

## **TALISMAN ENERGY INC. GEOPHYSICAL OPERATIONS SUBMISSION – JUNE 10, 2008**

Please find enclosed seven reports from Talisman Energy Inc., Devon Canada, and EXPLOR concerning geophysical and geological operations relating to Exploration Licenses in the Deline District, Sahtu Settlement Area, NWT.

The Talisman Energy reports concern seismic and geochemical surface sampling operations in 2007. The seismic report includes data interpretation that merges the 2007 seismic program with data from the EXPLOR operated 2006 program.

EXPLOR's report concerns the 2006 seismic program, but does not include any interpretation products. Those are found in the merged products found in Talisman's report.

Devon Canada's reports concern a series of gravity data acquisition programs operated by Excel Geophysics, done in three stages.

GOA number	Work Programme	Comments
<b>Talisman</b>		
9224-T077-001E	GBP Vibroseis programme	Report completed - 2007 data interpretation merged with EXPLOR's 2006 program
9233-T077-002E	GBP Gore Geochemistry	Report completed - prepared for Talisman by GORE
9233-T077-001E	Colville Gore Geochemistry	Report completed - prepared for Talisman by GORE
<b>Devon</b>		
9228-D031-001E	Gravity Survey - Fall 2005	Report completed - prepared for Devon by Excel Geophysics
9228-E034-001E	Gravity Survey - Winter 2006	Report completed - prepared for Devon by Excel Geophysics
9222-D072-001E	Gravity survey - Summer 2006	Report completed - prepared for Devon by Excel Geophysics
<b>Explor</b>		
9229-E034-013E	Deline District 2D seismic	Report completed - prepared by EXPLOR, data merged with Talisman 2007 data interpretation

GEOPHYSICAL OPERATION AUTHORIZATION OPERATION  
IDENTIFIER NUMBER 9229-E034-013E  
merged with 9224-T077-001E (TALISMAN 2007 SEISMIC)

EXPLOR DATA LTD.  
2006 SEISMIC SURVEY  
FINAL REPORT  
GREAT BEAR PLAINS AREA  
DELINE DISTRICT  
SAHTU SETTLEMENT AREA, NWT

GEOGRAPHICAL AREA: GREAT BEAR PLAINS,  
LONG. 122.5 – 125.0 W  
LAT. 64.5 – 65.67 N  
(NAD 83 DATUM)  
GREAT BEAR PLAINS, SAHTU SETTLEMENT  
AREA, NWT


DURATION: JANUARY 15 TO MARCH 5, 2006  
EQUIPMENT ON SITE

CONTRACTOR: YAMORIA GEOPHYSICAL LTD.  
c/o CGGVERITAS  
2200 – 715 5 AVENUE SW  
CALGARY, AB T2P 5<sup>a</sup>2  
CANADA

INTEREST OWNERS: TALISMAN ENERGY INC.  
DEVON CANADA CORP, PINE PETROLEUM

SUBMITTED BY EXPLOR DATA LTD. & TALISMAN ENERGY INC.

30 APRIL 2008

  
MARK J.L. GODELEWSKI  
P. GEOPH P. GEOL



SAHTU 2006 2D

NEB Final Plan Report

October 10, 2006

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## 1. Introduction

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*This report accounts for the results of the work conducted on the Sahtu 2006 seismic acquisition program initiated by Explor Data Ltd. The program was conducted in line with the Benefits Agreement reached with the communities of Deline and Tulita and as required by the Benefits Plan submitted to INAC.*

*Project expenditures totaled \$9.4 million, of which 96.2% was spent on Northern Contractors, including \$8.9 million (94.8%) on Sahtu owned businesses.*

*Direct person days of employment created by the program totaled 3971 person days, 51% of which were Northern workers.*

In October of 2005, Yamoria Geophysical Ltd. (hereinafter referred to as "Yamoria") was awarded a vibroseis 2D contract to record 240 kilometers of seismic in the Deline and Tulita District of the NWT for Explor Data.

Yamoria is a Sahtu owned geophysical contractor. Together, the Tulita District Land Corporation and the Deline Land Corporation own a majority of the company. Veritas DGC Land brings the operational expertise and provides equipment and key technical personnel to the venture.

