G-017-C:
Improved Directional Drilling Technology for the Bakken Formation

Submitted by: Laserlith Corporation
Principal Investigator: Wallace Tang

Request for $500,000 (Phase I)
Total Project Costs: $1,207,000 (Phase I)
Project Duration: 12 months

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Laserlith et.al. proposes a redesign of horizontal drilling tools by including the use of miniature gyroscopes in the drilling assemblage. In principle, miniature MEMS (Micro-Electro-Mechanical Systems) gyroscopes enable the directional sensor to be positioned next to the drill bit to develop.

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Technical Review

- Three independent technical reviewers for this project; all recommend that this project be *considered for funding*.

- The average weighted technical reviewers score: 161.9 of 250 possible maximum

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Recommendation
OGRC Technical Advisors

- Recommendations from 3 OGRC Technical Advisors
- All recommend that the *project be funded.*

- Currently the directional sensors (gamma ray recorder, etc) are ~ 60’ behind the drill bit. This distance can greatly hinder the accurate steering of the tool, and may result in over or under-steering.

- Reducing the distance between the sensors and the bit would be a significant technological improvement that would increase drilling efficiency and reduce drilling costs.

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Recommendation
OGRC Technical Advisors

- As pointed out by the Technical Reviewers, we understand that there are risks associated with developing the technology.

- We believe that Laserlith adequately addressed reviewer concerns in their written response to warrant the support of the OGRC.

- The OGRC is tasked with supporting the development of new technology, and the successful development of this technology would be beneficial to Industry and the State.