



Calga Sand Quarry

Action Plan Compliance Response

	Comments	Hanson Action Details	Dates/Justification	Completed/date to be completed
N1.	<p>Management practices to minimise noise impacts have been identified in Section 7 of the Noise Management Plan.</p> <p>Practices had been implemented in accordance with the plan with the exception of:</p> <ul style="list-style-type: none"> • Comparative sound level measurements of equipment had not been undertaken; • Signs had not been displayed at the exit to the site to remind all drivers to leave in a quiet manner. <p>Recommendation: Sound power levels of equipment used on site should be determined and monitored in accordance with the Noise Management Plan. Erect signs at the exit to the site to remind all drivers to leave in a quiet manner.</p>	<p>Update the requirements for noise monitoring with contractors.</p> <p>Sound power levels are to be monitored in Q4 noise monitoring</p> <p>Transportation noise impact signage to be placed at quarry exit</p>	<p>Noise monitoring contractors have been notified of the requirements under the Calga Noise Management Plan 2017.</p> <p>Transportation noise impact signage was installed November 2018.</p>	Completed November 2018.
N2.	<p>The approved SWMP does not include impact assessment criteria for groundwater dependent ecosystems (GDEs). The amended SWMP which is awaiting approval includes identification of and monitoring program for GDEs, but does not include impact assessment criteria.</p> <p>Recommendation: Revise the SWMP and include impact assessment criteria for groundwater dependent ecosystems (GDEs).</p>	Revise the SWMP to include impact assessment criteria for groundwater dependent ecosystems (GDEs)	Have communicated with RW Corkerys to update this aspect of the management plan and will be included in the submission of the updated SWMP, estimated to be submitted March.	To be completed 31 May 2019 (management plan updates within 3 months of Annual review submission).
N3.	<p>Mackie Environmental Research Pty Ltd recommended privately-owned groundwater bores within predicted drawdown zone to be identified and subjected to hydraulic testing.</p> <p>All identified bores within 500m of the quarry were hydraulically tested in 2006-2008, except those for which landholder approval was denied.</p> <p>A further bore survey in 2015 identified 3 further bores within 500m of the quarry. Only one of these (CP13) has been tested. CP14 and CP15 not yet tested.</p> <p>Recommendation: Undertake hydraulic testing CP14 and CP15 in accordance with the recommendations provided in groundwater assessment reports prepared by Mackie Environmental Research Pty Ltd, dated July 2005 and December 2004.</p>	Quarry Management to approach land owners to perform hydraulic testing on non-tested bores.	<p>Hanson has received approval for monitoring of CP13 (White property) & CP15 (Glenworth Valley). Hydraulic testing to be performed by P. Dundon for bore CP15.</p> <p>Hanson has not received landowner approval for CP14 (King property).</p>	Approval for CP13 and CP15 completed January 2019. Still waiting on approval from CP14 but at this point in time Hanson might not receive approval from landowners.
N4.	<p>Continuous water level monitoring equipment installed in key monitoring bores CQ4, CQ11S and CQ13 as a requirement specified by MER (2005) has not been working since at least January 2016, but has not been investigated for repair or replacement. During this time, only bi-monthly manual water level monitoring has been undertaken on these bores.</p> <p>Recommendation: Repair or replace defective continuous water level monitoring equipment.</p>	<p>Remove, repair and/or replace non-functioning continuous water level monitoring equipment</p> <p>Access to ground water bore test locations at southern extension – complete.</p>	Cbased have removed all faulty data loggers and replaced with new units February / early March 2019 (delay on supplier side).	All loggers tested November 2018. New units will be installed by end of March 2019.
N5.	<p>No water level or flow metering equipment as specified by MER (2005) has been installed on any private bore within 500m of quarry.</p> <p>Recommendation: Install water level or flow monitoring equipment on private bores within 500m of the quarry as per the recommendations of the</p>	<p>Discuss feasibility of this requirement with Peter Dundon</p> <p>Organise installation of water level/flow monitoring equipment for bores within</p>	Hanson is still in discussion with Peter Dundon on feasibility to install equipment to private bores that require water level/flow monitoring equipment.	To be completed by 31 May 2019.

