.00	241.90	249.00	260.00	279.00
HILL	9	279.00	276.00	279.00	279.00	274.00	274.00
HILL	9	274.00	296.00	269.00	269.00	272.00	270.00
HILL	9	297.00	293.00	281.00			
HILL	10	308.00	305.00	287.30	294.00	293.70	293.70
HILL	10	291.00	295.00	310.00	310.00	310.00	310.00
HILL	10	310.00	310.00	310.00	252.00	238.00	252.00
HILL	10	243.00	243.00	233.00	242.00	251.00	251.00
HILL	10	251.00	251.00	251.00	251.00	251.00	251.00
HILL	10	242.00	231.00	224.00	237.00	242.00	307.00
HILL	10	307.00	308.00	308.00	308.00	308.00	308.00
HILL	10	315.00	307.00	306.00	316.00	316.00	316.00
HILL	10	316.00	268.00	285.00	316.00	316.00	265.00
HILL	10	314.00	327.00	244.00	249.00	268.00	279.00
HILL	10	279.00	275.00	274.00	274.00	274.00	274.00
HILL	10	280.00	296.00	296.00	297.00	296.00	290.00
HILL	10	297.00	293.00	275.80			
HILL	11	305.00	302.00	293.00	296.40	297.80	296.00
HILL	11	295.00	294.00	294.00	310.00	310.00	310.00

HILL	11	310.00	310.00	252.00	250.00	191.00	237.00
HILL	11	224.00	241.00	233.00	242.00	242.00	251.00
HILL	11	251.00	251.00	251.00	235.00	251.00	251.00
HILL	11	242.00	231.00	242.00	259.00	304.00	307.00
HILL	11	304.00	308.00	308.00	308.00	308.00	308.00
HILL	11	308.00	315.00	315.00	315.00	315.00	316.00
HILL	11	316.00	316.00	316.00	316.00	316.00	269.00
HILL	11	265.00	312.00	249.00	251.00	257.00	261.00
HILL	11	257.00	265.00	263.00	272.90	267.70	280.00
HILL	11	275.00	280.00	296.00	295.00	296.00	294.00
HILL	11	297.00	297.00	290.00			
HILL	12	283.00	278.90	288.90	297.10	292.30	297.00
HILL	12	301.00	310.00	310.00	310.00	310.00	252.00
HILL	12	310.00	310.00	252.00	180.00	180.00	237.00
HILL	12	252.00	236.00	239.00	242.00	243.00	249.10
HILL	12	240.00	251.00	251.00	251.00	278.00	242.00
HILL	12	242.00	242.00	242.00	242.00	282.00	307.00
HILL	12	307.00	307.00	308.00	308.00	308.00	308.00
HILL	12	308.00	308.00	308.00	308.00	293.00	281.00
HILL	12	291.00	316.00	316.00	316.00	315.00	265.00
HILL	12	268.00	265.00	265.00	265.00	266.00	280.00
HILL	12	280.00	280.00	279.00	278.20	273.00	285.00
HILL	12	275.00	272.90	296.00	295.10	296.70	294.40
HILL	12	297.00	297.00	292.00			
HILL	13	283.00	283.00	291.00	306.00	302.50	299.70
HILL	13	302.00	310.00	310.00	285.00	252.00	252.00
HILL	13	310.00	310.00	310.00	252.00	237.00	252.00
HILL	13	237.00	237.00	252.00	252.00	245.30	251.00
HILL	13	251.00	240.00	251.00	251.00	283.00	242.00
HILL	13	242.00	237.80	239.00	241.00	304.00	307.00
HILL	13	307.00	308.00	308.00	308.00	308.00	308.00

HILL	13	302.00	307.00	308.00	307.00	288.00	248.80
HILL	13	290.00	295.00	290.00	291.00	290.00	215.00
HILL	13	265.00	265.00	248.00	251.00	251.00	259.00
HILL	13	280.00	280.00	276.00	274.00	269.20	274.60
HILL	13	284.50	275.00	290.00	287.60	288.40	290.90
HILL	13	292.00	296.00	299.00			
HILL	14	300.00	301.00	285.90	298.00	306.80	308.70
HILL	14	310.00	310.00	310.00	285.00	244.70	252.00
HILL	14	285.00	285.00	310.00	283.00	252.00	237.00
HILL	14	237.00	237.00	252.00	252.00	247.00	252.00
HILL	14	252.00	277.00	237.00	277.00	287.00	242.00
HILL	14	242.00	242.00	239.00	259.00	304.00	307.00
HILL	14	307.00	308.00	308.00	308.00	308.00	307.00
HILL	14	285.00	285.00	294.00	294.00	291.00	279.00
HILL	14	290.00	293.00	290.00	293.00	291.00	290.00
HILL	14	284.00	259.00	264.00	259.00	259.00	265.00
HILL	14	266.00	272.00	273.00	273.00	275.70	282.00
HILL	14	270.60	270.70	279.00	271.70	284.70	281.70
HILL	14	288.00	290.00	320.00			
HILL	15	296.00	296.00	291.00	295.90	301.40	296.50
HILL	15	284.00	285.00	285.00	283.00	245.00	286.00
HILL	15	283.00	264.00	262.00	269.00	237.00	237.00
HILL	15	237.00	237.00	252.00	252.00	252.00	242.00
HILL	15	277.00	281.00	286.00	289.00	289.00	286.00
HILL	15	282.00	268.00	259.00	259.00	267.00	274.00
HILL	15	307.00	308.00	308.00	308.00	307.00	299.00
HILL	15	285.30	287.00	293.00	290.00	284.00	278.70
HILL	15	290.00	290.00	290.00	291.00	291.00	290.00
HILL	15	289.00	265.00	264.00	254.00	264.00	260.60
HILL	15	280.00	283.00	283.00	283.00	278.00	281.00
HILL	15	282.00	275.00	272.10	266.10	298.00	300.00

HILL	15	295.00	299.00	320.00			
HILL	16	281.00	289.00	290.00	305.00	305.00	298.30
HILL	16	286.70	277.80	278.00	257.00	262.00	265.00
HILL	16	235.00	238.00	265.00	269.00	262.00	252.00
HILL	16	252.00	252.00	267.00	267.00	278.00	235.60
HILL	16	243.00	283.00	286.00	289.00	249.00	281.00
HILL	16	227.00	274.00	259.00	259.00	258.00	267.00
HILL	16	287.00	304.00	308.00	308.00	304.00	301.00
HILL	16	299.00	290.60	283.00	288.00	286.70	286.50
HILL	16	286.00	290.00	290.00	290.00	290.00	290.00
HILL	16	286.00	264.00	219.00	264.00	264.00	265.00
HILL	16	283.00	283.00	283.00	283.00	283.00	282.00
HILL	16	280.00	278.00	273.10	274.60	297.00	296.70
HILL	16	297.50	293.90	290.00			
HILL	17	284.00	296.00	274.10	291.00	299.80	302.00
HILL	17	302.00	270.30	267.70	261.80	262.00	248.00
HILL	17	262.00	269.00	270.00	265.00	210.00	210.00
HILL	17	265.00	282.00	283.00	265.00	265.00	265.00
HILL	17	283.00	289.00	283.00	287.00	248.00	281.00
HILL	17	234.00	286.00	273.00	273.00	271.00	268.00
HILL	17	270.50	279.00	287.00	308.00	300.00	306.40
HILL	17	304.00	293.90	291.70	289.80	290.00	285.20
HILL	17	278.00	290.00	290.00	291.00	289.00	290.00
HILL	17	290.00	219.00	219.00	265.00	264.00	283.00
HILL	17	283.00	283.00	280.00	281.00	283.00	283.00
HILL	17	283.00	287.00	275.90	295.00	280.30	296.00
HILL	17	299.50	298.50	299.20			
HILL	18	284.00	289.00	285.00	300.00	300.00	302.00
HILL	18	285.80	279.40	273.50	263.00	264.00	262.00
HILL	18	262.00	244.00	231.00	249.00	237.00	210.00
HILL	18	218.00	273.00	281.00	265.00	265.00	265.00

HILL	18	265.20	278.00	283.00	286.00	247.60	244.00
HILL	18	230.00	279.00	286.00	292.00	292.00	292.00
HILL	18	287.00	283.20	282.10	287.00	293.70	304.00
HILL	18	304.00	303.00	290.90	288.00	283.10	287.00
HILL	18	289.00	290.00	290.00	290.00	292.00	290.00
HILL	18	288.00	260.00	202.00	267.00	280.00	283.00
HILL	18	281.00	264.00	277.00	281.00	283.00	280.00
HILL	18	283.00	287.00	285.60	294.00	284.30	294.60
HILL	18	304.20	307.30	305.10			
HILL	19	284.00	288.00	289.00	287.00	284.80	299.00
HILL	19	281.80	289.00	265.00	275.00	234.40	257.00
HILL	19	243.00	255.00	255.00	248.00	238.00	238.00
HILL	19	233.00	237.00	282.00	281.00	283.00	282.00
HILL	19	270.50	275.70	281.00	286.00	255.00	260.00
HILL	19	265.00	286.00	286.00	289.00	273.00	287.00
HILL	19	292.00	287.00	284.00	285.80	288.40	298.50
HILL	19	304.60	301.60	304.00	302.00	268.60	283.00
HILL	19	292.00	292.00	290.00	290.00	241.00	281.00
HILL	19	287.00	282.00	268.00	274.00	281.00	247.00
HILL	19	244.70	267.00	281.00	293.00	284.00	266.60
HILL	19	286.00	305.00	292.20	294.70	288.60	297.00
HILL	19	307.10	305.90	307.50			
HILL	20	286.00	276.00	282.00	288.50	297.10	289.80
HILL	20	288.40	284.00	270.00	250.00	257.00	256.00
HILL	20	253.00	264.00	264.00	266.00	238.00	238.00
HILL	20	231.30	273.00	273.00	273.00	281.00	289.00
HILL	20	283.00	279.20	277.40	286.00	265.00	286.00
HILL	20	285.00	288.00	288.00	286.00	272.60	272.00
HILL	20	292.00	290.00	274.80	285.00	288.10	296.60
HILL	20	301.00	303.10	302.00	303.00	283.20	284.00
HILL	20	310.00	284.00	286.00	265.00	232.00	233.00

