



# 2.0

## Key achievements



## 2.0 Key achievements of the Stage 1 and Stage 2 WMMPs

### Key achievements of the Stage 1 and Stage 2 WMMPs

#### Groundwater Management

- Substantial completion (80%) of the aquifer monitoring network which will include 69 monitoring wells from the Gubberamunda to Precipice Formations;
- An extensive data acquisition exercise from gas and water wells;
- Establishment of additional pressure monitoring in the Walloon Subgroup;
- Commencement of automatic groundwater level data measurement in monitoring bores;
- Completion of a conceptual model of the Surat Basin including the integration of hydrogeological and petroleum derived data;
- Design and building of the dual-phase GEN3 regional groundwater flow model;
- Development of an initial hydrochemical model;
- Field surveying of landholder bores throughout the Project area;
- Development of groundwater and surface water response plans;
- Completion of a fully cored monitoring/production bore in the Northern Gas Fields and commencement of a long term production test. Advanced design and procurement for a Precipice water injection trial in late 2013;
- Initiation of connectivity studies and commencement of long-term CSG water pumping trials at the three nested bore locations;
- Development of an integrated CSG industry approach to monitoring and management of EPBC listed springs; and
- Completion of baseline monitoring and commencement of subsidence monitoring program.

#### CSG Water Management

- Implementation of QGC's water management strategy to make up to 97% of all produced water available for beneficial use;
- Commissioning and operation of Windibri Water Treatment Plant (6 ML/d) – operational;
- Commissioning and operation of Kenya Re-locatable Water Treatment Plant (12 ML/d) – operational;
- Construction and commissioning of Kenya Water Treatment Plant (80+20 ML/d) – complete;
- Commissioning and operation of Kenya to Chinchilla Weir pipeline by SunWater – operational;
- Central Gas Fields two-year baseline surface water quality monitoring program – completed and data analysis in progress;
- Construction of Northern WTP (100 ML/d) – in progress;
- Construction of Woleebee Creek to Glebe Weir pipeline by SunWater – in progress; and
- Development and commencement of an integrated CSG industry approach to ecotoxicity testing on hydraulic fracturing fluids – in progress.

#### Brine Management

- Pre-FEED for the Regulated Waste Facility (RWF);
- \$20 million alliance with APLNG and ARROW for four pilot salt recovery trials demonstrating technical feasibility of selective salt recovery;
- Pre-FEED for a Selective Salt Recovery (SSR) project in collaboration with APLNG and ARROW; and
- SSR site selection and geotechnical surveys for Kangrah Hills completed.

Table 2-1 – Key achievements from the Stage 1 and Stage 2 WMMPs

## Key achievements since the approval of the Stage 2 WMMP

### Groundwater Management

- Continued data acquisition including advancement of the monitoring well network and pumping tests;
- Commencement of the groundwater monitoring network for springs monitoring and management – six out of eight bores are drilled;
- Reconciliation of the planned monitoring network with the requirements of the Surat Basin UWIR and preparation of a Monitoring Network Implementation Plan for OGIA;
- Preparation of an Injection Management Plan which describes the background to the Precipice Injection Trial at Woleebee Creek. This trial will be part of the toolkit for springs protection;
- Development of a trend analysis methodology to facilitate the evaluation of the baseline dataset and identification of changes due to CSG operations;
- Completion of the Surat Basin bore baseline assessment program;
- New insights into the conceptual understanding of groundwater flow in the Surat Basin;
- Research into dual-phase flow modelling and parameter upscaling for a regional groundwater model;
- Construction of the first regional groundwater flow model for the Surat Basin using dual-phase approaches for understanding water flow in an unconventional gas environment;
- Increased understanding on the degree of aquifer and aquitard connectivity derived from the data acquisition program. Key to this is the pumping trial program involving Walloon Subgroup pumping and associated aquifer monitoring;
- Completion and commencement of an agreed Joint Industry Plan for springs monitoring and management;
- Completion of the initial hydrochemistry model and isotope characterisation;
- Completion of a baseline assessment of ground motion in the Surat Basin;
- Continued collation and interpretation of a baseline dataset;
- Development of response plans for protection of the water environment and groundwater users; and
- The promotion of the understanding of the hydrology of the Surat Basin through the sponsorship of external research.

### CSG Water Management

- Preparation of an Emergency Management Plan for major surface infrastructure;
- Advances in water management strategy including a beneficial use agreement for the discharge of water from the Northern WTP to the Dawson River at Glebe Weir; and
- Development and commencement of a program for Direct Toxicity Testing of stimulation fluids.

### Brine Management

- Initiated pre feed for a Regulated Waste Facility (RWF) and Selective Salt Facility (SSR);
- Completed site selection and geotechnical investigations for RWF and SSR; and
- Initiated brine pipeline constructability, engineering designs and alignment selection.

*Note – Front End Engineering Design (FEED)*

*Table 2-2 – Key achievements since the approval of the Stage 2 WMMPs*



**QGC is investing in Queensland's future** and creating a new water resource for beneficial use regionally.