Australia's National
Science Agency

GISERA | Gas Industry Social and Environmental Research Alliance

Progress report

Analysis of Dust Samples in the Vicinity of Coal Seam Gas (CSG) Operations in the Surat Basin, Queensland, To Assess Potential Presence and Distribution of Respirable Crystalline Silica

Progress against project milestones

Progress against milestones/tasks are approved by the GISERA Director, acting with authority in accordance with the GISERA Alliance Agreement.

Progress against project milestones/tasks is indicated by two methods: Traffic light reports and descriptive Project schedule reports.

1. Traffic light reports in the Project Schedule Table below show progress using a simple colour code:

- **Green**:
  - Milestone fully met according to schedule.
  - Project is expected to continue to deliver according to plan.
  - Milestone payment is approved.
- **Amber**:
  - Milestone largely met according to schedule.
  - Project has experienced delays or difficulties that will be overcome by next milestone, enabling project to return to delivery according to plan by next milestone.
  - Milestone payment is withheld.
  - Milestone payment withheld for second of two successive amber lights; project review initiated and undertaken by GISERA Director.
- **Red**:
  - Milestone not met according to schedule.
  - Problems in meeting milestone are likely to impact subsequent project delivery, such that revisions to project timing, scope or budget must be considered.
  - Milestone payment is withheld.
  - Project review initiated by GISERA Director.

2. Progress Schedule Reports outline task objectives and outputs and describe, in the 'progress report' section, the means and extent to which progress towards tasks has been made.

Project schedule table

TASK NUMBER	TASK DESCRIPTION	SCHEDULED START	SCHEDULED FINISH	COMMENT
1	Preliminary study	Feb-23	Mar-23	Completed.
2	Field Sampling	Mar-23	Feb-25	Completed. Heavy rains early in the project caused sampling to be extended for an additional three months. The core sampling record was **completed in May-25**. As the sampling system was working well and the later sample results have been of improved quality (due to reduced rain in recent months), the decision was made to leave the samplers in the field for one more month to collect a June sample set. The samplers will be decommissioned and removed after this final sample collection. This will ensure that a complete, 12-month cycle of high-quality samples will be included in the project report.
3	Sample Analysis	Apr-23	Mar-25	Completed. All samples have been processed and analysed.
4	Project reporting	Aug-24	Jun-25	As the additional month of samples is being collected, **the final report will be delivered in July**.
5	Communicate findings to stakeholders	Feb-23	Jun-25	This will be delivered in July 2025.

Project schedule report

TASK 1: Preliminary Sampling Study

BACKGROUND

Preliminary sample study to establish methodology.

TASK OBJECTIVES

One month sampling process at two sites (one background, one in proximity to CSG site). Sample preparation. Sample image acquisition. Image analysis. Brief report. Results also provided by CSIRO online image viewing software.

TASK OUTPUTS AND SPECIFIC DELIVERABLES:

Interim report providing review of the sampling and analysis methodology including recommendations for any process modifications for the main study.

PROGRESS REPORT

This milestone is complete.

The project faced some early delays in identifying a suitable sampling contractor that could meet the project requirements within a reasonable budget. A satisfactory methodology has now been worked out and the preliminary sampling work has been completed to satisfy the requirements of the first project milestone.

For the first milestone sampling work, the project team carried out an initial site visit to the Surat Basin in early September 2023 to meet with industry and local community members and to obtain direct samples from several locations of interest in the region. These direct samples have been fully processed and they provide a valuable background picture of the typical particle composition of dust at the various sites. Details from this initial sample study will be included in the final project report.

Based on the engagement with local community and industry, and the results of the sampling campaign, the final sampling locations for the primary campaign have now been determined. The primary campaign, consisting of ongoing dust samples derived from six sites across the region, is due to commence in late October 2023 and run through until the end of 2024.

TASK 2: Field Sampling

BACKGROUND

Primary sampling activity for the project.

TASK OBJECTIVES

Acquire dust and sediment samples in a controlled manner in order to provide suitable high quality data for analysis.

TASK OUTPUTS AND SPECIFIC DELIVERABLES:

Monthly samples from each dust deposition site. Quarterly samples from each sediment site. Ad hoc community samples as available.

PROGRESS REPORT

This task is complete.