HILL	20	282.00	282.00	268.00	268.00	267.00	247.00
HILL	20	247.00	280.00	296.00	284.00	278.00	283.00
HILL	20	286.60	305.00	303.40	298.10	292.80	301.00
HILL	20	302.10	300.80	312.90			
HILL	21	276.30	280.90	278.10	284.20	289.70	296.00
HILL	21	301.00	293.00	269.00	289.00	262.00	262.10
HILL	21	264.00	264.00	264.00	264.00	224.00	229.00
HILL	21	238.00	273.00	273.00	273.00	268.70	273.00
HILL	21	289.00	286.80	282.90	278.80	288.00	288.00
HILL	21	238.30	286.00	288.00	288.00	285.00	285.00
HILL	21	287.10	292.00	284.00	282.00	289.60	298.00
HILL	21	305.20	305.00	307.00	310.00	285.20	310.00
HILL	21	268.00	268.00	285.00	285.00	241.00	282.00
HILL	21	268.00	264.00	268.00	268.00	247.00	267.00
HILL	21	284.00	284.00	285.00	284.00	279.00	289.60
HILL	21	293.00	299.00	302.60	303.00	290.40	305.00
HILL	21	321.00	322.00	314.10			
HILL	22	281.20	284.60	285.30	291.00	285.50	300.00
HILL	22	301.00	301.00	285.00	300.00	264.00	264.00
HILL	22	244.70	248.00	264.00	266.00	231.00	229.00
HILL	22	258.00	273.00	273.00	273.00	269.00	265.90
HILL	22	277.00	278.00	276.50	283.00	283.00	278.00
HILL	22	278.00	278.00	288.00	288.00	287.00	282.10
HILL	22	285.70	282.30	279.80	281.40	294.00	308.00
HILL	22	308.40	305.70	305.00	305.00	310.00	310.00
HILL	22	285.00	283.00	287.00	283.00	253.70	268.00
HILL	22	263.00	260.00	264.00	268.00	263.00	284.00
HILL	22	236.00	228.50	293.00	300.00	300.00	299.00
HILL	22	300.00	307.00	306.20	298.60	309.00	319.00
HILL	22	318.80	327.00	323.40			
HILL	23	287.00	287.00	292.00	292.00	289.00	296.00

HILL	23	301.00	301.00	301.00	300.00	264.00	264.00
HILL	23	264.00	246.00	246.00	248.00	260.00	266.00
HILL	23	266.00	271.00	248.00	270.00	281.00	279.00
HILL	23	275.00	285.80	287.00	279.00	283.00	277.00
HILL	23	275.00	278.00	287.00	288.00	287.00	282.00
HILL	23	280.10	283.00	277.10	283.60	286.00	288.60
HILL	23	299.00	299.70	305.40	301.80	305.00	272.40
HILL	23	285.00	281.80	280.50	281.00	261.10	262.30
HILL	23	262.00	264.00	268.00	268.00	211.00	236.00
HILL	23	280.00	299.00	300.00	294.00	293.00	289.40
HILL	23	291.40	297.50	300.00	312.00	306.70	315.00
HILL	23	319.40	324.00	326.00			
HILL	24	297.00	292.00	292.00	292.00	292.00	295.00
HILL	24	296.00	300.00	301.00	301.00	264.00	264.00
HILL	24	242.00	248.00	233.00	234.30	247.30	260.00
HILL	24	266.00	276.00	247.00	257.00	256.70	281.00
HILL	24	277.30	279.00	284.00	287.00	261.00	268.00
HILL	24	278.00	278.00	287.00	291.00	288.00	282.00
HILL	24	279.00	284.00	290.00	286.00	292.00	295.50
HILL	24	296.40	301.70	305.40	302.00	305.00	285.20
HILL	24	285.60	281.90	287.00	287.00	265.00	267.00
HILL	24	246.00	268.00	268.00	260.00	213.00	223.00
HILL	24	290.00	231.00	257.00	290.00	291.00	292.00
HILL	24	280.70	306.00	312.00	310.00	297.90	317.00
HILL	24	305.00	311.00	315.00			
HILL	25	297.00	289.00	275.00	266.40	292.00	293.00
HILL	25	296.00	285.00	212.00	300.00	264.00	213.00
HILL	25	242.00	264.00	266.00	266.00	251.80	266.20
HILL	25	266.00	276.00	292.00	292.00	267.60	276.60
HILL	25	278.60	279.00	286.00	274.00	274.00	268.00
HILL	25	278.00	283.00	283.00	287.00	287.00	287.00

HILL	25	284.00	284.00	286.00	282.20	290.00	294.90
HILL	25	297.60	307.10	304.20	304.00	292.00	296.00
HILL	25	283.70	276.00	285.00	287.00	287.00	287.00
HILL	25	267.00	264.00	263.00	225.00	225.00	227.00
HILL	25	216.00	215.80	299.00	297.00	299.00	299.00
HILL	25	302.00	312.00	312.00	298.00	311.00	317.00
HILL	25	316.00	317.00	312.00			
HILL	26	297.00	292.00	272.10	280.00	292.00	292.00
HILL	26	301.00	292.00	212.30	214.00	264.00	248.00
HILL	26	266.00	266.00	266.00	266.00	260.70	261.50
HILL	26	263.80	271.00	292.00	293.00	292.00	286.00
HILL	26	285.50	279.20	289.00	269.00	271.60	285.00
HILL	26	288.00	283.00	283.00	283.00	277.00	277.00
HILL	26	282.00	283.00	278.00	284.00	290.70	292.70
HILL	26	302.30	304.90	308.00	291.80	290.00	294.00
HILL	26	286.00	290.00	287.00	250.40	249.00	248.00
HILL	26	287.00	268.00	252.00	226.00	254.00	274.00
HILL	26	310.00	311.00	311.00	311.00	311.00	311.00
HILL	26	311.00	312.00	312.00	312.00	320.00	321.00
HILL	26	309.00	309.00	307.00			
HILL	27	295.00	285.30	278.50	276.00	290.00	295.00
HILL	27	292.00	292.00	214.00	214.00	215.00	215.00
HILL	27	214.00	233.00	238.00	266.00	259.90	264.00
HILL	27	265.10	268.20	269.90	275.20	290.30	283.60
HILL	27	286.30	278.40	287.00	289.00	282.90	283.00
HILL	27	289.00	283.00	278.60	274.00	270.70	273.00
HILL	27	277.00	271.60	280.40	284.40	285.00	295.60
HILL	27	301.20	305.90	303.00	301.00	291.00	284.40
HILL	27	279.80	290.00	295.00	295.00	287.00	287.00
HILL	27	281.00	255.00	250.00	253.00	254.00	254.00
HILL	27	224.00	311.00	311.00	311.00	309.00	311.00

HILL	27	311.00	311.00	311.00	311.00	310.00	310.00
HILL	27	309.00	309.00	307.00			
HILL	28	295.00	286.40	292.00	258.00	276.00	282.00
HILL	28	223.00	223.00	276.00	274.00	215.00	215.00
HILL	28	207.90	279.00	270.00	266.00	265.00	292.00
HILL	28	293.00	291.00	270.00	283.20	289.20	286.20
HILL	28	286.00	279.20	284.10	292.00	286.90	288.00
HILL	28	262.80	269.40	279.50	272.90	268.10	274.10
HILL	28	268.00	276.00	278.40	282.00	290.10	298.00
HILL	28	302.30	300.40	296.40	294.00	303.00	287.00
HILL	28	283.40	287.00	284.00	284.00	282.00	281.00
HILL	28	253.00	255.00	244.60	254.00	254.00	237.00
HILL	28	222.20	311.00	311.00	311.00	311.00	311.00
HILL	28	289.10	293.40	297.00	308.00	310.00	310.00
HILL	28	309.00	309.00	297.00			
HILL	29	279.00	280.00	282.00	263.70	266.00	282.00
HILL	29	266.00	207.90	265.00	288.00	288.00	288.00
HILL	29	288.00	288.00	289.00	294.00	294.00	294.00
HILL	29	294.00	294.00	277.90	284.10	286.00	289.00
HILL	29	291.20	287.30	289.10	289.90	287.70	275.50
HILL	29	290.00	292.00	275.00	275.40	275.00	263.80
HILL	29	250.20	279.00	284.00	281.20	287.50	296.00
HILL	29	298.00	300.70	293.40	293.00	293.00	287.00
HILL	29	279.00	284.00	280.00	282.00	281.00	269.00
HILL	29	248.50	248.60	254.00	254.00	218.30	233.50
HILL	29	237.00	311.00	311.00	311.00	311.00	311.00
HILL	29	311.00	309.40	307.00	308.10	310.00	289.60
HILL	29	290.00	288.00	294.90			
HILL	30	297.00	290.00	289.00	264.10	270.00	285.00
HILL	30	292.00	292.00	281.00	288.00	287.00	283.00
HILL	30	288.00	288.00	286.00	280.00	284.00	293.00

