



April 23, 2019

L. Brun Hilbert, Jr. Ph.D., PE
Exponent Engineering and Scientific Consulting
149 Commonwealth Drive
Menlo Park, CA 94025

Dear Dr. Hilbert:

As per your discussion with Mr. Alan Walker this morning, the deadline for submission of the Root Cause Analysis (RCA) report concerning the Dow R.G.C. 10 Well is extended to Friday, May 24, 2019. The draft RCA report has been reviewed and I am writing to notify you of some deficiencies that were found in the report which should be addressed prior to submitting the final report. On February 12, 2019, DOGGR sent a letter to Mr. Michael Hale providing a conditional approval of the RCA Scope of Work. The approval was conditioned on the incorporation of the requirements in the RCA report as identified in the February 12, 2019 letter (enclosed). The draft does not appear to contain the following:

Requirement (a). The RCA does not identify an independent well control subject matter expert with practical experience that was a member of the RCA team. An independent expert would likely be an expert not affiliated with Interact or California Well Services, the contractor's working on the re-abandonment effort. The identification of an independent expert in well control needs to be referenced in the RCA report along with associated qualifications of the Subject Matter Expert.

Requirement (f). The Training records of crewmembers appears to be deficient and there is inadequate discussion of the training level of rig crewmembers in the Root Cause Factors of the Blowouts section of the RCA.

Requirement (g). Thank you for acknowledging an oversight associated with California Well Services inability to produce any records demonstrating that Blow-Out Prevention (BOP) drills were held. There is inadequate discussion of the BOP drills and lack of any records to demonstrate their occurrence in the RCA, which should be acknowledged in the Root Cause Factors section of the RCA.

Requirement (h). Appendix I appears to have been prepared after the incident. Please also incorporate any risk assessments that were prepared prior to the well abandonment effort or prior to January 13, 2019. If no such record exists, please acknowledge this in the Root Cause Factors section of the RCA report.

Please address the deficiencies associated with the above requirements prior to final submission, the report will then be reviewed to ensure that all elements and requirements outlined in the Emergency Order and the February 12, 2019 letter have been included in the report. If you have any questions or need any further information related to these comments, please contact Mr. Alan Walker, Supervising Oil and Gas Engineer at (916) 323-2258.

Sincerely,

A handwritten signature in blue ink, appearing to read "Kenneth A. Harris Jr.", written in a cursive style.

Kenneth A. Harris Jr.
State Oil and Gas Supervisor

Enclosure 1: February 12, 2019 Letter

cc: Mr. Michael Hale, Hardage Hospitality
Mr. Dan Dudak, DOGGR



February 12, 2019

Mr. Michael Hale, PMP, LEED AP
Executive Vice President of Construction
MDR Hotels, LLC
Hardage Hospitality
12555 High Bluff Drive, Suite 330
San Diego, CA 92130

Dear Mr. Hale:

We have reviewed the Dow R.C.G. 10 Blowout Root Cause Analysis (RCA) Proposed Scope of Work (SOW) dated January 24, 2019, provided to you by the company Exponent. Our review is required under the Division of Oil, Gas, and Geothermal Resources (DOGGR) Order 1143 dated January 18, 2019.

DOGGR finds that the RCA SOW is acceptable, with the following specific requirements:

- a) The RCA team will designate or employ a well control subject expert (SME) with practical experience.
- b) Should Exponent exercise its option to recuse itself for any reason, the operator will secure the services of a replacement independent third party in compliance with Order 1143 within 14 days.
- c) Incorporate a copy of the California Well Service (CWS) company Well Control Plan into the report.
- d) Incorporate a copy of the Interact company Well Control Plan into the report.
- e) Incorporate copies of the CWS company's International Association of Drilling Contractors 2T6 Daily Drilling Report, or equivalent, between October 23, 2018, through January 13, 2019 into the report.
- f) Incorporate copies of California Well Service well control training certifications for all CWS crewmembers present at the well between October 23, 2018, through January 13, 2019 into the report.
- g) Incorporate records of well control scenarios and training drills that the same crewmembers described in (f) above underwent prior to January 13, 2019.
- h) Incorporate records of any risk assessment completed by Interact and CWS documenting the anticipated risk level and prevention and mitigation measures intended to address both a potential loss of well fluid to underground formations and the control of kicks produced by fluids in underground formations into the report.


Mr. Michael Hale
February 12, 2019

Further, DOGGR recommends modifications to the Proposed Casing Logging Program tool names described in Table 1 of the SOW to include a more complete assessment:

- a) Modify Run 3 to include, in addition to the Versa-Line Magnetic Defectoscope-3, the following tools as acceptable replacements: Empire EMT, GoWell MTD, or Schlumberger EMIT.
- b) Modify Run 4 to replace Isolation Scanner, Cement Bond Log, Variable Density Log with Schlumberger CHDT and either the RST-B or Halliburton RMT-3D, and either the Schlumberger or Halliburton Duel-Spaced Neutron tool.
- c) Modify Run 5 to include, in addition to the NEXT-LithoScanner, a log from any of the following acceptable tools: Schlumberger USIT tool, Halliburton CAST, Baker Hughes Intex (Integrity Explorer).
- d) Modify Run 6 to include, in addition to the NEXT-LithoScanner, either the Schlumberger RST-B tool or Halliburton RMT-3D tool and either the Schlumberger or Halliburton Duel-Spaced Neutron tool.
- e) Specify in Table 1 the requirement to run any pulsed-neutron log tool eccentric in the well and to provide an accurate identification of the borehole fluid surrounding the tool.

Please make the changes to the RCA Scope of Work described herein and resubmit the document for review and approval. If you have any questions or need any further information related to these technical comments and recommendations, please contact Mr. Alan Walker, Supervising Oil and Gas Engineer, at (916) 323-2258.

Sincerely,


Kenneth A. Harris Jr.
State Oil and Gas Supervisor