Explor's contract with Yamoria assigned Yamoria as prime contractor. The contract also included specific requirements to comply with the provisions contained in Explor's Benefits Agreements with the communities of Deline and Tulita and our Benefits Plan approved by INAC.

At this point, mitigation was put in place for the risk assessment, emergency response plan and a time line.

On the week of October 20th to November 7th, requests for proposals were sent out for the following services to companies identified to Explor by the Deline Land Corporation. The request for proposal process was a collaborative effort between the Deline Land Corporation and Explor Data Ltd.

The services that were required included:

- Medics
- Survey
- Slashing-Line Clearing
- Heavy Equipment for Line Clearing
- Trucking
- Camps
- Catering
- Fuel Sloops
- Communications
- Support Trucks
- Snowmobiles
- Fuel

## 2. Logistics

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Upon arrival of the Project Manager in Norman Wells on December 6th, 2005, meetings were held with the regulators and contractors to go over the equipment and the logistics of the program.

The road to Tulita was still under construction along with the river crossing at Tulita.

The road to Deline was opened as far as Bennett Field and the contractor was to open the rest to Deline in the next two to three weeks.

Throughout the remainder of the winter there were many problems encountered such as bad ice conditions, deep snow that did not let the ground freeze, mechanical problems and with all these problems time was becoming a major constraint. The cumulative effect of these issues effectively doubled our costs per kilometer.

As a consequence of this increased cost, Explor was forced to reduce the program size to 137.96 kilometers. This difficult decision was made in early March when it became clear that Yamoria would not be able to complete the northern part of the program and return the equipment to Norman Wells before the DOT closed the roads.

As always Health, Safety and the Environment (HSE) was a major concern on this program. Of particular note was the drive time between lines and the distance to a hospital. There was broad participation in HSE initiatives, with good participation in meetings, training initiatives and strong management involved with planning. As operations became increasingly remote, the crew retained a Bell 206 Helicopter on standby for emergency med-evacs.

## 3. Timeline

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<b>Project Manager</b>	Dec 06 2005 to Mar 28 2006
<b>HSE Advisor</b>	Dec 28 2005 to Mar 05 2006
<b>Monitors</b>	Dec 28 2005 to Mar 20 2006
<b>Medics</b>	Dec 28 2005 to Mar 20 2006
<b>Survey</b>	Jan 17 2006 to Mar 05 2006
<b>Line Clearing/Slashing</b>	Jan 15 2006 to Mar 03 2006
<b>Recording</b>	Feb 05 2006 to Mar 05 2006

## 4. Equipment

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**Project Manager / HSE Advisor** 1-110 Nodwell / 2-4X4 Trucks

**Monitors** 1-4 x 4 truck / 2- Ski-doos

**Survey** 1-4 x 4 truck / 2-Club Cars / 2-Ski-Doos

**Medics** 1-4 x 4 truck / 2- Ski-doos

**Slashers** 1-Club Car / 2 Ski-doos

**Heavy Equipment**

- (4) 4 x 4 trucks
- (1) 110 Nodwell
- (8) D6H LGP Cats
- (6) D7G Cats
- (4) Delta III's
- (2) Snow Cats BR 180's
- (2) Loaders
- (1) Grader
- (8) Fuel Sloops
- (1) Tandem Fuel Hauler

**Camps**

- (1) 50 Man Sleigh Camp
- (1) 40 Man Sleigh Camp

**Slashers**

- (2) 4 x 4 trucks
- (2) Ski-doos

**Helicopter** (1) Bell 206

**Recording Crew**

- (5) 110 Nodwells
- (4) Ski-Doos
- (4) Mertz HD 18's (48,000 lbs) Tracked Vib
- (2) 4X4 Trucks

## 5. Crew Members

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<b>Recording Crew</b>	(includes Project Manager/HSE Advisor)	<b>34</b>
<b>Medics</b>		<b>2</b>
<b>Monitors</b>		<b>2</b>
<b>Advance Man</b>		<b>1</b>
<b>Survey</b>		<b>2</b>
<b>Slashers</b>		<b>4</b>
<b>Cat Operators</b>		<b>14</b>
<b>Cat Foreman</b>		<b>2</b>
<b>Aircraft Personnel</b>		<b>1</b>
<b>Delta Operators</b>		<b>4</b>
<b>Fuel Man</b>		<b>1</b>
<b>Camp Staff</b>		<b>7</b>
<b>Communications Expert</b>		<b>1</b>



## 6. Production

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The **survey** production totaled 137.96 kilometers for an average of 2.9 kilometers per day. This included control points and travel from Tulita to Deline. Survey production was low because it was constrained by line clearing production.