HILL	30	282.20	292.00	289.10	289.90	288.90	290.50
HILL	30	289.60	288.70	291.00	293.30	296.00	293.00
HILL	30	291.10	291.00	284.70	277.90	273.20	265.00
HILL	30	256.00	279.00	273.00	283.30	286.90	293.40
HILL	30	300.10	297.90	296.00	288.30	291.00	291.00
HILL	30	283.00	275.50	280.50	278.50	272.20	263.80
HILL	30	266.00	266.00	254.00	254.00	222.00	216.90
HILL	30	237.00	311.00	311.00	311.00	311.00	311.00
HILL	30	311.00	309.00	297.60	309.00	308.00	300.00
HILL	30	294.10	295.00	300.50			
HILL	31	297.00	292.00	265.00	270.00	270.00	270.00
HILL	31	270.00	290.00	288.00	288.00	288.00	287.00
HILL	31	286.00	288.00	288.00	274.60	272.50	281.00
HILL	31	290.00	292.00	286.80	282.90	286.10	288.60
HILL	31	285.10	284.20	286.10	291.40	291.80	290.10
HILL	31	291.20	288.80	287.10	280.80	281.00	265.00
HILL	31	254.00	256.40	276.00	278.30	295.00	297.20
HILL	31	299.10	294.50	289.60	285.00	291.00	293.00
HILL	31	274.00	282.00	270.40	273.10	267.20	255.60
HILL	31	267.00	263.00	222.00	216.00	220.00	234.00
HILL	31	237.00	311.00	311.00	311.00	311.00	309.00
HILL	31	309.00	309.00	283.00	288.50	296.00	302.00
HILL	31	300.80	296.60	297.00			
HILL	32	297.00	283.00	270.00	270.00	270.00	282.00
HILL	32	270.00	273.00	288.00	288.00	287.00	287.00
HILL	32	274.00	287.00	288.00	284.10	284.00	281.00
HILL	32	288.70	288.00	278.50	272.50	279.60	289.00
HILL	32	280.00	281.00	279.00	288.90	290.90	287.50
HILL	32	285.50	283.80	285.20	287.90	282.50	269.50
HILL	32	262.40	258.20	281.00	278.80	288.30	292.50
HILL	32	290.00	292.00	287.60	277.40	288.00	291.00

HILL	32	277.00	278.00	274.00	274.00	260.70	249.40
HILL	32	265.00	256.00	240.00	240.00	240.00	204.00
HILL	32	209.00	311.00	311.00	311.00	312.00	309.00
HILL	32	306.00	309.00	298.00	297.90	301.40	303.60
HILL	32	298.10	289.30	303.00			
HILL	33	297.00	295.00	289.00	270.00	270.00	270.00
HILL	33	289.00	288.00	288.00	288.00	274.00	287.00
HILL	33	287.00	287.00	286.90	287.00	271.90	283.00
HILL	33	285.00	280.80	281.00	268.00	266.00	268.50
HILL	33	271.40	276.20	283.50	286.80	286.60	288.00
HILL	33	274.70	283.00	284.50	282.90	280.80	272.40
HILL	33	272.00	269.00	274.00	274.90	285.90	295.00
HILL	33	283.70	281.20	290.00	283.70	282.00	282.00
HILL	33	282.00	259.00	274.00	264.00	274.00	274.00
HILL	33	264.00	264.00	240.00	240.00	242.00	207.10
HILL	33	208.00	302.00	309.00	299.00	299.00	299.00
HILL	33	299.00	313.00	306.00	310.10	310.00	302.00
HILL	33	296.00	279.80	290.40			
HILL	34	297.00	297.00	297.00	289.00	270.00	270.00
HILL	34	278.00	288.00	288.00	287.00	288.00	288.00
HILL	34	287.00	283.00	288.00	288.00	259.40	285.00
HILL	34	288.00	275.00	277.00	286.00	282.00	280.60
HILL	34	278.00	281.10	283.90	289.30	284.20	279.00
HILL	34	287.00	281.00	282.30	276.50	278.90	279.50
HILL	34	271.00	260.30	261.00	269.00	275.50	278.10
HILL	34	280.30	282.00	282.50	276.40	280.50	267.70
HILL	34	281.00	281.00	274.00	264.00	274.00	273.00
HILL	34	272.00	263.00	242.00	237.00	254.00	237.00
HILL	34	299.00	302.00	302.00	302.00	302.00	298.00
HILL	34	299.00	307.00	306.50	314.30	307.20	300.00
HILL	34	291.00	288.00	292.00			

HILL	35	295.00	297.00	297.00	292.00	270.00	270.00
HILL	35	272.00	288.00	288.00	288.00	288.00	288.00
HILL	35	288.00	288.00	288.00	288.00	252.20	286.00
HILL	35	277.00	272.30	276.00	280.00	283.20	282.50
HILL	35	278.50	272.50	277.70	284.80	282.40	282.00
HILL	35	287.00	287.00	274.90	284.00	266.70	268.00
HILL	35	267.10	267.70	270.50	270.10	268.50	274.80
HILL	35	276.80	277.10	275.70	276.00	270.20	276.00
HILL	35	281.00	276.00	283.00	277.00	271.00	273.00
HILL	35	263.00	257.00	249.40	255.00	255.00	254.00
HILL	35	301.00	302.00	302.00	301.00	299.00	290.40
HILL	35	302.00	301.00	300.40	307.60	308.00	317.00
HILL	35	308.00	288.00	261.30			
HILL	36	269.00	261.00	289.00	289.00	270.00	270.00
HILL	36	287.00	288.00	288.00	288.00	288.00	288.00
HILL	36	288.00	288.00	288.00	288.00	255.00	276.00
HILL	36	274.00	268.90	273.00	274.00	281.00	275.00
HILL	36	279.00	283.00	278.60	279.80	275.90	269.00
HILL	36	287.00	278.00	287.00	268.00	266.90	264.00
HILL	36	264.00	270.20	266.00	266.00	270.00	267.90
HILL	36	273.00	274.00	273.00	273.70	276.00	281.00
HILL	36	281.00	277.00	283.00	277.00	267.00	273.00
HILL	36	263.00	249.20	252.00	246.00	248.00	246.00
HILL	36	308.00	308.00	299.00	299.00	299.00	295.90
HILL	36	294.00	299.00	293.90	301.00	295.30	280.10
HILL	36	308.00	262.00	262.00			
HILL	37	254.30	256.00	261.00	289.00	289.00	280.00
HILL	37	284.00	260.00	258.00	248.00	287.00	288.00
HILL	37	288.00	288.00	288.00	288.00	287.00	276.00
HILL	37	273.00	268.00	268.00	281.00	281.00	272.00
HILL	37	267.10	272.10	284.00	283.00	271.80	280.00

HILL	37	259.00	246.90	244.00	272.00	271.10	264.00
HILL	37	264.00	269.50	274.00	266.00	273.00	275.00
HILL	37	249.30	273.00	273.00	274.00	274.00	278.00
HILL	37	275.00	283.00	283.00	277.00	263.10	268.90
HILL	37	270.10	257.60	252.00	252.00	288.00	308.00
HILL	37	308.00	308.00	299.00	299.00	299.00	295.00
HILL	37	295.50	297.40	286.60	288.90	290.30	286.80
HILL	37	277.00	288.00	294.00			
HILL	38	258.00	258.00	256.00	289.00	290.00	280.00
HILL	38	280.00	280.00	260.00	256.00	248.00	287.00
HILL	38	288.00	288.00	241.00	269.00	270.00	270.00
HILL	38	272.00	273.00	264.00	246.00	246.20	258.20
HILL	38	263.20	269.00	269.00	268.00	276.00	274.00
HILL	38	270.00	240.30	245.50	272.00	266.90	264.00
HILL	38	264.00	274.00	271.00	266.00	276.00	262.90
HILL	38	265.70	272.00	251.70	250.00	278.00	278.00
HILL	38	278.00	282.00	283.00	283.00	271.00	260.60
HILL	38	273.00	272.00	273.00	288.00	308.00	308.00
HILL	38	308.00	308.00	296.00	287.00	295.00	291.50
HILL	38	296.10	293.80	285.70	278.80	284.00	281.00
HILL	38	281.00	296.00	284.00			
HILL	39	289.00	289.00	289.00	287.00	290.00	280.00
HILL	39	280.00	280.00	259.00	256.00	250.00	254.00
HILL	39	280.00	287.00	270.00	270.00	269.00	267.00
HILL	39	267.00	248.00	256.00	251.20	252.90	259.10
HILL	39	256.70	261.00	264.00	268.00	272.00	265.00
HILL	39	270.00	270.00	243.90	272.00	272.00	264.00
HILL	39	264.00	273.70	276.00	270.50	273.90	265.40
HILL	39	272.00	273.00	272.00	272.00	264.00	275.90
HILL	39	275.10	271.40	283.00	283.00	246.00	262.00
HILL	39	273.00	273.00	273.00	272.00	308.00	308.00

