

Agenda



Prepared for: Community Consultation Group Meeting
Location: Galaxy Exploration Office - Ravensthorpe
Date: 14th March 2019
Time: 08:00 AWST

Attendees		Apologies	
Ken Norman (KN)		Ian Dickinson (ID)	
Geoff Fairhead (GF)		Gavin Pollock (GP)	
Fiona Philson (FP)		Brian Talbot (BT)	
Pamela Makar (PM)		Ben Ratz (BR) (alternate)	
Wayne Williams (WW)			
Sue Leighton (SL)			
Graham Steel (GS)			
Rob Loyde (RL) (alternate for ID)			

Agenda Items		Responsible
1.	Welcome	Ken Norman
2.	Apologies	
3.	Declaration of Conflict of Interest	
4.	Confirmation of the Previous Meeting Minutes	
5.	Action items and Outcomes	
6.	Administrative Items	
7.	Galaxy Progress Report	
8.	Community Engagement Activities	
9.	Community Issues	
10.	Other Business	
11.	Next Meeting	
12.	Close	

1. WELCOME

- Ken Norman opened the meeting.

2. APOLOGIES

- Ian Dickinson (ID)
- Gavin Pollock (GP)
- Brian Talbot (BT)

3. DECLARATION OF CONFLICT OF INTEREST

- No conflicts of interest were identified by CCG members.

4. CONFIRMATION OF THE PREVIOUS MEETING MINUTES

- December 2018 and February 2019 CCG meeting – All members confirmed previous meeting minutes.

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5. ACTION ITEMS AND OUTCOMES

- Previous meeting actions that have been closed will remain on the below list for succeeding meeting before being removed.
- Actions below summarise commitments made during the meeting.

Date Raised	No.	Action required	Who	Date due	Action Outcomes
13/12/18	26	Send meeting minutes to SoR for addition to SoR web page.	Galaxy/SoR	Closed	Minutes Sent to SoR and uploaded onto the SoR website. <ul style="list-style-type: none"> • https://www.ravensthorpe.wa.gov.au/documents/
13/12/18	27	Forward findings and referenced material on the health effects of Mica to CCG.	Galaxy	Closed	Information on mica ingestion can be found in the related articles <ul style="list-style-type: none"> • https://www.osha.gov/chemicaldata/chemResult.html?recNo=153 • https://hpd.nlm.nih.gov/cgi-bin/household/brands?tbl=chem&id=401 • https://hazmap.nlm.nih.gov/category-details?table=copytblagents&id=621 • https://www.cosmeticsinfo.org/ingredient/mica • https://www.cdc.gov/niosh/npg/npgd0431.html
13/12/18	28	Find out response time from the Pitch your Project	Galaxy	Closed	In October 2018 Galaxy Mt Cattlin invited the members of the communities and non-for-profit groups of the Ravensthorpe region to participate in the Galaxy Pitch your Project initiative. This initiative provides the community and non-for-profit groups with an equal opportunity to apply for financial support for community development projects in 2019. Galaxy is proud to provide financial support to the following community projects and events in 2019: <ul style="list-style-type: none"> • Ravensthorpe Gym - Upgrade to gym facilities (\$15,000) • Ravensthorpe Progress Association- Outdoor bench seats in ceremony (\$5,500) • Ravensthorpe Community Resource Centre - Solar panels for Centre (\$6,000) • Little barrens Childcare Centre - A Nature Scape Garden & Playground (\$3,000) • Sporting Club Area - Upgrading Damaged Play Ground equipment (\$20,000) • The Club House Child Care Centre - New toys for the children (\$6,100) • Ravensthorpe Community Resource Centre - Annual Street Parade & Country Carnival (\$12,000) • Wild Flower 2019 - Wild Flower Show 2019 Funding was awarded to the projects that were most closely aligned with Galaxy's Corporate Social

