



October 18, 2013

Damon G. Doumlele
Environmental Protection Specialist
Big Cypress National Preserve
3300 Tamiami Trail East
Ochopee FL 34141

Re: Seismic Methods Research at Raccoon Point Field

Dear Mr. Doumlele:

Lampl Herbert Consultants met with you on behalf of BreitBurn Florida, LLC, in May to discuss an experimental research program that would test the ability of an emerging, low impact technology to obtain high quality, 2D seismic data on existing roads and pads at Raccoon Point Field in the Big Cypress National Preserve. BreitBurn is ready to begin the process to obtain approval from the National Park Service (NPS) to conduct the research within the Big Cypress National Preserve and hopes to conduct the work in mid-December 2013.

Please see the attached program summary prepared by Mr. Dan Gish, Exploitation Manager for BreitBurn, for details about the methodology, technology, and associated activities (Attachment 1). The program is intended to determine if a very low impact, air gun seismic source can be used in portable rubber bladder tanks to provide an acceptable energy source in the Raccoon Point area (Attachment 2). The Onion Skin tanks are similar to the water tanks used for firefighting by NPS. The geophones are a new, "stand alone" device that minimizes field support activities (Attachment 3). The work would take place on existing roads and pads over a seven to 10 day period.

I would like to schedule a meeting with Mr. Gish and you and other NPS staff to talk about the program as discussed in the attachment and initiate the process for approval. I will call to arrange a meeting time.

Sincerely,



A handwritten signature in blue ink, appearing to read "Thomas A. Herbert", written over a horizontal line.

Thomas A. Herbert, Ph.D., P.G.
Vice President
Agent for BreitBurn Florida LLC



Raccoon Point 2D Experimental Research Program Request Letter

Summary

Breitburn Energy requests permission to conduct a 2D test seismic line at Raccoon Point, approximately 2.7 miles in length, which will essentially cross pads and follow existing access roads at the Raccoon Point field area (see Figure 1 location map). The purpose of the test program is:

- Validate the low impact seismic design (rubber tanks, air gun, nodal geophones)
- Determine signal/noise quality of air gun source design (frequency content, S/N ratio)
- Determine economic parameters of 3D program (how many “pops” per shot point, optimal number of tanks per shot point, time required to set up, fill & drain tanks, time required to shoot each shot point, optimal number of tanks to minimize wait time)

The proposed experimental research work is not designed to collect data for exploration or production purposes rather it is intended to test technology, field practices, and procedures that will significantly reduce surface impacts. The proposed experiment will have a duration of approximately one week. The proposed experimental research work will involve no permanent impacts.

Background

Conventional seismic acquisition techniques utilizing heli-portable drilling equipment, combined with shot hole dynamite, are extremely expensive, and operationally difficult. Consequently, historical and existing exploration and development drilling within the Sunniland Trend is relatively inefficient due to minimal or non-existent use of modern 3D seismic data to optimize wellbore placement and design. Breitburn desires to test and refine a new seismic acquisition concept that could significantly reduce the negative impacts of the conventional acquisition problems by utilizing non-polluting compressed air, existing surface water, low impact self-contained portable tanks, and cableless geophones. Deployment of equipment and personnel would be via low-impact ATV and by foot. Potentially, this methodology could reduce the timeframes required for conventional seismic acquisition techniques by 50%, reduce the cost of conventional acquisition by 30%-50%, and greatly minimize environmental impacts and contaminants.

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Providing management to BreitBurn Energy Partners L.P. and BreitBurnEnergy Company L.P.*

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Traditional Impacts

This research is to demonstrate that less impactful field methods can achieve acceptable seismic data quality. Conventional seismic methods within the Sunniland trend have historically employed use of helicopters, drill rigs, and heavy seismic equipment such as geophone cables and patch boxes. BreitBurn's proposed methodology would eliminate the following issues:

- No helicopters
 - no noise from repeated fly-overs
 - no air pollution from exhaust
 - no risk of contamination by jet fuel spillage
 - no need for a designated Landing Zone and frequent refueling
 - no transportation of large volumes of jet fuel on highways
- No shot hole drill rigs
 - No noise from drilling operations
 - No surface cuttings to pollute surface waters
 - No risk of contamination from drill motor
- No explosives
 - No safety risk due to usage, transportation or storage of explosives
 - No introduction of explosive materials into sub-surface
 - No risk of unexploded charges left in field
 - No damage to subsurface due to explosive "fracking" or "springing"
- No continuous deployment of heavy cables and geophones
 - Conventional geophones requires:
 - § Multiple groups of geophone receivers (6 or 12) per location
 - § Lengthy, heavy cables connecting geophone groups
 - § Numerous battery boxes
 - § Numerous receiver/transmitter boxes
 - § Continuous roll-along layout and pickup deployment during operations

BreitBurn's Proposed Methodology

Over a week-long period, BreitBurn's geophysical consultant will conduct the research work at Raccoon Point on pad and road areas. The following protocols will be used.

- Equipment layout
 - Lightweight equipment will be deployed using low impact ATV's and on foot
 - Use existing trails
- Energy Source (see accompanying video clip)
 - System will use rubber tanks set on basal mat, filled with local surface water
 - After use, water will be drained back into swamp
 - System will use air guns fired under water, within a customized rubber "onion" tank
 - Use compressed air to fire the guns
- ZLAND nodal geophones (see attached Power Point)
 - One geophone "node" per location
 - No cables (reduces weight of equipment being transported)
 - No battery boxes (self-contained)
 - No transmitter boxes (self-contained)
 - No roll along deployment (Nodes are deployed only once)

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In trial tests conducted by BreitBurn (see attached PowerPoint and video clips), the air guns performed well, allowing repeated firing nearly every 10 seconds, using compressed air cylinders. Virtually no noise and very little water spillage resulted from the test operations (see attached movie clip). Lightweight equipment can be deployed from ATV's using existing trails, and then by foot. It is anticipated this work will be conducted during late 2013.

Sincerely,

Dan M Gish

Vice President Exploitation

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Figure 1: Location Map of Project Area

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