HILL	39	308.00	308.00	275.00	286.70	297.00	293.60
HILL	39	287.90	300.00	292.00	288.00	284.90	282.00
HILL	39	292.00	296.00	292.00			
HILL	40	289.00	246.00	289.00	290.00	290.00	280.00
HILL	40	280.00	280.00	280.00	258.00	254.00	279.00
HILL	40	280.00	270.00	270.00	270.00	269.20	261.60
HILL	40	255.00	244.90	257.00	260.80	260.20	255.50
HILL	40	255.10	255.40	265.00	266.00	253.20	270.00
HILL	40	270.30	262.80	247.00	252.00	265.00	264.90
HILL	40	264.20	269.20	274.00	276.30	280.00	280.00
HILL	40	273.00	269.00	268.00	270.40	273.90	271.10
HILL	40	274.90	276.00	271.00	283.00	283.00	229.60
HILL	40	228.90	272.00	273.00	308.00	308.00	308.00
HILL	40	308.00	308.00	308.00	290.00	287.90	295.40
HILL	40	300.00	300.00	300.00	288.00	288.00	274.00
HILL	40	299.00	294.00	287.00			
HILL	41	246.00	289.00	289.00	290.00	290.00	280.00
HILL	41	280.00	265.00	280.00	253.60	280.00	280.00
HILL	41	280.00	270.00	261.00	257.00	270.00	258.00
HILL	41	260.00	259.00	260.00	261.80	258.20	252.00
HILL	41	249.00	244.50	232.00	261.00	261.30	260.20
HILL	41	264.90	269.00	253.20	250.20	262.70	335.00
HILL	41	335.00	330.00	329.00	284.90	313.00	317.00
HILL	41	312.00	274.00	273.30	280.40	279.10	267.60
HILL	41	265.90	270.00	269.00	271.00	271.00	265.00
HILL	41	235.00	227.00	227.00	308.00	308.00	308.00
HILL	41	308.00	308.00	308.00	307.00	292.00	298.00
HILL	41	306.00	300.00	295.00	271.00	288.00	274.00
HILL	41	304.00	278.00	290.00			
HILL	42	289.00	290.00	290.00	290.00	290.00	280.00
HILL	42	265.00	260.00	255.90	280.00	263.60	264.00

HILL	42	279.00	280.00	261.00	269.00	270.00	232.80
HILL	42	282.00	260.00	260.00	263.00	258.00	257.00
HILL	42	232.00	232.00	256.00	256.00	259.00	263.00
HILL	42	268.50	264.90	256.60	255.10	335.00	337.00
HILL	42	337.00	337.00	329.00	296.80	317.00	330.00
HILL	42	315.00	285.00	278.00	278.00	275.70	276.00
HILL	42	262.00	267.00	267.00	258.00	261.00	263.00
HILL	42	262.00	213.00	211.00	307.00	308.00	308.00
HILL	42	308.00	308.00	303.00	300.70	306.00	306.00
HILL	42	306.00	306.00	271.00	271.00	271.00	293.00
HILL	42	292.00	303.00	304.00			
HILL	43	290.00	290.00	290.00	290.00	290.00	280.00
HILL	43	265.00	255.30	263.50	280.00	269.90	267.00
HILL	43	280.00	280.00	264.00	280.00	282.00	283.00
HILL	43	288.00	288.00	290.00	286.00	286.00	286.00
HILL	43	286.00	284.00	262.00	258.00	262.00	259.70
HILL	43	262.80	257.20	263.30	263.60	335.00	337.00
HILL	43	337.00	335.00	329.00	317.00	326.00	338.00
HILL	43	315.00	290.60	285.30	286.00	273.00	261.00
HILL	43	262.20	267.00	251.50	261.00	262.00	262.00
HILL	43	262.00	261.00	286.00	304.00	252.00	308.00
HILL	43	308.00	308.00	308.00	292.00	285.10	284.00
HILL	43	306.00	306.00	270.00	262.00	292.00	292.00
HILL	43	279.00	282.40	288.00			
HILL	44	290.00	290.00	282.00	290.00	282.00	279.00
HILL	44	257.00	280.00	280.00	279.00	276.30	276.00
HILL	44	278.00	280.00	282.00	283.00	289.00	287.00
HILL	44	283.00	280.00	290.00	285.00	286.00	286.00
HILL	44	285.00	281.00	262.00	241.70	239.70	253.00
HILL	44	257.00	254.70	262.20	336.00	337.00	337.00
HILL	44	337.00	333.20	330.00	317.00	337.00	327.00

HILL	44	315.00	315.00	309.00	309.00	274.00	244.90
HILL	44	264.00	242.00	242.90	252.00	262.00	262.00
HILL	44	262.00	242.00	266.00	263.00	252.00	308.00
HILL	44	308.00	308.00	308.00	307.00	284.00	295.00
HILL	44	306.00	287.00	288.00	290.00	290.00	282.00
HILL	44	287.00	291.80	289.20			
HILL	45	290.00	290.00	290.00	290.00	282.00	282.00
HILL	45	282.00	280.00	280.00	274.30	271.10	278.00
HILL	45	279.00	279.00	283.00	282.00	282.00	283.00
HILL	45	282.00	276.70	291.00	277.50	280.30	282.90
HILL	45	281.00	261.00	263.50	276.00	250.10	256.10
HILL	45	253.80	253.10	259.60	336.00	337.00	336.00
HILL	45	329.50	336.50	337.00	324.00	341.00	326.00
HILL	45	312.30	301.60	312.00	318.00	312.00	250.00
HILL	45	242.00	235.00	238.00	256.00	256.00	285.00
HILL	45	267.00	248.00	272.00	265.00	250.00	305.00
HILL	45	308.00	308.00	308.00	308.00	305.00	295.00
HILL	45	306.00	288.00	289.00	289.00	289.00	286.00
HILL	45	282.20	283.90	289.90			
HILL	46	279.00	290.00	290.00	290.00	282.00	282.00
HILL	46	282.00	282.00	279.00	261.30	271.00	259.00
HILL	46	257.00	278.00	270.00	254.00	251.40	267.40
HILL	46	280.00	281.00	286.00	270.90	276.50	278.00
HILL	46	277.50	268.30	271.10	276.00	262.30	258.00
HILL	46	252.00	255.00	260.00	335.00	336.00	336.00
HILL	46	333.40	333.60	338.00	336.00	341.00	326.00
HILL	46	325.40	312.90	315.00	317.00	308.00	283.00
HILL	46	248.30	256.00	258.00	256.00	289.00	287.00
HILL	46	265.00	264.00	271.00	264.40	294.00	294.00
HILL	46	305.00	305.00	308.00	308.00	302.00	298.00
HILL	46	296.00	282.00	286.00	282.00	287.00	285.10

HILL	46	286.60	283.00	283.90			
HILL	47	279.00	279.00	290.00	282.00	282.00	282.00
HILL	47	282.00	282.00	276.00	246.10	262.00	265.00
HILL	47	236.00	266.00	253.00	236.80	248.10	260.60
HILL	47	278.00	281.10	290.20	294.00	286.00	281.80
HILL	47	280.80	282.00	279.30	269.90	268.00	252.00
HILL	47	252.00	258.30	264.10	325.00	325.00	325.00
HILL	47	323.20	331.90	341.00	341.00	341.00	328.00
HILL	47	325.90	320.00	326.00	320.00	299.00	283.00
HILL	47	260.10	253.10	253.00	289.00	281.00	281.00
HILL	47	269.00	280.00	283.00	283.00	263.60	294.00
HILL	47	293.00	294.00	305.00	296.00	296.00	266.00
HILL	47	266.00	270.00	265.70	274.50	276.20	279.40
HILL	47	275.00	278.00	286.00			
HILL	48	279.00	288.00	282.00	282.00	282.00	282.00
HILL	48	282.00	282.00	267.00	236.00	264.00	271.00
HILL	48	278.00	265.00	262.00	272.00	272.00	261.30
HILL	48	272.20	280.00	286.50	290.10	291.10	289.50
HILL	48	286.50	284.80	282.00	275.00	257.00	252.00
HILL	48	265.00	257.10	323.00	323.00	309.00	320.10
HILL	48	327.60	329.90	341.00	341.00	305.80	321.00
HILL	48	327.00	326.00	305.40	298.00	283.00	275.00
HILL	48	283.00	252.00	257.00	287.00	289.00	273.00
HILL	48	275.70	274.00	281.90	285.00	275.20	288.70
HILL	48	294.00	294.00	294.00	294.00	294.00	240.10
HILL	48	264.00	265.70	264.30	273.10	273.70	275.40
HILL	48	269.10	273.20	277.50			
HILL	49	279.00	282.00	282.00	282.00	279.00	277.40
HILL	49	282.00	266.00	252.00	268.00	252.00	265.00
HILL	49	265.00	258.00	265.00	273.00	275.00	278.00
HILL	49	271.00	276.90	277.00	283.90	284.10	282.90

HILL	49	286.00	277.00	283.00	283.00	252.00	260.00
HILL	49	259.80	295.00	294.00	323.00	323.00	341.00
HILL	49	346.00	346.00	335.00	332.00	302.80	310.40
HILL	49	324.00	325.00	300.40	294.00	284.00	305.00
HILL	49	284.00	283.00	290.00	290.00	295.00	278.00
HILL	49	282.30	276.30	281.10	279.10	286.30	287.10
HILL	49	284.30	294.00	294.00	294.00	253.00	254.00
HILL	49	266.00	266.00	265.00	268.60	262.40	277.00
HILL	49	269.00	277.00	271.50			
HILL	50	282.00	282.00	282.00	282.00	281.00	282.00
HILL	50	282.00	282.00	252.00	266.00	215.00	264.00
HILL	50	264.00	253.00	260.00	265.00	279.00	262.00
HILL	50	267.00	267.50	275.20	276.00	271.80	272.90
HILL	50	276.50	271.20	265.30	283.00	253.00	260.90
HILL	50	286.00	291.00	286.00	333.00	320.60	338.00
HILL	50	346.00	346.00	335.00	332.00	304.30	306.10
HILL	50	305.40	304.70	300.70	308.00	300.00	304.00
HILL	50	296.00	259.00	287.00	263.00	287.00	286.70
HILL	50	287.70	285.80	281.00	280.00	282.20	288.00
HILL	50	294.00	294.00	294.00	294.00	253.00	253.00
HILL	50	284.00	270.00	261.00	261.40	270.00	250.00
HILL	50	278.00	278.00	278.00			
HILL	51	282.00	282.00	282.00	282.00	271.00	282.00
HILL	51	282.00	282.00	282.00	211.90	263.00	264.00
HILL	51	264.00	257.80	260.50	265.00	271.00	261.00
HILL	51	268.10	267.80	272.90	275.00	274.00	270.00
HILL	51	276.00	271.00	271.00	251.50	255.20	262.10
HILL	51	272.10	287.80	331.00	329.00	330.00	337.00
HILL	51	346.00	330.90	333.00	320.60	316.00	322.00
HILL	51	299.00	307.00	307.00	308.00	304.00	243.00
HILL	51	241.00	285.00	284.00	281.00	279.00	288.00