Low **line clearing** production was due to the following difficulties:

1. deep snow
2. very little frost
3. the distance between lines
4. a major detour around the Great Bear River
5. numerous side hills
6. numerous small lakes
7. Mackenzie River crossing delays
8. Great Bear Lake crossing delays

The **recording crew** averaged a total of 4.5 kilometers per day for a total of 137.96 kilometers. This included 2 days of down time between the south side of Great Bear River to the North side of Great Bear River, using the Great Bear Lake as a detour.






## 7. Weather







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The weather throughout the program was from minus 45.8 Celsius to plus 4.4 Celsius.

To follow are daily weather reports from Environment Canada for December 2005 to March 2006.

[http://www.climate.weatheroffice.ec.gc.ca/climateData/dailydata\\_e.html](http://www.climate.weatheroffice.ec.gc.ca/climateData/dailydata_e.html)

Daily Data Report for December 2005											
D a y	Max Temp °C 	Min Temp °C 	Mean Temp °C 	Heat Deg Days C 	Cool Deg Days C 	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10's Deg	Spd of Max Gust km/h
01	-18.5	-26.5	-22.5	40.5	0.0						
02	-25.3	-33.4	-29.4	47.4	0.0						
03	-16.6	-25.4	-21.0	39.0	0.0						
04	-17.0	-26.3	-21.7	39.7	0.0						
05	-25.8	-38.2	-32.0	50.0	0.0						
06	-25.9	-38.6	-32.3	50.3	0.0						
07	-20.2	-29.4	-24.8	42.8	0.0						
08	-11.6	-22.6	-17.1	35.1	0.0						
09	-0.1	-13.2	-6.7	24.7	0.0						
10	-4.7	-19.3	-12.0	30.0	0.0						
11	-3.2	-16.1	-9.7	27.7	0.0						
12	-8.8	-11.4	-10.1	28.1	0.0						
13	-11.2	-19.8	-15.5	33.5	0.0						
14	-17.9	-24.9	-21.4	39.4	0.0						
15	-13.1	-25.4	-19.3	37.3	0.0						
16	-9.8	-13.2	-11.5	29.5	0.0						
17	-8.8	-16.7	-12.8	30.8	0.0						
18	-2.7	-17.1	-9.9	27.9	0.0						
19	-10.3	-14.6	-12.5	30.5	0.0						
20	-12.0	-14.5	-13.3	31.3	0.0						
21	-13.8	-16.4	-15.1	33.1	0.0						
22	-14.3	-16.3	-15.3	33.3	0.0						
23	-12.5	-14.4	-13.5	31.5	0.0						
24	-10.1	-12.5	-11.3	29.3	0.0						
25	-11.4	-13.6	-12.5	30.5	0.0						
26	-10.5	-19.0	-14.8	32.8	0.0						
27	-14.5	-23.2	-18.9	36.9	0.0						
28	-9.8	-14.9	-12.4	30.4	0.0						
29	-9.8	-11.3	-10.6	28.6	0.0						
30	-10.7	-13.6	-12.2	30.2	0.0						
31	-8.8	-13.6	-11.2	29.2	0.0						
Sum				1061.3	0.0						
Avg	-12.6	-19.9	-16.2								
Xtrm	-0.1	-38.6									