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Date Raised	No.	Action required	Who	Date due	Action Outcomes
					<p>Responsibility Strategy, which prioritises sustainability and social responsibility.</p> <p>Galaxy values its partnerships with the communities and stakeholders within the Ravensthorpe area and will continue to operate and invest in the region. Galaxy thanks everyone that participated in the 2019 Pitch Your Project initiative and looks forward to seeing the benefits these projects will bring to the local community.</p>
13/12/18	29	Blast guard closure times. Contact Blast controller to determine if a vehicle waiting at blast guard is able to pass once closure occurs.	Galaxy	Closed	<p>Galaxy updated the blast exclusion zone process to allow grain trucks to pass through if deemed safe by the blast controller. The blast guard is now required to contact the blast controller, provide information on where the vehicle is wanting to enter and exit and gain approval from the Blast controller. This will allow the vehicle to pass through the barricaded area safely and in a controlled manner. This would not be approved if checks are complete and the blast is about to happen. The times the blast guard closes the road could also be reduced to 15-20 minutes prior to blast.</p>
28/02/19	30	Pass on information regarding Die back identified at the Blacksmith Tree	Galaxy	Closed	<p>With community concerns towards the declining health of the Blacksmith Tree Mt Cattlin hired an independent arborist to determine factors influencing its declining health and provide recommendations. The arborist completed a thorough investigation and considered multiple potential causes of the trees declining health. Samples taken during the investigation indicated that the most likely cause was Dieback. However, further testing was required to determine species by an accredited laboratory.</p> <p>Galaxy Mt Cattlin engaged the services of Joseph Grehan, an independent qualified ecologist and accredited DBCA Dieback interpreter. Joseph was hired to carry out an extensive broadscale assessment of the Blacksmith Tree as well as a broadscale assessment of Mt Cattlin's development area.</p> <p>4 species of Phytophthora were identified from 3 out of 6 samples taken.</p> <p>The positive result for a soil sample at the Blacksmith tree was for <i>P. pseudocryptogea</i>.</p> <p>Recommendations for the blacksmith tree include fencing of area, treatment with phosphite injections, weed control and installing 'standard protocol dieback' to raise the public awareness and boot cleaning stations.</p> <p>The species identified within the Mt Cattlin Development area were <i>P. condilina</i>, <i>P. aranerria</i> and <i>P. inundata</i>. Although Mt Cattlin has well established management systems to control dieback, Mt Cattlin increased hygiene protocols in the areas around the dieback sites during the removal of vegetation and soil.</p> <p>None of the species identified are the aggressive <i>P. cinnamoni</i> sp. The assessment indicated that the overall risk, though still present, is low.</p>

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Date Raised	No.	Action required	Who	Date due	Action Outcomes
28/02/19	31	Table of relative risk to % of exposure limit	Galaxy	Closed	<p>Fibrous material is commonly intersected in Western Australian Mines and the controls are well established. DMIRS have developed a guideline for the management of naturally occurring fibrous material. Mt Cattlin comply with this guideline.</p> <ul style="list-style-type: none"> http://www.dmp.wa.gov.au/Documents/Safety/MSH_G_ManagementOfFibrousMineralsInWaMiningOperations.pdf <p>Reading through the complete guideline will give a greater understanding of fibrous materials and overall risk. The table of relative risk to % of exposure limit can be found in section 4.3, page 9.</p>
14/03/19	32	Request expression of interest for BM replacement as a 'Community Representative Group' member for the CCG.	Galaxy	15/05/2019	
14/03/19	33	Discuss expression of interest received for the Community Representative Group position on the CCG.	CCG	13/06/2019	

6. ADMINISTRATIVE ITEMS

- CCG members can invest in GXY shares with no conflict of interest.

7. GALAXY PROGRESS REPORT

- Road Diversion- Stage 2
 - o KN – Is stage 2 of the road diversion still happening?
 - o GS – Stage 2 is still going ahead; the Galaxy consultant design engineer is currently working with Main Roads WA on the design of the road intersection with the Brookton Highway. James Hesford, Galaxy Project Manager and I are currently considering if the Shire component of the road can commence, but we need to ensure that the preliminary design (Floater Road stage 2) will align with the Main Roads intersection design (under development / yet to be approved) to avoid any construction issues on alignment and level of the two sections. A passing bulge and righthand turn turning pocket (Brookton Hwy North –bound) has been approved at the entrance and is a key part of the intersection design. Main Road WA confirmed, the need for a slip lane (South-bound) was not considered necessary, as the ‘bell mouth’ is considered adequate as the trucks remained lane correct when entering onto the Brookton Highway. At the moment Galaxy’s Project Manager, organised the road boundary (stage 2) to be pegged by the surveyors and fencing will be able to occur soon.
- Mt Cattlin Processing Plant upgrade:
 - o The commissioning phase of the YOP is still ongoing. Galaxy are now fine tuning the individual processes, this requires harmonising between each process to ensure that the overall operation is running at its optimum capacity on completion of the commissioning phase.
- Dust monitoring results:
 - o Dust monitoring- New results for dust monitoring have been received for both the Dust Deposition Gauges (DDG’s) and Hi Vol sampler.