HILL	51	292.30	296.00	276.50	282.00	274.80	279.00
HILL	51	286.00	294.00	294.00	284.00	284.00	281.00
HILL	51	284.00	285.00	286.00	271.00	240.90	240.00
HILL	51	238.60	260.00	259.60			
HILL	52	282.00	282.00	273.00	282.00	274.00	273.00
HILL	52	274.00	244.70	254.00	266.00	262.00	264.00
HILL	52	264.00	259.60	259.00	266.00	271.00	255.50
HILL	52	264.00	269.00	276.00	289.00	289.00	288.00
HILL	52	282.00	274.00	278.00	285.00	265.70	291.00
HILL	52	291.00	284.70	331.00	316.50	328.60	337.00
HILL	52	337.00	336.80	337.00	343.00	332.00	323.00
HILL	52	327.00	327.00	275.80	269.80	261.10	265.00
HILL	52	237.00	265.00	263.70	273.40	278.90	293.60
HILL	52	294.50	295.00	296.00	296.00	282.00	280.00
HILL	52	286.00	238.00	285.00	285.00	284.00	279.00
HILL	52	275.60	278.00	262.60	280.00	260.00	267.00
HILL	52	276.00	279.00	263.30			
HILL	53	282.00	282.00	274.00	265.00	274.00	274.00
HILL	53	274.00	253.90	274.00	267.00	262.00	262.00
HILL	53	257.70	264.00	267.00	267.00	284.00	258.00
HILL	53	292.00	284.00	287.00	276.30	282.10	285.00
HILL	53	282.00	284.00	282.00	283.70	283.00	271.90
HILL	53	320.00	325.00	325.00	324.40	321.80	332.00
HILL	53	342.00	339.30	342.80	346.00	328.60	332.00
HILL	53	332.00	330.00	327.00	271.00	268.00	265.00
HILL	53	258.00	257.30	279.00	282.60	302.00	300.10
HILL	53	291.50	293.00	295.00	294.00	278.00	278.00
HILL	53	279.00	279.00	285.00	285.00	284.00	276.40
HILL	53	283.30	276.60	281.00	285.00	291.00	259.90
HILL	53	268.20	275.00	295.00			
HILL	54	282.00	266.00	266.00	255.10	260.80	268.90

HILL	54	274.00	274.00	281.00	246.80	260.80	268.00
HILL	54	260.70	267.00	266.10	270.00	287.00	290.00
HILL	54	285.00	270.80	278.60	285.00	287.20	285.40
HILL	54	285.00	280.90	269.00	283.00	285.00	276.00
HILL	54	281.00	325.00	325.00	319.00	320.00	346.00
HILL	54	344.00	342.10	338.90	346.00	332.00	332.00
HILL	54	305.00	327.00	332.00	265.00	252.00	268.00
HILL	54	278.00	278.00	272.10	283.40	295.70	302.60
HILL	54	295.00	293.00	292.00	275.00	275.00	264.00
HILL	54	260.00	262.00	284.00	283.00	283.00	283.00
HILL	54	290.00	287.00	285.00	272.20	291.00	291.00
HILL	54	278.00	280.60	293.70			
HILL	55	215.30	265.00	263.00	265.00	262.00	257.60
HILL	55	278.00	280.00	281.00	252.00	265.00	267.90
HILL	55	275.00	262.10	265.30	264.00	284.00	289.00
HILL	55	276.00	279.30	286.10	285.30	285.60	281.00
HILL	55	285.00	283.00	269.00	287.00	284.30	286.00
HILL	55	281.70	287.10	302.00	299.80	311.50	346.00
HILL	55	344.20	342.60	343.00	346.00	346.00	295.90
HILL	55	306.00	332.00	332.00	252.00	271.00	270.00
HILL	55	262.20	277.00	280.10	287.10	291.90	296.90
HILL	55	290.30	284.30	284.00	280.00	275.00	254.10
HILL	55	262.00	278.00	282.00	282.00	282.00	279.10
HILL	55	282.60	281.20	278.60	284.40	286.00	284.60
HILL	55	279.70	285.90	303.20			
HILL	56	226.10	237.80	248.10	261.70	266.20	274.00
HILL	56	276.70	279.90	276.00	274.00	259.00	266.30
HILL	56	265.90	272.00	272.00	271.00	270.00	293.00
HILL	56	289.00	284.00	286.00	290.00	287.70	288.00
HILL	56	285.00	283.20	281.10	287.00	287.00	290.00
HILL	56	292.70	299.00	297.80	324.00	321.70	333.00

HILL	56	333.10	331.00	345.00	339.00	291.70	305.00
HILL	56	306.00	305.00	287.00	272.00	264.00	280.00
HILL	56	269.50	278.20	287.20	287.80	287.00	289.00
HILL	56	291.40	289.60	289.00	275.00	277.00	269.00
HILL	56	258.00	278.00	278.00	278.00	276.00	275.40
HILL	56	274.10	271.40	270.50	277.40	280.20	287.20
HILL	56	286.80	311.00	309.20			
HILL	57	218.20	262.00	269.00	268.00	273.10	278.60
HILL	57	284.10	281.00	276.60	272.00	268.00	268.10
HILL	57	269.80	276.00	267.60	274.00	246.10	289.00
HILL	57	293.00	289.00	286.00	278.60	292.00	291.00
HILL	57	289.00	288.20	286.60	284.60	292.00	289.00
HILL	57	287.80	302.00	301.10	321.00	321.00	318.80
HILL	57	334.00	326.00	309.50	303.00	306.00	293.00
HILL	57	286.80	281.90	285.60	284.00	277.00	288.00
HILL	57	276.00	283.10	288.90	289.00	281.10	287.00
HILL	57	284.10	288.80	283.90	271.90	269.00	242.00
HILL	57	269.00	278.00	275.00	274.00	273.00	278.00
HILL	57	284.00	285.00	275.00	287.00	286.60	286.50
HILL	57	288.90	305.00	307.00			
HILL	58	233.40	244.50	257.10	268.40	278.80	285.40
HILL	58	285.00	279.30	277.60	276.00	266.90	263.80
HILL	58	265.00	273.00	273.00	273.00	269.00	288.00
HILL	58	283.00	288.00	293.00	295.00	295.00	290.40
HILL	58	293.30	293.00	288.60	288.00	285.30	282.00
HILL	58	292.00	285.30	293.00	305.00	312.00	305.10
HILL	58	305.80	305.50	316.00	300.20	296.00	294.00
HILL	58	289.80	282.20	283.20	288.00	292.00	290.00
HILL	58	277.50	288.10	287.40	288.00	284.00	274.40
HILL	58	287.00	280.00	273.40	277.00	270.00	272.00
HILL	58	272.00	278.00	274.00	273.00	277.00	278.00

HILL	58	282.00	278.00	282.00	277.50	292.00	286.10
HILL	58	287.90	295.50	308.70			
HILL	59	234.00	249.00	245.70	255.00	270.80	274.10
HILL	59	274.30	277.50	273.60	274.10	264.70	261.20
HILL	59	273.00	277.00	282.00	274.00	269.00	288.00
HILL	59	280.00	278.80	288.00	291.00	277.40	292.00
HILL	59	290.90	287.40	288.70	277.10	280.10	273.50
HILL	59	272.80	282.10	298.00	299.00	303.60	307.00
HILL	59	309.60	306.50	302.30	294.70	292.20	290.30
HILL	59	285.00	283.00	288.00	293.00	292.00	291.00
HILL	59	288.00	286.70	282.60	283.60	282.70	282.00
HILL	59	287.00	290.00	290.00	290.00	272.00	276.00
HILL	59	256.00	241.00	274.00	277.00	285.00	289.00
HILL	59	294.00	292.00	296.00	293.00	291.00	289.10
HILL	59	306.00	295.70	321.00			
HILL	60	237.00	223.60	233.90	272.00	271.00	258.90
HILL	60	270.00	273.80	275.00	265.70	260.90	265.60
HILL	60	270.30	279.80	281.50	276.80	278.00	284.00
HILL	60	279.10	286.90	277.50	284.00	293.00	296.00
HILL	60	296.00	282.00	289.00	303.00	294.00	296.00
HILL	60	274.60	281.50	293.40	308.00	308.00	306.00
HILL	60	306.00	294.10	297.60	295.10	289.90	281.10
HILL	60	292.00	289.00	297.00	292.00	285.40	293.00
HILL	60	294.00	287.80	286.50	276.90	282.50	285.50
HILL	60	279.80	278.00	288.00	288.00	281.00	281.00
HILL	60	248.00	248.00	250.00	285.00	285.00	288.00
HILL	60	290.00	295.00	294.00	289.40	295.90	299.50
HILL	60	302.30	305.20	311.10			
HILL	61	205.80	214.70	224.90	271.00	248.40	281.00
HILL	61	276.40	276.00	266.50	269.00	268.00	271.90
HILL	61	281.70	284.60	278.60	269.70	275.00	274.00

