Disclaimer

Important

The material in this presentation has been prepared by Jacobs®.

Copyright and other intellectual property rights in this presentation vest exclusively with Jacobs. Apart from any use permitted under applicable copyright legislation, no part of this work may in any form or by any means (electronic, graphic, mechanical, photocopying, recording or otherwise) be reproduced, copied, stored in a retrieval system or transmitted without prior written permission.

Jacobs is a trademark of Jacobs Engineering Group Inc.

© Copyright 2015 Jacobs Engineering Group Inc. All rights reserved.
Jacobs in the Philippines - 2016

- 180 Staff, 10 geothermal. Strong ties to New Zealand.

Key Clients:

- Aboitiz
  - Technical Advisory
  - Engineering Design
  - Due Diligence
- PGPCI / Chevron
  - Master Planning
  - Engineering Design
- EDC
  - Master Planning
  - Risk Assessment
Industry Involvement – NZTE/NGAP Day
Sustaining Capital and Expansion Works
Chevron Indonesia

Salak Awi 9 Project:
• Connection of two high performance (>15MW) wells
• Complex brownfield piping network
• New separation facilities

Darajat Pad 20/S4 Project:
• Connection of nine new wells at green and brownfields wellpads
• Design of steam delivery cross country piping
Karaha Bodas Piping and Road Alignment
GE Indonesia

- Widening of an existing road corridor to allow for piping and PP access
- Steep terrain with unstable slopes
- Use of drone LiDAR survey backed up by ground based equipment to quickly and effectively identify problem areas
- Staggered implementation to minimise interruption to plant construction and operation
Caribbean – NZ TA

• Support provided to five countries (SIDS) in Eastern Caribbean.
• Technical studies
• Peer review and Advisory
• Capacity Building
• Caribbean Geothermal Advisor in country since Nov 2014.
Comoros

- On-going technical assistance
- MFAT, Govt of Comoros, UNDP
Latin America

Nicaragua - San Jacinto

During 2016 Jacobs assisted PENSA with further enhancements to the San Jacinto Project, including:

- Design and implementation of a make up production well programme
- Design and implementation of injection well remediation works including mechanical cleanout and acid stimulation
- Well site geology and drilling engineering supervision
- Technical advice relating to the trial and implementation of silica inhibition options
- Assistance with the interpretation of changes in well performance and general resource characteristics
- Preliminary assessment of new binary plant project
Cosiguina – remote drilling engineering and geoscience support

Casita – exploration drilling and development program
Mexico – Domo San Pedro

Grupo Dragon – drilling supervision, geoscience
Malaysia – Apas Kiri, Sabah Province

Tawau Green Energy (TGE)
First geothermal development in Malaysia
New Zealand

• TAOM – drilling supervision and wellsite geological support

“The drilling was successful – we located the high-temperature fluid that will ultimately fuel the geothermal power plant, and the injection capacity necessary to manage the cooler fluids that have passed through geothermal power plant.” – Ben Gibson


• Mercury – well integrity review