	independent groundwater assessment reports (prepared by Mackie Environmental Research Pty Ltd, dated July 2005 and December 2004.	500m of the quarry that don't currently have equipment installed.		
N6.	No complaints have been received Dust deposition results for CD1 show increasing trend, with monthly results from February 2018 exceeding 12 month annual average criteria, although 12 month average has not exceeded criteria. No formal investigation has been undertaken to assess the cause of the exceedances. Recommendation: Undertake and document an investigation to determine the cause of increasing dust depositions rates for CD1. Implement corrective actions as determined from the investigation.	Monthly average over a year period is required in accordance with the conditions of consent. Quarry Management understood the reason of the increasing trend.	Commencement of new extraction cell 5 within close proximity 920m) of CD1. As the formal investigation has been undertaken, the report will be generated and filed for future reference.	Completed January 2019.
N7.	Quarry induction includes section on environmental management and controls, however site specific environmental requirements have not been included. Recommendation: Review the site induction to include site specific information on environmental management and controls.	Contractor Induction documents to outline environmental requirements (noise & dust) – complete.	N/A	Completed November 2018.
N8.	Rainfall data is collected. Reported that water was discharged on one occasion. There is no record of discharge volume from EPL 1 or record of water levels. Recommendation: Implement process to measure and record discharge volumes and water levels.	Discharge records to be developed.	Discharge at Point 1, Dam F (licensed discharged point) on 3rd April 2018 as a result of heavy rainfall event. Samples sent to ALS for testing & shown to be below EPL concentration limits. After further investigation discharge water volume has never been recorded from this location. Process of calculating discharge volume to be implemented.	Completed January 2019.
N9.	Records of water taken had not been maintained. A logbook recording details of water taken was not available, and a meter had not been installed. Recommendation: Provide logbook and record volume of ground water taken.	Meter installed at production groundwater bore (amenities) & log book in use – complete	N/A	Completed August 2018.
N10.	Records of water volumes or extraction rates had not been maintained. Recommendation: Implement process to measure and record the rate of water take in accordance with water licence requirements.	Hanson will review the website and ensure the complaints register is uploaded quarterly.	The complaints register from 1/1/2-16 – 31/3/2016 will be uploaded at the end of March to Hanson's website.	Complete by end of March 2019.
A1.	Processes had been implemented for minimising dust emissions in accordance with Section 7 of the Air Quality Management Plan. Dust deposition monitoring has been conducted. Monitoring results for CD01 had exceedance criteria. It is noted that CD01 was located on the Quarry site (See N-02). While a monitor had been purchased for the site, monitoring of particulate matter (TSP and PM ₁₀) had not been implemented at the time of audit. Recommendation: Install particulate matter monitor and undertake monitoring for TSP and PM ₁₀ .	E-sampler has been installed.	Data collection commenced Jan 2019 & to be uploaded onto web. Delay due to equipment failure of two units.	Completed January 2019. Unit that was installed August 2018 was faulty and required a complete swap after months of testing by supplier.
A2.	The approved SWMP does not specifically describe a Groundwater Contingency Strategy (GCS), however a stand-alone GCS has been written (Martens & Associates, 2016) and approved by the department. However,			To be completed 31 May 2019 (management plan updates within 3 months of Annual

	<p>this GCS does not correctly describe the basis for provision of a compensatory water supply in accordance with the Consent. The revised SWMP submitted to the department in draft for approval also does not specifically describe a GCS, although the elements of the GCS are included.</p> <p>Recommendation: Update the GCS to ensure that the basis for provision of a compensatory water supply is described in accordance with the Consent.</p>			review submission).
A3.	<p>Records showed that the Driver's Code of Conduct was prepared prior to 25/07/17. However, records show the Driver's Code of Conduct was sent to DPE on 10/11/17 and approved 23/11/17.</p> <p>The Driver's Code of Conduct had not been submitted to the Secretary by 28 July 2017.</p> <p>Recommendation: Implement process to track compliance requirements and ensure that required information is submitted to agencies within the required timeframes.</p>	Implement process to track compliance requirements.	Tracking of compliance requirements developed.	Completed.
A4.	<p>While waste transport dockets were available for waste removed from site, the Quarry had not implemented a process to monitor waste generated. A waste register was not maintained.</p> <p>Recommendation: Implement a process to track and record waste generated and removed from site.</p>		Site waste reporting spreadsheet implemented.	Completed November 2018.
A5.	<p>Annual production data was included in the annual review. Annual production data had not been provided to the DRG.</p> <p>Recommendation: Provide annual production data to DRG using the standard form as required.</p>	The DRG form was submitted, a copy wasn't available on day of audit.	N/A	Completed November 2018.
A6.	<p>Annual review for 2017 has been prepared and submitted to DP&E on 1 May 2018 (Extension obtained 19/03/18 to submit by 30/04/18).</p> <p>Annual review for 2017 had not been submitted within the required timeframe.</p> <p>Recommendation: Implement process to track compliance requirements and ensure that required information is submitted to agencies within the required timeframes.</p>		N/A	Completed.
A7.	<p>While it was reported that toolbox meetings had been conducted which included environmental requirements, records sighted did not show evidence of inclusion of environmental issues in inductions.</p> <p>Recommendation: Ensure toolbox meeting records include detail on environmental issues where discussed.</p>	Contractor Induction documents to outline environmental requirements (noise & dust) – complete.	N/A	Completed November 2018.
A8.	<p>Complaints register maintained. The Complaints Register does not include the personal details of the complainant. The register does not include personal details of the complainant which were provided by the complainant or, if no such details were</p>	Complaints register has been revised to ensure that all required information is included.	N/A	Completed November 2018.