HILL	61	275.60	284.00	281.50	280.70	285.40	290.00
HILL	61	293.00	304.00	307.00	299.00	297.00	294.00
HILL	61	279.20	292.00	281.40	289.40	312.00	304.30
HILL	61	294.90	298.70	298.50	295.60	286.00	284.00
HILL	61	291.00	291.00	297.00	297.00	291.60	291.10
HILL	61	291.50	289.30	285.20	280.90	284.00	285.00
HILL	61	279.80	280.00	288.00	283.00	284.00	247.90
HILL	61	251.00	264.00	249.00	276.00	259.00	278.00
HILL	61	283.50	287.10	289.40	295.70	296.80	303.90
HILL	61	307.50	313.10	313.30			
HILL	62	220.00	219.30	239.00	270.00	267.00	272.10
HILL	62	278.90	281.00	281.00	286.00	283.00	283.00
HILL	62	284.10	278.00	273.40	274.00	278.00	272.00
HILL	62	272.20	270.60	275.60	280.30	288.10	289.80
HILL	62	289.50	289.50	295.90	307.00	302.20	293.70
HILL	62	286.00	288.70	288.80	300.00	311.00	307.40
HILL	62	300.40	302.90	300.70	299.00	285.50	295.00
HILL	62	299.00	290.10	286.20	294.00	292.90	292.50
HILL	62	293.90	294.00	283.30	284.70	287.00	278.00
HILL	62	282.00	288.00	288.00	285.00	281.00	281.00
HILL	62	283.00	283.00	223.80	237.70	258.00	285.00
HILL	62	285.00	288.00	290.80	290.50	296.90	302.90
HILL	62	309.30	307.80	302.80			
HILL	63	209.70	223.00	270.00	270.00	272.00	267.90
HILL	63	279.00	281.00	281.00	286.00	285.00	282.00
HILL	63	280.10	270.10	265.50	262.30	265.00	268.00
HILL	63	269.00	264.70	271.90	278.10	282.00	281.10
HILL	63	283.00	293.50	301.50	309.00	303.10	304.10
HILL	63	302.00	291.30	291.50	293.90	308.00	309.00
HILL	63	307.00	302.90	304.00	287.30	288.80	298.00
HILL	63	306.00	307.00	298.60	295.20	295.80	293.00

HILL	63	294.00	294.00	285.00	287.00	287.00	287.00
HILL	63	288.00	287.00	285.00	279.00	279.00	283.00
HILL	63	285.00	283.00	285.00	285.00	285.00	249.50
HILL	63	295.00	295.00	290.10	294.20	296.90	300.60
HILL	63	303.20	301.90	295.50			
HILL	64	201.00	198.20	276.00	279.00	272.00	268.00
HILL	64	279.00	281.00	283.00	285.00	286.00	285.00
HILL	64	279.00	272.40	268.90	261.10	250.80	261.00
HILL	64	265.00	265.00	270.00	274.00	281.00	279.10
HILL	64	292.00	288.60	298.30	322.00	313.90	310.10
HILL	64	307.40	294.90	297.70	297.30	301.00	302.30
HILL	64	302.80	311.00	311.00	285.10	295.00	309.00
HILL	64	314.10	313.60	299.90	297.40	297.00	286.00
HILL	64	294.00	298.00	296.00	292.00	291.00	281.00
HILL	64	278.00	268.00	285.00	274.70	284.10	285.00
HILL	64	285.00	285.00	285.00	285.00	285.00	284.00
HILL	64	295.00	295.00	289.40	296.00	298.60	297.80
HILL	64	303.10	301.20	291.60			
HILL	65	190.80	267.00	276.00	272.00	273.00	271.00
HILL	65	269.00	281.00	282.00	282.00	282.00	277.00
HILL	65	277.00	267.00	263.40	260.60	252.30	268.00
HILL	65	269.00	275.00	279.00	283.00	280.90	287.70
HILL	65	289.50	294.10	304.60	317.10	319.90	313.50
HILL	65	313.70	313.00	295.80	301.00	290.00	293.10
HILL	65	292.60	296.00	311.00	295.00	289.70	315.00
HILL	65	316.00	315.00	304.70	305.00	290.00	297.00
HILL	65	295.00	292.00	289.00	295.00	291.00	283.00
HILL	65	283.00	279.30	284.20	283.80	284.40	286.00
HILL	65	286.00	286.00	285.00	285.00	285.00	276.00
HILL	65	284.00	278.90	292.30	293.50	292.70	296.30
HILL	65	298.30	302.00	302.00			

HILL	66	192.00	182.00	262.00	273.00	273.00	271.00
HILL	66	271.00	281.00	234.00	231.00	270.00	270.00
HILL	66	266.20	269.00	265.00	265.00	259.20	270.60
HILL	66	271.10	275.80	278.00	282.00	289.00	285.80
HILL	66	292.00	300.00	304.40	327.00	324.20	317.60
HILL	66	312.60	304.50	305.00	287.50	280.90	297.00
HILL	66	290.60	296.00	296.00	295.00	291.00	316.00
HILL	66	316.00	316.00	294.90	293.00	298.00	295.00
HILL	66	295.10	293.40	290.00	298.00	283.00	279.50
HILL	66	280.00	282.10	282.30	279.00	286.00	288.00
HILL	66	288.00	287.00	285.00	268.90	283.00	284.00
HILL	66	277.60	286.00	292.00	289.00	288.00	299.00
HILL	66	292.20	303.00	277.00			
HILL	67	179.90	171.00	263.00	273.00	272.00	272.00
HILL	67	271.00	271.00	270.00	270.00	270.00	270.00
HILL	67	268.30	268.70	276.00	276.00	284.00	279.60
HILL	67	280.50	281.60	282.90	276.50	292.00	282.00
HILL	67	289.20	293.00	318.00	315.80	316.00	317.60
HILL	67	308.60	306.00	288.10	283.30	297.00	297.00
HILL	67	290.00	288.00	290.00	277.00	279.00	263.00
HILL	67	315.00	286.40	288.10	291.30	300.00	295.50
HILL	67	294.00	292.30	293.00	294.00	275.00	282.10
HILL	67	280.20	283.00	280.00	282.00	287.00	288.00
HILL	67	288.00	285.00	264.00	283.00	282.00	267.00
HILL	67	266.70	262.10	289.00	289.00	281.00	298.00
HILL	67	300.00	300.00	274.90			
HILL	68	183.00	164.50	269.00	269.00	269.00	271.00
HILL	68	269.00	269.00	242.00	237.00	266.00	268.00
HILL	68	268.00	271.00	275.70	277.00	270.70	284.00
HILL	68	286.20	297.00	291.40	284.00	293.00	292.00
HILL	68	292.30	294.20	312.00	316.10	314.90	324.00

HILL	68	307.20	294.60	286.10	286.00	281.00	285.00
HILL	68	289.20	295.00	296.00	297.00	296.00	279.00
HILL	68	297.00	290.30	293.60	290.90	295.20	294.30
HILL	68	288.50	297.00	294.00	291.00	280.00	277.50
HILL	68	279.90	283.80	274.50	278.00	282.00	282.00
HILL	68	284.00	228.80	244.00	283.00	245.20	259.00
HILL	68	252.80	261.70	263.90	282.00	281.80	295.00
HILL	68	300.00	300.00	274.00			
HILL	69	269.00	269.00	269.00	269.00	269.00	269.00
HILL	69	269.00	269.00	241.00	233.80	259.00	270.00
HILL	69	257.90	271.00	277.80	280.00	286.00	290.50
HILL	69	291.20	306.00	300.00	290.70	293.00	292.10
HILL	69	303.00	295.30	312.00	311.10	307.80	305.10
HILL	69	301.80	292.80	303.00	303.00	283.00	281.60
HILL	69	290.20	295.00	294.90	292.00	292.00	286.00
HILL	69	280.80	295.00	296.00	293.00	299.00	294.00
HILL	69	288.80	293.00	278.00	279.00	270.00	276.10
HILL	69	279.10	280.30	277.00	271.10	273.30	276.00
HILL	69	276.00	281.00	273.00	291.00	299.00	299.00
HILL	69	299.00	299.00	282.00	286.00	284.70	292.00
HILL	69	300.00	274.90	267.80			
HILL	70	228.00	228.00	269.00	269.00	269.00	269.00
HILL	70	269.00	261.00	253.00	254.00	272.00	269.00
HILL	70	263.70	269.00	274.00	272.70	288.00	282.80
HILL	70	288.40	302.20	299.30	295.90	293.90	301.60
HILL	70	308.60	305.40	302.30	310.60	307.90	306.60
HILL	70	308.00	308.00	303.00	303.00	303.00	289.00
HILL	70	287.90	299.00	293.20	286.50	289.00	286.00
HILL	70	286.00	286.00	286.00	291.00	278.00	293.00
HILL	70	294.00	291.00	289.00	283.00	283.00	281.00
HILL	70	276.00	271.10	264.10	268.30	274.00	276.00