DDG’s- (measures deposited dust) The dust deposition gauges allow Galaxy to assess potential dust nuisance and amenity impacts upon the local community. As there are no relevant regulatory criteria in Western Australia for acceptable dust deposition levels, the dust deposition criteria adopted by the NSW EPA (2017) have been applied as our trigger threshold. All results for Community Dust Deposition Gauges have been below the standard of 4 grams/m²/month. The control DDG (DDG20) has been included as a reference site, however this DDG is located in a farmer’s paddock 20km NE of the Mt Cattlin Mine site.

Community Monitors - Insoluble Matter g/m²/Month

by DDG No.

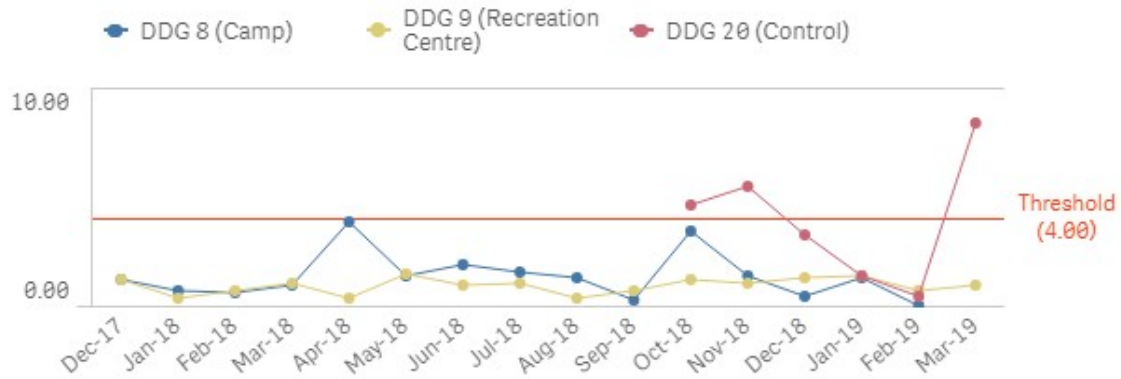


Figure 1: The Community Dust Deposition Gauge monitors have all returned results below the standard of 4 gm²/month. The dates recorded on the horizontal axis indicate when DDG's were collected. DDGs are put in place approximately 30 days prior to this date (i.e. 01/02/2019 is for the month of January). Results are calculated over the recorded sampling periods to give results in gm²/month. Results are calculated over the recorded sampling periods to give results in gm²/month. The control DDG (DDG20) has been included as a reference, however this DDG is located in a farmer's paddock 20km NE of the Mt Cattlin Mine site. DDG20 exceeded the trigger threshold during November and December 2018

Mica Silica (personal hygiene monitor)

Testing carried out for silica and mica is determined using a personal hygiene monitor placed near the HiVol sampler. This will assess the potential for adverse effects on human health in the local community from exposure to fine particulate matter. Sampling results are based on safe work Australia's Time Weighted Average (TWA) calculated over an 8hr work day. All results to date for silica and mica samples have come back below the standard of 0.1 mg/m³ for quartz (silica) and 2.5 mg/m³ for mica.