	<p>provided, a note to that effect.</p> <p>Recommendation: Review complaints register to include details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect</p>			
A9.	<p>Noise monitoring was conducted at CN-1, CN-2, CN-3, CN-6. Noise monitoring has not been conducted at CN-9.</p> <p>Recommendation: Ensure noise monitoring is conducted at all locations as required by the noise management plan.</p>	Noise monitoring locations to be verified for what is required within the Conditions of Consent and the EPL.	Discussions with NMP author clarified the justification on the selection of CN-9 as a noise monitoring point for compliance noise monitoring.	Completed February 2019.
A10.	<p>Where complaints had been received, the following issues were identified:</p> <ul style="list-style-type: none"> • Name of complainant not provided. • Complaints received on 23/01/16 and 13/02/16 were not responded to until approximately 4 hours after the complaint was received (when the site had closed). • Details of who received the complaint were not recorded. • Person conducting the investigation was not recorded. • <p>Recommendation: Review and revise the complaints register to ensure that all required information is included.</p>	Complaints register has been revised to ensure that all required information is included.	N/A	Completed November 2018.
A11.	<p>Erosion and sediment control drawings were not available. Erosion and sediment control structures have not been constructed in accordance with DoH (2004).</p> <p>Recommendation: Provide erosion and sediment control drawings for the site. Ensure erosion and sediment controls are constructed in accordance with requirements of the site Water Management Plan.</p>	Sediment control drawing to be developed	March 2019.	To be completed by 29 March 2019.
A12.	<p>While erosion and sediment controls have been implemented, controls were not as described in the management plan. E.g. Cross fall and drainage, Outfall drainage, mitre drains and sand bag weirs have been installed, but actual operations are not as described in the management plan.</p> <p>Recommendation: Review the SWMP to assess the suitability of erosion and sediment controls identified. Where changes are identified, update the SWMP to reflect identified controls.</p>	SWMP will be updated to reflect correct erosion and sediment controls.		To be completed 31 May 2019 (management plan updates within 3 months of Annual review submission).
A13.	<p>The whole of the quarry site has been cleared and revegetation progressing.</p> <p>The Landscape and Rehabilitation Management Plan has not been updated to reflect current arrangements for managing vegetation clearance.</p> <p>Recommendation: Update the Landscape and Rehabilitation Management Plan to reflect the site arrangements for managing vegetation clearance.</p>	The Landscape and Rehabilitation Management Plan is in draft stage and waiting on the Aboriginal Heritage Management Plan completion and approval, as agreed upon by DPE.		Will be completed once Aboriginal Heritage Management Plan is updated, as agreed upon by DPE.
A14.	<p>Initial audit by 6 September 2008. Current audit due 6 September 2018. Noted that the modification to consent granted June 2017. Environmental Audit requirement updated to require:</p>	EMS to be updated to reflect current requirement.		To be completed 31 May 2019 (management plan updates within 3 months of Annual review submission).