All samples have been collected for the originally planned period. In addition, due to unusually heavy rains during early 2024 that impacted the functioning of the samplers, the decision was taken to leave the samplers in the field for one more month to collect a June sample set. The samplers have now been decommissioned and removed following this final sample collection. This ensured that a complete, 12-month cycle of high-quality samples will be included in the project report.

TASK 3: Sample Analysis

BACKGROUND

Each dust sample has been analysed using optical and SEM microscopy methods to provide abundance and size distribution on the water insoluble particulates and information and the water-soluble constituents (salts). In addition, for the Partisol samples (where sufficient sample volume has been obtained), traditional chemistry methods (XRD) have be employed to provide additional chemical and elemental data for analysis.

TASK OBJECTIVES

Each sediment sample will be analysed using traditional chemistry methods (XRD), optical and SEM microscopy methods to investigate whether the sediment samples contain elevated amounts of free silica grains.

TASK OUTPUTS AND SPECIFIC DELIVERABLES:

Summary reporting of progressive analysis of the monthly samples, including interim findings and identified trends regarding the percentage mass and size distribution of respirable crystalline silica across the range of sampling sites.

PROGRESS REPORT

This task is complete.

All samples (including those from the final months) have been processed and analysed with all results to be incorporated into the final report.

TASK 4: Project Reporting

BACKGROUND

Information from this project is to be made publicly available after completion of standard CSIRO publication and review processes.

TASK OBJECTIVES

To ensure that the information generated by this project is documented and published after thorough CSIRO Internal review.

TASK OUTPUTS AND SPECIFIC DELIVERABLES

1) Preparation of a final report outlining the scope, methodology, scenarios, assumptions, findings and any suggestions for future research;

2) Following CSIRO ePublish review, the report will be submitted to the GISERA Director for final approval; and

3) Provide 6 monthly progress updates to GISERA office.

PROGRESS REPORT

This task is progressing and will be completed in July 2025.

TASK 5: Communicate project objectives, progress and findings to stakeholders

BACKGROUND

Communications of GISERA research are an important component of outreach and dissemination of findings to diverse audiences.

TASK OBJECTIVES

Communicate project objectives, progress and findings to stakeholders through meetings, knowledge transfer session, factsheet and journal article, in collaboration with GISERA Communications officers.

TASK OUTPUTS AND SPECIFIC DELIVERABLES

Communicate project objectives, progress and results to GISERA stakeholders according to standard GISERA project procedures which may include, but not limited to:

1) Knowledge Transfer session with Government/Gas Industry

2) Presentation of findings to Community members/groups

3) Preparation of article for GISERA newsletter and other media outlets as advised by GISERA's communication team

4) Two project factsheets: A factsheet, hosted on the GISERA website, will be developed at commencement of project, and another that will include peer-reviewed results and implications will be developed at completion of project.

5) Peer reviewed scientific manuscript ready for submission to relevant journal

PROGRESS REPORT

This task is progressing and will be completed in July 2025.

Variations to Project Order

Changes to research Project Orders are approved by the GISERA Director, acting with authority, in accordance with the GISERA Alliance Agreement. Any variations above the GISERA Director's delegation require the approval of the relevant GISERA Research Advisory Committee.

The table below details variations to research Project Order.

Register of changes to Research Project Order

DATE	ISSUE	ACTION	AUTHORISATION
12/10/23	Delays in finding a suitable contractor have resulted in delays for task 2.	Milestone 2 extended from August 2024 to February 2025.	
12/10/23	The delay with sourcing a contractor, has caused the remaining tasks to be delayed and flexibility is required to get repeat samples if teething difficulties are faced with sampling equipment in some of the proposed field locations.	Milestone 3 extended from September 2024 to March 2025, milestone 4 extended from January 2025 to June 2025, milestone 5 will continue to be delivered for the full duration of this project.	

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GISERA is a collaboration between CSIRO, Commonwealth and state governments and industry established to undertake publicly-reported independent research. The purpose of GISERA is to provide quality assured scientific research and information to communities living in gas development regions focusing on social and environmental topics including: groundwater and surface water, greenhouse gas emissions, biodiversity, land management, the marine environment, and socio-economic impacts. The governance structure for GISERA is designed to provide for and protect research independence and transparency of research.