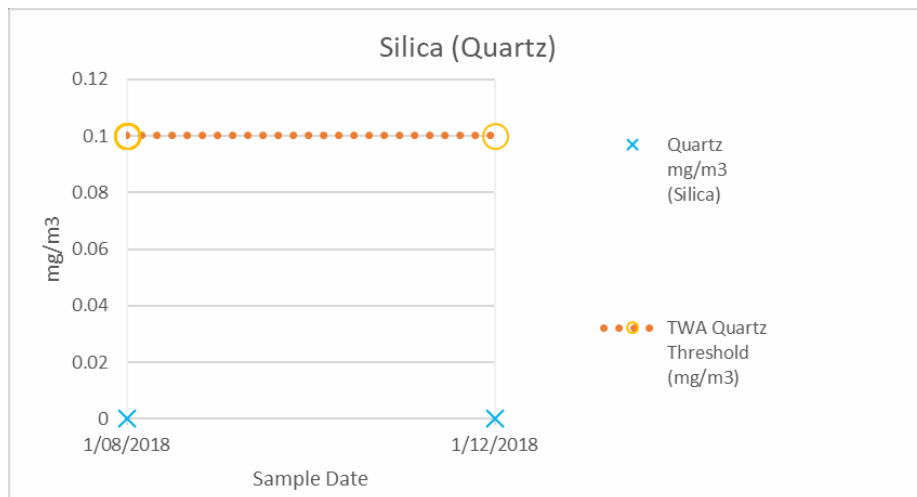


Figure 2: Silica results are collected at the location of the Hi Vol sampler using a personal hygiene monitor. All results to date are below both the labs Limit of reporting and threshold levels based on Workplace Exposure Standards for airborne contaminants using TWA (Time Weighted Average calculated over an 8hr day).

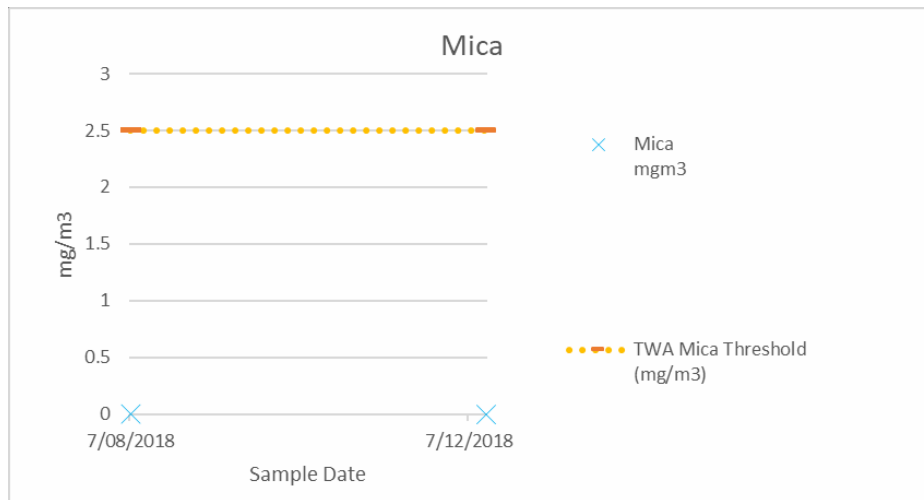


Figure 3: Mica results are collected at the location of the Hi Vol sampler using a personal hygiene monitor. All results to date are below both the labs Limit of reporting and threshold levels based on Workplace Exposure Standards for airborne contaminants using TWA (Time Weighted Average calculated over an 8hr day).

Hi Vol Sampler- (measures respirable dust)

The below graphs show assay results for the Hi Vol sampler for PM10 and selected metals. The Hi Vol is set up at a residential house within the townsite of Ravensthorpe.

PM10:

The Hi Vol sampling for PM10 allows Galaxy to assess the potential for adverse effects on human health in the local community from exposure to fine particulate matter. Galaxy uses nationally recognised ambient air quality standards for various common air pollutants, including PM10 as a trigger level. PM10 has remained below the threshold for the 24hr standard, as per graph below.