HILL	70	285.00	276.00	283.00	299.00	299.00	299.00
HILL	70	299.00	279.00	299.00	286.00	286.00	299.00
HILL	70	276.00	276.00	263.00			
HILL	71	228.00	228.00	217.00	269.00	269.00	266.00
HILL	71	259.10	258.40	250.00	261.00	271.00	239.10
HILL	71	270.00	273.00	271.00	269.40	270.10	273.70
HILL	71	283.90	289.10	296.30	295.10	297.80	304.60
HILL	71	310.70	313.30	304.40	308.50	302.70	300.50
HILL	71	302.90	307.00	308.00	303.00	291.00	291.00
HILL	71	297.00	296.10	291.70	293.00	294.00	286.00
HILL	71	286.00	286.00	283.00	296.00	294.00	279.30
HILL	71	286.40	282.60	279.90	286.00	286.00	275.00
HILL	71	271.00	257.80	266.00	266.00	268.00	292.00
HILL	71	285.00	275.90	283.00	299.00	299.00	299.00
HILL	71	299.00	276.60	270.00	252.00	286.00	286.00
HILL	71	263.00	275.00	267.00			
HILL	72	228.00	228.00	269.00	269.00	269.00	260.50
HILL	72	269.00	269.00	261.00	236.00	277.00	281.00
HILL	72	281.00	281.00	269.00	268.50	272.80	276.90
HILL	72	290.80	285.00	293.60	288.80	292.00	304.40
HILL	72	306.20	312.00	304.10	296.00	297.80	298.00
HILL	72	294.70	290.70	292.00	293.00	249.00	296.00
HILL	72	294.00	289.00	290.10	289.50	293.00	286.00
HILL	72	286.00	296.00	296.00	295.00	292.50	290.50
HILL	72	282.60	283.20	291.00	281.90	284.00	276.50
HILL	72	271.60	271.00	271.00	281.00	270.00	292.00
HILL	72	284.20	282.00	288.00	297.00	286.00	290.50
HILL	72	299.00	286.00	269.10	271.00	271.00	275.00
HILL	72	275.00	266.40	275.00			
HILL	73	196.70	228.00	269.00	269.00	265.00	264.00
HILL	73	269.00	269.00	269.00	236.00	281.00	281.00

HILL	73	281.00	269.00	281.00	275.90	272.00	297.00
HILL	73	294.20	296.90	292.50	292.00	296.80	304.60
HILL	73	304.70	305.80	302.00	290.70	295.00	295.00
HILL	73	288.80	285.90	282.00	292.00	295.00	296.00
HILL	73	296.00	296.00	293.00	282.40	290.00	294.00
HILL	73	290.00	291.00	291.00	291.00	287.70	292.00
HILL	73	278.30	278.30	289.00	287.00	278.80	284.00
HILL	73	284.00	266.00	281.00	281.00	275.30	288.90
HILL	73	288.30	283.10	293.00	262.00	274.00	289.00
HILL	73	289.00	276.60	277.00	276.00	247.70	260.00
HILL	73	253.90	269.00	266.00			
HILL	74	187.40	265.00	269.00	265.00	265.00	265.00
HILL	74	269.00	269.00	269.00	275.00	281.00	277.00
HILL	74	277.00	275.00	277.70	272.40	270.30	283.10
HILL	74	295.20	292.30	287.00	277.40	292.70	305.40
HILL	74	302.50	309.00	315.00	283.30	282.70	276.20
HILL	74	276.90	279.10	286.00	287.00	241.90	296.00
HILL	74	295.00	282.80	296.00	296.00	294.00	290.00
HILL	74	288.00	284.00	283.30	287.10	277.90	290.00
HILL	74	282.00	290.70	279.80	286.80	282.00	284.00
HILL	74	269.00	277.00	263.00	273.70	278.50	288.80
HILL	74	293.00	290.00	294.00	277.00	271.40	279.30
HILL	74	286.10	288.00	268.00	278.00	278.00	278.00
HILL	74	252.80	251.50	247.30			
HILL	75	271.00	269.00	265.00	265.00	265.00	269.00
HILL	75	269.00	269.00	269.00	281.00	267.00	268.00
HILL	75	257.30	268.00	270.50	270.00	273.90	286.00
HILL	75	279.00	299.00	272.60	287.80	298.50	305.50
HILL	75	299.10	307.00	313.00	282.90	285.00	283.50
HILL	75	281.00	285.00	285.00	287.00	296.00	287.00
HILL	75	285.00	280.70	286.00	296.00	293.00	290.00

HILL	75	290.00	289.00	270.90	288.00	288.00	280.00
HILL	75	286.00	292.00	287.30	274.50	288.00	282.00
HILL	75	274.00	278.00	270.60	266.10	271.00	294.00
HILL	75	294.00	286.00	294.00	286.00	272.00	287.00
HILL	75	272.20	279.00	270.20	276.20	278.00	278.00
HILL	75	274.00	254.00	238.40			

GRIDCART UCART1 END

** DESCRREC "" ""

DISCCART	412992.00	6253932.00	325.00	337.00
DISCCART	415628.25	6253423.27	234.87	281.00

** DESCRREC "Resident" ""

DISCCART	408889.67	6249186.44	220.49	266.00
DISCCART	418543.06	6246615.35	269.56	283.00
DISCCART	416963.89	6248389.79	198.07	268.00
DISCCART	416652.74	6248751.74	193.00	287.00
DISCCART	416454.52	6246808.37	167.63	290.00
DISCCART	416270.95	6247987.88	255.00	255.00
DISCCART	416320.55	6247809.29	237.85	241.00
DISCCART	416261.02	6247531.48	216.55	230.00
DISCCART	416548.76	6247263.59	161.33	290.00
DISCCART	416919.17	6247405.80	152.48	282.00
DISCCART	417392.12	6246820.40	199.74	265.00
DISCCART	417739.38	6246512.83	259.52	263.00
DISCCART	419108.61	6246168.87	281.89	281.89
DISCCART	419264.05	6247091.61	265.14	287.00
DISCCART	418543.06	6246615.35	269.56	283.00
DISCCART	416963.89	6248389.79	198.07	268.00
DISCCART	416652.74	6248751.74	193.00	287.00
DISCCART	419102.86	6249635.81	286.94	309.00

** DESCRREC "GB Town" ""

DISCCART	412941.31	6254209.47	315.62	326.00
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** DESCRREC "Resident" ""

DISCCART	415907.19	6249278.30	267.46	283.00
DISCCART	416047.40	6249377.62	267.04	267.04
DISCCART	413711.98	6245561.43	124.09	308.00
DISCCART	413380.02	6244797.90	120.49	277.00
DISCCART	412098.99	6245575.48	199.21	231.00
DISCCART	411810.82	6248590.65	266.92	268.00
DISCCART	413444.21	6248612.43	259.87	283.00
DISCCART	411039.54	6248812.50	254.15	288.00
DISCCART	414170.52	6255778.89	270.88	284.00
DISCCART	417417.10	6254147.71	238.78	278.00
DISCCART	415762.95	6253754.32	226.30	282.00
DISCCART	415901.88	6252961.59	232.82	253.00
DISCCART	416051.45	6252651.89	222.33	261.00
DISCCART	416974.50	6250489.34	231.37	257.00
DISCCART	416414.48	6250260.88	223.03	270.00
DISCCART	415678.86	6250508.33	225.68	278.00

** DESCRREC "HI VOL" ""

DISCCART	412855.23	6253814.15	330.74	330.74
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RE FINISHED

**

** AERMOD Meteorology Pathway

**

**

ME STARTING

SURFFILE "..\..\01. Meteorology\01. Processed data\Surf_1June18.sfc"

PROFFILE "..\..\01. Meteorology\01. Processed data\Prof_1June18.pfl"

SURFDATA 54321 2015

UAIRDATA 54321 2015

SITEDATA 99999 2015

PROFBASE 10.0 METERS

ME FINISHED

**

** AERMOD Output Pathway

**

**

OU STARTING

RECTABLE ALLAVE 1ST

RECTABLE 1 1ST

RECTABLE 24 1ST

DAYTABLE 24

** 1-Hour Binary POSTFILE for the Percentile/Rolling Average Option

POSTFILE 1 ALL UNIFORM TalLith_nogrid.AD\1HGALLUN.POS 31

** Maximum Annual Average POST files for Each Met Year

POSTFILE ANNUAL ALL PLOT TALLITH_NOGRID.AD\ANNUAL_G001.PLT 32

** Auto-Generated Plotfiles

PLOTFILE 1 ALL 1ST TALLITH_NOGRID.AD\01H1GALL.PLT 33

PLOTFILE 24 ALL 1ST TALLITH_NOGRID.AD\24H1GALL.PLT 34

PLOTFILE ANNUAL ALL TALLITH_NOGRID.AD\AN00GALL.PLT 35

SUMMFILE TalLith_nogrid.sum

OU FINISHED

**

**

** Percentile/Rolling Average

** PERCOPTN ON

** ROLLOPTN OFF

```
** SKIPCALM OFF

** ROLLPATH G:\61\36950\Tech\Dust Assessment\04.
Dispersion\PM10\TalLith_nogrid.AD\Percentile\

** PERVALUE = 99.90

**

**

*****

** Project Parameters

*****

** PROJCTN  CoordinateSystemUTM

** DESCPTN  UTM: Universal Transverse Mercator

** DATUM    World Geodetic System 1984

** DTMRGN   Global Definition

** UNITS    m

** ZONE     -50

** ZONEINX  0

**
```

Appendix B – Emission estimation

Emissions – operational phase

Site specific data used in emission estimation is shown in Table 1.