Daily Data Report for January 2006											
D a y	Max Temp °C 	Min Temp °C 	Mean Temp °C 	Heat Deg Days C 	Cool Deg Days C 	Total Rain mm 	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10's Deg	Spd of Max Gust km/h
01	-8.5	-13.1	-10.8	28.8	0.0	0.0					
02	-8.4	-15.6	-12.0	30.0	0.0	0.0					
03	-15.6	-18.6	-17.1	35.1	0.0	0.0					
04	-15.0	-19.9	-17.5	35.5	0.0	0.0					
05	-17.8	-27.0	-22.4	40.4	0.0	0.0					
06	-21.6	-24.3	-23.0	41.0	0.0	0.0					
07	-21.5	-31.0	-26.3	44.3	0.0	0.0					
08	-21.4	-31.1	-26.3	44.3	0.0	0.0					
09	-23.4	-25.4	-24.4	42.4	0.0	0.0					
10	-22.8	-26.9	-24.9	42.9	0.0	0.0					
11	-22.0	-25.2	-23.6	41.6	0.0	0.0					
12	-21.7	-35.5	-28.6	46.6	0.0	0.0					
13	-22.0	-35.2	-28.6	46.6	0.0	0.0					
14	-21.8	-35.2	-28.5	46.5	0.0	0.0					
15	-24.5	-34.4	-29.5	47.5	0.0	0.0					
16	-22.7	-34.8	-28.8	46.8	0.0	0.0					
17	-26.3	-34.4	-30.4	48.4	0.0	0.0					
18	-22.8	-30.6	-26.7	44.7	0.0	0.0					
19	-21.4	-24.5	-23.0	41.0	0.0	0.0					
20	-20.5	-30.5	-25.5	43.5	0.0	0.0					
21	-24.2	-34.1	-29.2	47.2	0.0	0.0					
22	-26.0	-33.5	-29.8	47.8	0.0	0.0					
23	-24.5	-26.5	-25.5	43.5	0.0	0.0					
24	-25.2	-34.4	-29.8	47.8	0.0	0.0					
25	-30.2	-35.9	-33.1	51.1	0.0	0.0					
26	-33.6	-38.5	-36.1	54.1	0.0	0.0					
27	-36.4	-43.5	-40.0	58.0	0.0	0.0					
28	-35.2	-45.8	-40.5	58.5	0.0	0.0					
29	-33.6	-42.8	-38.2	56.2	0.0	0.0					
30	-32.8	-39.8	-36.3	54.3	0.0	0.0					
31	-26.3	-37.7	-32.0	50.0	0.0	0.0					
Sum				1406.4	0.0	0.0					
Avg	-23.5	-31.2	-27.4								
Xtrm	-8.4	-45.8									

Daily Data Report for February 2006											
D a y	Max Temp °C 	Min Temp °C 	Mean Temp °C 	Heat Deg Days C 	Cool Deg Days C 	Total Rain mm 	Total Snow cm 	Total Precip mm 	Snow on Grnd cm	Dir of Max Gust 10's Deg	Spd of Max Gust km/h
01	-16.0	-26.9	-21.5	39.5	0.0	0.0	0.0	0.0			
02	-14.6	-30.5	-22.6	40.6	0.0	0.0	0.0	0.0			
03	-23.0	-29.8	-26.4	44.4	0.0	0.0	0.0	0.0			
04	-21.0	-29.6	-25.3	43.3	0.0	0.0	0.0	0.0			
05	-19.0	-30.5	-24.8	42.8	0.0	0.0	0.0	0.0			
06	-13.7	-21.8	-17.8	35.8	0.0	0.0	0.0	0.0			
07	-8.1	-13.7	-10.9	28.9	0.0	0.0	0.0	0.0			
08	-4.6	-11.3	-8.0	26.0	0.0	0.0	0.0	0.0			
09	-5.3	-23.2	-14.3	32.3	0.0	0.0	0.0	0.0			
10	-0.9	-13.4	-7.2	25.2	0.0	0.4	0.0	0.4			
11	-7.3	-14.5	-10.9	28.9	0.0	0.0	0.0	0.0			
12	-13.1	-16.3	-14.7	32.7	0.0	0.0	0.0	0.0			
13	-12.8	-16.3	-14.6	32.6	0.0	0.0	0.0	0.0			
14	-5.8	-16.4	-11.1	29.1	0.0	0.0	0.0	0.0			
15	-6.7	-16.9	-11.8	29.8	0.0	0.0	0.0	0.0			
16	-10.9	-22.9	-16.9	34.9	0.0	0.0	0.0	0.0			
17	-1.2	-23.0	-12.1	30.1	0.0	0.0	0.0	0.0			
18	-8.9	-15.6	-12.3	30.3	0.0	0.0	0.0	0.0			
19	-10.2	-15.1	-12.7	30.7	0.0	0.0	0.0	0.0			
20	-7.1	-19.6	-13.4	31.4	0.0	0.0	0.0	0.0			
21	-6.6	-21.0	-13.8	31.8	0.0	0.0	0.0	0.0			
22	-11.6	-22.7	-17.2	35.2	0.0	0.0	0.0	0.0			
23	-19.3	-31.8	-25.6	43.6	0.0	0.0	0.0	0.0			
24	-24.0	-35.4	-29.7	47.7	0.0	0.0	0.0	0.0			
25	-25.0	-38.0	-31.5	49.5	0.0	0.0	0.0	0.0			
26	-26.4	-36.0	-31.2	49.2	0.0	0.0	0.0	0.0			
27	-22.6	-35.3	-29.0	47.0	0.0	0.0	0.0	0.0			
28	-20.3	-27.7	-24.0	42.0	0.0	0.0	0.0	0.0			
Sum				1015.3	0.0	0.4	0.0	0.4			
Avg	-13.1	-23.4	-18.3								
Xtrm	-0.9	-38.0									