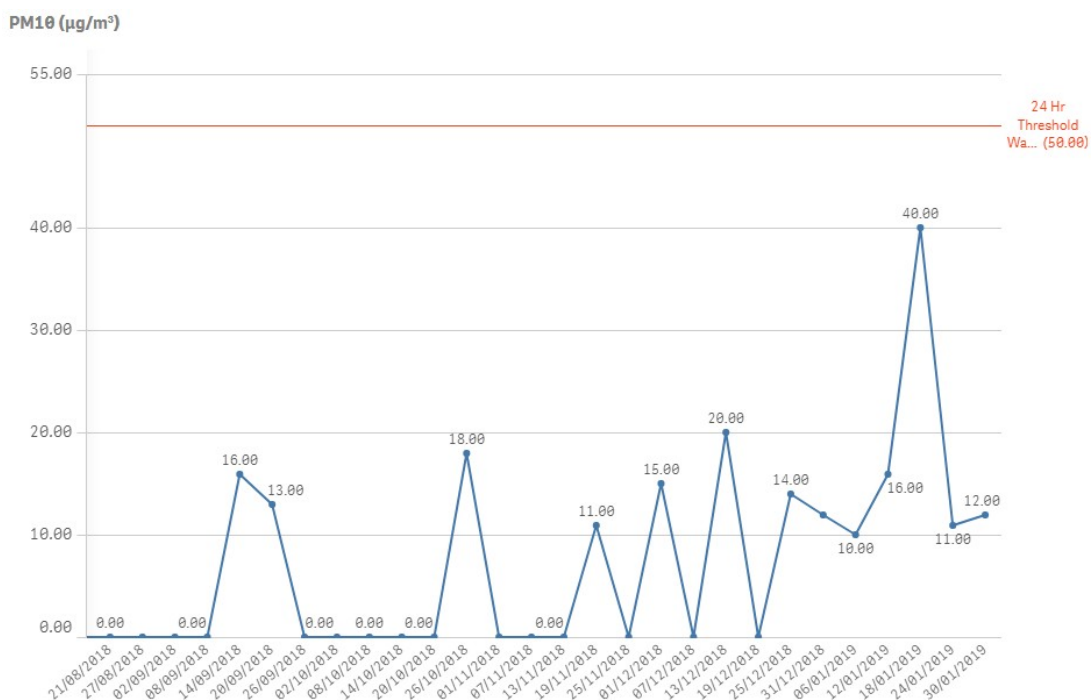


Figure 4: Hi Vol sampling results for PM10 (respirable dust)- 24 hr standard. Deposited dust has remained below the threshold on all sampling days. Where 0 are shown results are below the Detection Limit.

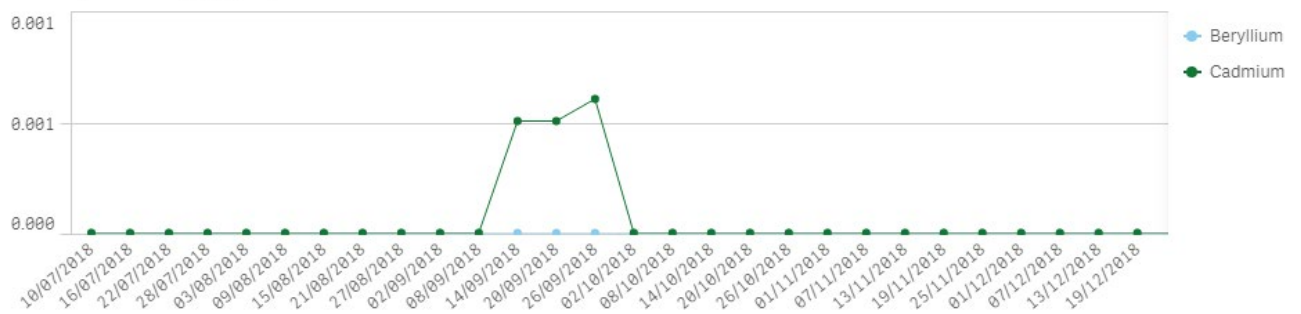
Metals:

The Annual Concentration Trigger threshold (health values) used by Galaxy have been recommended by Environmental Technologies & Analytics (ETA). The values were derived from health guidelines published by the World Health Organisation (WHO) and the United States Environment Protection Agency (USEPA), which differ substantially in some cases. Galaxy have used the lowest value from these guidelines as an ‘annual trigger threshold’. If results returned are above the threshold of the annual trigger threshold a more detailed assessment will be completed. Trigger threshold are derived for longer-term exposure (life time exposure), not short-term exposure.