	<p>Within a year of the date of this consent, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant must commission, commence and pay the full cost of an Independent Environmental Audit of the development.</p> <p>Environmental Management Strategy has not been updated to reflect current requirement.</p> <p>Recommendation: Update the Environmental Management Strategy to reflect the current requirements for independent external audits.</p>			
A15.	<p>Air quality, noise and water quality monitoring results were provided on the company website. Groundwater audit reports were not provided on the website.</p> <p>Recommendation: Provide all relevant records of environmental performance on the company website.</p>	Groundwater audit reports are provided within the Annual Review, as required by the SWMP	N/A	Complete.
	<p>Community Consultative Committee meeting minutes had been uploaded into the complaints register section of the website.</p> <p>Recommendation: Move Community Consultative Committee meeting minutes to the correct section of the website. Ensure future minutes are uploaded to the correct section of the website.</p>	CCC minutes have been moved to the correct section of the website.	N/A	Completed August 2018.
	<p>Daily inspections are carried out using the Daily Toolbox / Shift Handover Record Sheet. Viewed 12/6/18. Uses a tick against each aspect. Leading Hand fills in the report. Not the Quarry Manager.</p> <p>Recommendation: Revise the SWMP to reflect actual inspections arrangements for the site.</p>	SWMP will be updated to reflect correct terminology Monthly site inspection documents to include drainage & sediment control – complete. Monthly site inspection documents to include drainage & sediment control – complete.	A monthly inspection has been created incorporating all inspection requirements as noted within the sites management plans.	Completed November 2018.
	<p>The environmental protection licence for the site requires oil and grease to be monitored, while the Site Water Management Plan requires Total Grease.</p> <p>Recommendation: Update the SWMP to require monitoring of oil and grease, not total grease.</p>	SWMP will be updated to reflect correct terminology	N/A	To be completed 31 May 2019 (management plan updates within 3 months of Annual review submission).

Sl. No. (i)	Issue (ii)	Relevant Condition (iii)	Corresponding Management Plan Commitments (iv)	IEA finding (v)	Information Requested by Department (vi)	Hanson Response (vii)
1	Failure to implement the Site's Noise Management Plan (NMP)	Schedule 3, Condition 7A	A) Section 8.3.2 of the NMP states- "Attended monitoring by a suitable qualified practitioner will be undertaken quarterly in 15 minute periods at a selection of residential locations surrounding the Quarry (Figure 4). The selection will include CN-1, CN-2, CN-6 and CN-9".	IA) Noise monitoring was not conducted at monitoring location CN-9.	I. Why was noise monitoring not undertaken at monitoring location CN-9?	Conditions of Consent state Residence CN-1, CN-2, CN-3 and CN-6 noise requirements. EPL states residence 3 (CN-1), residence 4 (CN-2), residence 5 (CN-3) and residence 8 (CN-6) in reference to the EIS. The NMP require CN-1, CN-2, CN-6 and CN-9 to be monitored. The update to the noise monitoring locations in the 2018 approved NMP wasn't correctly passed onto the noise technician that undertakes noise monitoring at Calga Quarry. Wilkinson Murray has now been informed with the 2018 approved NMP provided for further clarification on the requirements and will be monitoring at locations CN-1, CN-2, CN-6 and CN-9 going forward.
			B) Section 8.4 of the NMP states- "During attended monitoring a small anemometer is used to confirm wind speed is suitable for noise measurements."	IB) Noise monitoring report does not confirm that an anemometer has been used to confirm wind speed during monitoring. Further, the report does not include calibration data for the sound level meter and whether the noise was substantially tonal, impulsive, intermittent or low frequency in nature.	II. Why was an anemometer not used to confirm the wind speed during noise monitoring? Why were no calibration data included in the noise monitoring reports?	(checking within Wilkinson Murray if an anemometer is used) Wilkinson Murray have been informed of the requirements for noise monitoring report – calibration of equipment was noted within past noise monitoring reports, now the inclusion of the data (the levels before and after noise monitoring has been completed) is now a requirement. Additionally, Wilkinson Murray have been informed that they are to include the use of an anemometer within the reports – an anemometer was used, it wasn't included within the noise monitoring reports in the past.
2	Failure to implement the Site's Water Management Plan (SWMP)	Schedule 3, Condition 11	A) Section 3.5 of the WMP states that during operation of the quarry, "measurements of actual water use and availability will be made so that the water balance can be refined, if necessary. The following information will be collected and used: * Water levels (related to storage volumes) in the water storage dams.	2A) It is reported that there has been at least one instance where water has been discharged from the site for which there is no record of the discharge volume or water levels.	III. Why was data not collected during discharge in accordance with the SWMP? What actions are being taken to ensure this commitment is being met?	Implement process to measure and record discharge volumes and water levels. The incident occurred during a holiday period where overflow occurred when there was no one on site. Actions implemented include quarry staff reviewing weather conditions for the week, especially out of hours/weekend/public holidays.