Table 1 Site specific information

Activity	Amount	Unit	Comments
Number of haul truck trips per year (ore)	112,203	Trips/year	Calculated; accounted for return trip
Number of haul truck trips per year (waste)	54,566	Trips/year	Calculated; accounted for return trip
Dozers	43,800	Hours	Based on 5 dozers operating at the pit and WRL 24/7
Drilling	91,250	Drills/year	Based on 250 drill-downs per day, every day of the year
Excavator	271	t/hour	Based on 9.5 Mtpa mined, split between four excavators.
Rockbreaker	361	t/hour	Based on 9.5 Mtpa mined, split between three rockbreakers.
Haul trucks to WRL	520	t/hour	Based on 4.62 Mtpa to the WRL
Haul trucks to processing plant	1,084	t/hour	Based on 9.5 Mtpa to the WRL

Table 2 Number of ancillary equipment

Equipment type	Quantity
Atlas D5 drills	7
200t excavators	4
CAT D785 mining trucks	26
Dozers at pits	2
Dozers at WRL	3
ROM Loaders	4
Rockbreakers	3
Haul trucks to WRL	7
Haul trucks to processing plant	19

Table 3 Wheel generated dust factors for haul trucks

Variable	Pit to Processing Plant	Pit to Waste Rock
Hourly haul rate (t/hr)	1084	520
Return distance (km)	2	1.8
Truck payload (t)	84.7	84.7
Truck trips	12.8	6.1
VKT (km/hour) (total)	25.6	10.9
VKT per truck (km/hour)	1.3	1.6

Table 5 Wind erosion source areas

Stockpile source	Area (m²)
Fine ore stockpile	400

Final product stockpile	400
ROM stockpile1	400
ROM stockpile1	400
Pits	25,000
WRL	81,000
TSF 1	65,000
TSF 2	26,000
TSF 4	100,000

References to the Emission calculations for the sources shown in Table 2 were estimated using the NPI equations detailed below.

Table 4 NPI Emission factors used for calculating emission rates ¹

Activity	Emission factor (no control)		Reference
	TSP	PM ₁₀	
Blasting (kg/blast/hour)	55.7	28.8	NPI EET Manual for Mining v3.1, default emission factor Table 2
Drilling (kg/hole/hour)	0.59	0.31	NPI EET Manual for Mining v3.1, Table 2 Default emission factor
Excavators/loaders (kg/t/hour)	0.025	0.012	NPI EET Manual for Mining v3.1, Table 2, Default emission factor
Rockbreakers (kg/t/hour)	0.025	0.012	NPI EET Manual for Mining v3.1, Table 2, default emission factor (as Excavators/Shovels/Front-end loaders)
Dozers at pits (kg/hour/hour)	17.0	4.1	NPI EET Manual for Mining v3.1, Table 2 default emission factor
Dozers at WRL (kg/hour/hour)	17.0	4.1	NPI EET Manual for Mining v3.1, Table 2, default emission factor
Crushing (Primary) (kg/t/hour)	0.20	0.02	NPI EET Manual for Mining v3.1, Table 3, default emission factor
Unloading/loading ore stockpiles (kg/t/hour)	0.004	0.0017	NPI EET Manual for Mining v3.1, Table 2, default emission factor
Wind erosion (kg/ha/hour)	0.4	0.2	NPI EET Manual for Mining v3.1, Table 2, default emission factor
Wheel generated dust from unpaved roads at industrial sites (to processing plant)	4.23	1.25	NPI EET Manual for Mining v3.1, Table 2, default emission factor

1 Note only control emission factors were used for this assessment

Table 5 NPI controls and emission reduction

Control	Emission reduction (TSP and PM ₁₀)
Enclosure	0.1
Hooding with fabric filters	0.17
Hooding with scrubbers	0.25
Level 1 watering (2L/m ² /h), wind breaks	0.5
Rock armour/ topsoil applied,	0.7
Telescopic chute with water sprays,	0.25
Vegetation established	0.6
Water spray (50%)	0.5
Water sprays (70%)	0.3
Water sprays with chemicals	0.1

Wind breaks	0.7
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Appendix C - Source characteristics

Source ID	Description	Easting	Northing	Sigma Y	Sigma Z	Release height
1	Blasting	413702	6252672	1.2	0.5	1
2	Drill 1	413702	6252672	1.2	0.5	1
3	Drill 2	413598	6252962	1.2	0.5	1
4	Drill 3	413417	6253175	1.2	0.5	1
5	Drill 4	413488	6253092	1.2	0.5	1
6	Drill 5	413587	6253071	1.2	0.5	1
7	Drill 6	413596	6253169	1.2	0.5	1
8	Drill 7	413530	6253234	1.2	0.5	1
9	Excavators	413103	6253097	0.7	0.5	1
10	Excavators	413897	6252834	0.7	0.5	1
11	Excavators	413541	6252417	0.7	0.5	1
12	Excavators	414209	6251837	0.7	0.5	1
13	Loaders	413103	6253097	0.7	0.5	1
14	Loaders	413897	6252834	0.7	0.5	1
15	Loaders	413541	6252417	0.7	0.5	1
16	Loaders	414209	6251837	1.3	0.5	1
17	Rockbreakers	414250	6251978	0.7	0.5	1
18	Rockbreakers	413973	6252620	1.3	0.5	1
19	Rockbreakers	412987	6252210	1.3	0.5	1
20	Conveyor transfer point 1	413104	6252020	0.4	0.9	2
21	Conveyor transfer point 2	412404	6252262	0.4	0.9	3
22	3 stage crusher (for CPG 1 & CPG2)	412692	6252971	4.3	1.2	2.5
23	2 stage crushing (for CPG3 & CPG 4)	412123	6252207	4.3	1.2	2.5
24	ROM stockpile (for TIL, CPG1 & CPG2)	412928	6253174	0.7	0.5	1
25	Fine ore stockpile - CPG3 & CPG 4	413048	6252252	0.7	0.5	1

Source ID	Description	Easting	Northing	Sigma Y	Sigma Z	Release height
26	Final Product Stockpile - CPG3 & CPG 4	411964	6251901	0.7	0.5	1
27	ROM stockpile (for CPG3 & CPG4)	411649	6251575	0.7	0.5	1
28	Dozer - pits	413636	6253298	0.7	0.5	1
29	Dozer - pits	414185	6251979	0.7	0.5	1
30	Dozer - waste	414784	6253373	0.7	0.5	1
31	Dozer - waste	415171	6252015	0.7	0.5	1
32	Dozer - waste	414428	6250782	0.7	0.5	1
33	Haultruck1 - north end to waste dump	415031	6253549	0.4	0.5	1
34	Haultruck2 - north end to waste dump	414704	6253963	0.4	0.5	1
35	Haultruck3 - north end to waste dump	414100	6253671	0.4	0.5	1
36	Haultruck4 - north end to waste dump	413954	6253554	0.4	0.5	1
37	Haultruck5 - north end to waste dump	414271	6253468	0.4	0.5	1
38	Haultruck6 - north end to waste dump	414070	6253379	0.4	0.5	1
39	Haultruck7 - north end to waste dump	413517	6253705	0.4	0.5	1
40	Haultruck8 - south end to processing facility	412497	6253262	0.4	0.5	1
41	Haultruck9 - south end to processing facility	412480	6252874	0.4	0.5	1
42	Haultruck10 - south end to processing facility	412506	6252553	0.4	0.5	1
43	Haultruck11 - south end to processing facility	412883	6252727	0.4	0.5	1
44	Haultruck12 - south end to processing facility	412357	6251781	0.4	0.5	1

Source ID	Description	Easting	Northing	Sigma Y	Sigma Z	Release height
45	Haultruck13 - south end to processing facility	412106	6251292	0.4	0.5	1
46	Haultruck14 - south end to processing facility	412704	6250747	0.4	0.5	1
47	Haultruck15 - south end to processing facility	412696	6251466	0.4	0.5	1
48	Haultruck16 - south end to processing facility	413021	6251924	0.4	0.5	1
49	Haultruck17 - south end to processing facility	413139	6252398	0.4	0.5	1
50	Haultruck18 - south end to processing facility	413405	6252114	0.4	0.5	1
51	Haultruck19 - south end to processing facility	413676	6251863	0.4	0.5	1
52	Haultruck20 - south end to processing facility	413872	6251792	0.4	0.5	1
53	Haultruck21 - south end to processing facility	413916	6251316	0.4	0.5	1
54	Haultruck22 - south end to processing facility	413901	6250863	0.4	0.5	1
55	Haultruck23 - south end to processing facility	413901	6250863	0.4	0.5	1
56	Haultruck24 - south end to processing facility	414522	6251639	0.4	0.5	1
57	Haultruck25 - south end to processing facility	414502	6252041	0.4	0.5	1
58	Haultruck26 - south end to processing facility	414324	6252377	0.4	0.5	1

Source ID	Description	Easting	Northing	Sigma Y	Sigma Z	Release height
59	WE - ROM stockpile	412928	6253174	1.2	1.2	2.5
60	WE - ROM stockpile	413048	6252252	1.2	1.2	2.5
61	WE - Fine ore stockpile	411964	6251901	1.2	1.2	2.5
62	WE - Final Product Stockpile	411649	6251575	1.2	1.2	2.5
63	WE - Pits1	414129	6252029	46.5	0.1	0.5
64	WE - Pits2	413165	6252893	46.5	0.1	0.5
65	WE - Pits3	413738	6252728	46.5	0.1	0.5
66	WE -Waste dump	415171	6252015	209.3	0.5	0.5
67	WE - TSF1-1	413229	6250880	93.0	0.1	0.5
68	WE - TSF1-2	413519	6251490	93.0	0.1	0.5
69	WE - TSF4-2	412668	6250295	93.0	0.1	0.5
70	WE - TSF4-1	414058	6250269	93.0	0.1	0.5

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		Name	Signature	Name	Signature	Date
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R3	A Sala Tenna G Formentin	M Asimakis		F Hannon		5/10/2018
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R5	A Sala Tenna	J Forrest		F Hannon		5/02/2019

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