Metals tested for by the Hi Vol sampling program include Beryllium, Cadmium, Manganese, , Hexavalent Chromium (CR VI) and Lithium. To identify if there is a potential concern, a full year of sampling needs to be completed, as annual trigger threshold are utilised.

Results for Beryllium, Cadmium, Managanese and Lithium are shown below.

Dust Sample Readings ($\mu\text{g}/\text{m}^3$)



Dust Sample Readings ($\mu\text{g}/\text{m}^3$)

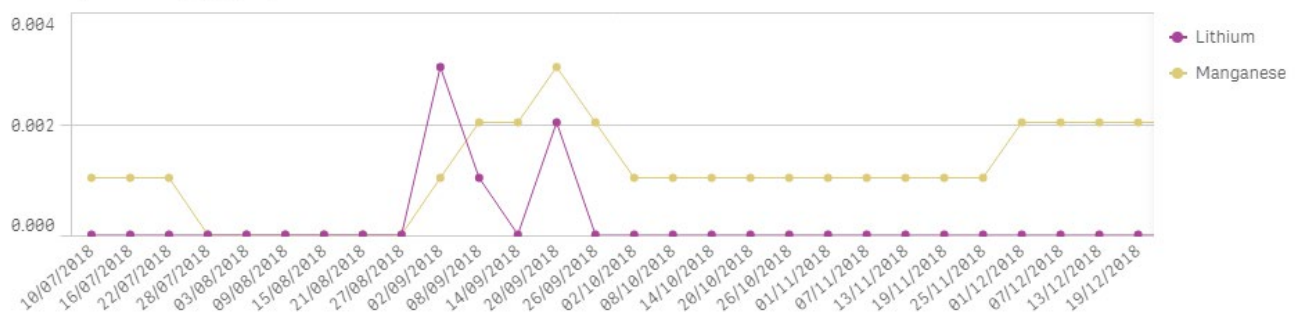


Figure 5: The results in the graphs above show the return results from sampling days. Were 0 is recorded the results were below detection against the labs limit of reporting (LOR) and could not be assigned a numeric value other than <LOR.

Beryllium remained below the trigger threshold of 0.000400 $\mu\text{g}/\text{m}^2$ on all sampling days. Cadmium remained below the trigger threshold of 0.0006 $\mu\text{g}/\text{m}^2$ on all sampling days other than on the 26th Sept 2018 when it was equal to the trigger threshold, winds on this day ranged between SSE to westerlies. Lithium remains below the trigger threshold of 0.20 $\mu\text{g}/\text{m}^2$ on all sampling days. Manganese remains below the trigger threshold of 0.05 $\mu\text{g}/\text{m}^2$ on all sampling days

The graph below shows the results for Hexavalent Chromium, with reading above the threshold in November 2018. As annual trigger thresholds are utilised, a complete year of sampling needs to be completed before determining the if the results are above or below the trigger threshold.

As the result returned on the 19th of November was a once-off occurrence, and a full year of sampling has not been undertaken, this is not considered above the threshold of the annual exposure limit of 0.000025 µg/m².

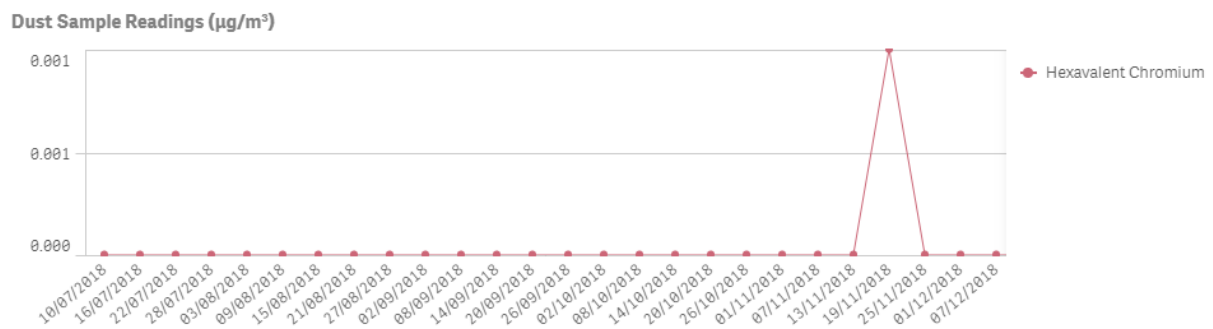


Figure 6: Results in the graph above show sample results for Chromium.