			<p>* Rainfall within the quarry catchment will be recorded by the on-site weather station. Evaporation rates will also be recorded.</p> <p>* Quantities of water discharged from the Quarry Site.”</p>			
			<p>B) Section 4.1 of the SWMP (Erosion and Sediment Control Plan) – “All erosion and sediment control structures will be constructed or erected in accordance with the recommendations identified in the relevant standard drawing and construction notes of Department of Housing’s <i>Managing Urban Stormwater: Soils and Construction Manual</i> (DoH, 2004).</p>	<p>2B) Erosion and sediment control drawings were not available on the date of audit. Further, Erosion and Sediment Control structures were not constructed in accordance with DoH (2004).</p>	<p>IV. In relation to 2B (column v), the Department requests Hanson to provide further information on what aspects of the DoH (2004) haven’t been implemented on site, and why? Please provide an up to date copy of the sediment control drawing with your response.</p>	<p>The administrative non-compliance is in relation to not having the Housing’s <i>Managing Urban Stormwater: Soils and Construction Manual</i> available on site. This has now been rectified.</p> <p>The administrative non-compliance indicated that while erosion and sediment controls had been implemented on site, the controls implemented were not consistent with the requirements of the Site Water Management Plan.</p> <p>Hanson have requested the auditor to please further explain this non-compliance.</p>
			<p>C) Section 4.4.5 of the SWMP, <i>Quarry Haulage Roads</i> states- “The internal quarry haul roads within the Quarry site will be constructed to ensure surface drainage is optimised and stabilised, thereby reducing roadside erosion and sedimentation. Cross-fall drainage structures and mitre drainage will be implemented for the entire length of each haul road. Crowning will generally be implemented on any steeper section of the haul road. Outfall drainage will be constructed where the</p>	<p>2C) The report states that “while erosion and sediment controls have been implemented, controls were not described in the management plan. For example, cross fall and drainage, outfall drainage, mitre drains and sand bag weirs have been installed, but actual operations are not as described in the management plan.”</p>	<p>V. Please provide further information on what aspects of the actual operations relating to erosion and sediment control are not as described in the SWMP?</p>	<p>Aspects of operations relating to erosion and sediment control not implement as described in the SWMP are due to drain spacing exceeding 50m. This is to be rectified and to be completed by 31 May 2019.</p>

			road traverses larger fill batter areas, Mitre drains will be constructed to take water from the shoulders or table drains of the internal dirty water control system. Road runoff will be intercepted at regular intervals to reduce runoff velocity in each mitre drain. Drain spacing will not exceed 50m."			
			D. Section 6.2.1 of the SWMP states that the operator "will seek landowner approval to undertake hydraulic testing of all stock and domestic and industrial production bores/wells located on neighbouring properties within a distance of 500m form the approved limit of extraction.	2D. The report states that "bore survey in 2015 identified 3 further bores within 500 m of the quarry. Only one of these (CP13) has been tested. CP14 and CP15 not yet tested."	VI. Please provide further information on why the monitoring bores, CP14 and CP15 were not hydraulically tested.	Hanson has received land owner approval from CP15 and CP13 to perform monitoring and testing. Hanson has still not received land owner approval to perform monitoring and testing of CP14.
3	Failure to implement the Landscape and Rehabilitation Management Plan (LRMP)	Schedule 3, Condition 23	Section A 2.1.1 of the LRMP states- "The area cleared in each campaign will generally be no greater than that required to accommodate the quarry's development requirements for the following 12 months. The limits of each planned clearing campaign will be clearly delineated on the ground to avoid excessive clearing. On areas devoid of tree and large shrub vegetation, the vegetation will be collected with the topsoil and either transferred directly to an area that	3A) it is reported that the whole of the quarry site has been cleared and revegetation progressing in contract to section A 2.1.1 of the LRMP.	VII. Further information required on why clearing of vegetation and progressive rehabilitation is not undertaking in accordance with the LRMP.	The Landscape and Rehabilitation Management Plan is in draft stage and waiting on the Aboriginal Heritage Management Plan completion and approval, as agreed upon by DPE.

			has been prepared for topsoil application or, alternatively will be stockpiled for later use in rehabilitation. Direct transferral is the preferred alternative. Any trees felled will be either immediately transferred to area of the final landform designated for establishment of native vegetation, or stockpiled for later use in this fashion.”			
4	Failure to provide regular reporting on website	Schedule 5, Condition 9	N/A	4A) The report states that groundwater audit reports are not provided on the website.	VIII. Please provide an update as to whether all documents required by the approval have been uploaded on the website.	The annual groundwater audit reports are included within the annual reviews – which are available on the Hanson website – as required in the SWMP.