An investigation into the cause of this elevated reading has been conducted and determined that the source was likely from within Ravensthorpe Townsite, as winds were blowing any mine dust away from town. As this is a once-off occurrence, this is not considered to be above the threshold of the annual exposure limit or cause for concern.

To determine what may have caused the reading Galaxy completed an investigation for the 19th of November. The Galaxy Weather Station as well as the BOM weather page was referenced. The winds on this day were predominately from the SSW to WSW with no winds coming from the NW, this indicates the high reading for Hexavalent Chromium did not come from Mt Cattlin Mine Site, but more likely activities occurring within Ravensthorpe. Within the 24hr sampling period wind direction was only logged to be blowing from the S (15 times), SSW (105 times), SW (70 times), WSW (78 times) and the W (21 times). SSW wind is wind that is blowing FROM the south-southwest - and thus is blowing Towards NNE.

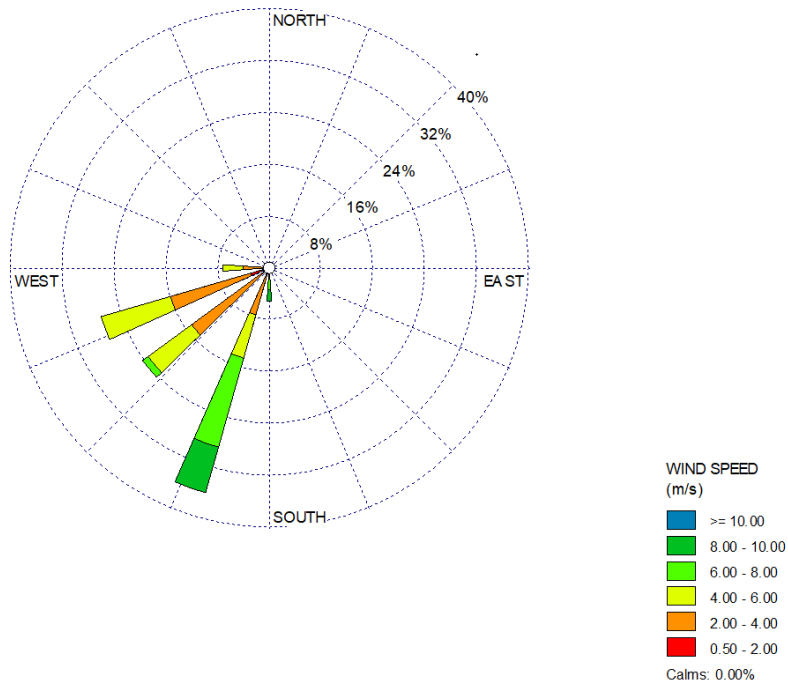


Figure 7: Wind Rose data compiled from Galaxy's Mt Cattlin weather station which takes readings every 5 minutes. Data concurs with Bureau of Meteorology Data for the same date.

As Galaxy mine site is located north west of Ravensthorpe, wind would need to blow from a north westerly direction to blow mine site dust across the Hi Vol sampler (located in Ravensthorpe town). The above wind direction data shows wind on the 19/11/2018 was blowing any mine site dust away from town



Figure 8: Wind direction data laid over top of a google map image of Ravensthorpe.

Hexavalent Chromium Cr(VI) is rarely found in the natural state and is usually produced by industrial processes, including 'hot works' such as welding. The processing methods utilised at the Mt Caitlin mine site does not produce Chromium VI or use chemicals during processing, therefore it is not a possible contributing source.

Whilst the exact source of elevated Hexavalent Chromium readings on this date is unknown, wind directions indicate the source was likely from in town and may have been a result of construction or other activities.

Galaxy is committed to an ongoing monitoring program and will report and investigate any findings as required.

8. COMMUNITY ENGAGEMENT ACTIVITIES

N/A

9. COMMUNITY ISSUES

- **Noise-**

- JF – With the East of Floater road developments noise is now greater than ever during the daytime operations. Noise does not extend into the night, when the trucks shut down at 6pm noise ceases. Noise from the drill rigs is not heard after 6pm.
- WW- Noise will reduce as we mine deeper. The construction of the Sound Bund is still being built from mine waste, on completion this will also reduce the noise further. On approval of the east extension of the waste dump noise travelling towards Ravensthorpe will be further reduced.

- **Dust**

- RL - Dust from the mine site will always occur, even when the mine has closed. Can Galaxy guarantee this dust will not harm future generations? The dust deposition gauges do not represent the actual dust leaving the mine site as they are too close to the waste dump and the dust just travels past them.
- WW - Galaxy monitor dust within Ravensthorpe townsite, further away from the mine site for both respirable and deposited dust. Galaxy's monitoring program gives real data relating to dust deposited within Ravensthorpe townsite. Dust captured within the monitors is not limited to mine site dust only, all activities surrounding Ravensthorpe that create dust/ respirable particles will be captured within the monitoring results if wind direction flows over or past the monitors. Galaxy have two different methods to test for dust within Ravensthorpe;
 - DDG, testing for deposited dust (ACH Camp site and Recreation centre), and
 - Hi-Vol sampler (Kingsmill Rd) tests for respirable dust, (dust breathed into the lungs).

DDGs are placed around the mine site premises as well as within the Ravensthorpe townsite. A baseline gauge was recently placed in a farmer's paddock 20km north east of the mine site to allow Galaxy a comparison site within a similar landscape without mining activities occurring. Data

collected for deposited dust at all community monitors have not exceeded the NSW Department of Environment and Conservation 2005 standards for ambient dust deposition (4 gm/m²/month (total deposited dust)).

- o Data collected at the Hi Vol located on Kingsmill Street has not exceeded National Standards for particulate air quality PM10. 50 µg/m³ averaged over a 24-hour period.
- o JF - The results received from the monitors say that dust is not a problem. We know that dust is present in town, it collects on the surface of everything.
- o SL – Dust is more of an amenity problem- everyone who lives in Ravensthorpe is personally affected.
- o PM - Water suppression occurs constantly, it occurs on mine site roads and all work areas. There is no change in dust suppression management due to the occurrence of sampling. If dust is identified, personnel working in the area will call up the area supervisor to request dust suppression.
- o WW - Galaxy have had multiple government inspection over the period I have worked at Galaxy, each inspection has targeted dust, questioning and inspecting the site for dust sources and management measures. The inspections verify that what Galaxy say is true, advice has been given but not once have we been told we are non-compliant to Licence Conditions.

10. OTHER BUSINESS

- Belinda McHarg resignation from CCG- a replacement for a Community Group Representative position will be sort.
- Wayne Williams informed all that he will be leaving Galaxy and perusing other opportunities, his role will be filled by John Kannegiesser until a replacement has been appointed.
- Dust Deposition Gauge DDG08 located in Ravensthorpe's fire break near ACH camp was shot at and damaged during the February monitoring period, a formal report was made to the local police regarding the resulting damage. Sample results will not able available for the month of February and March due to the inability to collect a sample from this site. Galaxy are currently reviewing the options for the placement of DDG08.
- Mt Cattlin Connect edition 2 will be coming soon.
- Galaxy Website is still requiring development, until this is finalized CCG minutes can be found on the shire website, <https://www.ravensthorpe.wa.gov.au/documents/>.
- RL - requested if Galaxy are commencing work south of Ravensthorpe in farmers' fields along Moir road going past the tip.

- o No, we have tenements in the area, but no disturbance work has been approved on any land holders land. Galaxy are not allowed to do any work without government and company approvals. We are also required to have Land Holder Agreements in place and signed by the land holder, once this has been done Galaxy would discuss proposed activities with the land holder.

11. NEXT MEETING

- Meetings are scheduled to occur the second Thursday of the month at 8am.
- The next scheduled meeting will be held on the 13th of June 2019, though one will be held prior if required.

12. CLOSE