Daily Data Report for March 2006											
D a y	Max Temp °C 	Min Temp °C 	Mean Temp °C 	Heat Deg Days C 	Cool Deg Days C 	Total Rain mm 	Total Snow cm 	Total Precip mm 	Snow on Grnd cm	Dir of Max Gust 10's Deg	Spd of Max Gust km/h
01	-18.2	-29.8	-24.0	42.0	0.0	0.0	0.0	0.0			
02	-12.9	-26.1	-19.5	37.5	0.0	0.0	0.0	0.0			
03	-8.8	-28.9	-18.9	36.9	0.0	0.0	0.0	0.0			
04	-8.6	-15.3	-12.0	30.0	0.0	0.0	0.0	0.0			
05	-6.8	-16.4	-11.6	29.6	0.0	0.0	0.0	0.0			
06	-10.7	-24.5	-17.6	35.6	0.0	0.0	0.0	0.0			
07	-13.1	-24.8	-19.0	37.0	0.0	0.0	0.0	0.0			
08	-11.2	-20.6	-15.9	33.9	0.0	0.0	0.0	0.0			
09	-15.2	-21.9	-18.6	36.6	0.0	0.0	0.0	0.0			
10	-21.9	-25.1	-23.5	41.5	0.0	0.0	0.0	0.0			
11	-23.3	-26.2	-24.8	42.8	0.0	0.0	0.0	0.0			
12	-25.7	-29.6	-27.7	45.7	0.0	0.0	0.0	0.0			
13	-26.2	-33.4	-29.8	47.8	0.0	0.0	0.0	0.0			
14	-25.3	-29.9	-27.6	45.6	0.0	0.0	0.0	0.0			
15	-28.0	-31.8	-29.9	47.9	0.0	0.0	0.0	0.0			
16	-26.3	-35.2	-30.8	48.8	0.0	0.0	0.0	0.0			
17	-21.2	-31.5	-26.4	44.4	0.0	0.0	0.0	0.0			
18	-18.7	-26.8	-22.8	40.8	0.0	0.0	0.0	0.0			
19	-11.9	-24.5	-18.2	36.2	0.0	0.0	0.0	0.0			
20	-0.6	-15.2	-7.9	25.9	0.0	2.3	0.0	2.3			
21	-4.7	-19.7	-12.2	30.2	0.0	0.0	0.0	0.0			
22	-4.2	-17.4	-10.8	28.8	0.0	0.0	0.0	0.0			
23	4.4	-10.4	-3.0	21.0	0.0	2.7	0.0	2.7			
24	-0.6	-16.9	-8.8	26.8	0.0	1.2	0.0	1.2			
25	-10.9	-15.1	-13.0	31.0	0.0	0.0	0.0	0.0			
26	-13.9	-16.1	-15.0	33.0	0.0	0.0	0.0	0.0			
27	-14.4	-19.2	-16.8	34.8	0.0	0.0	0.0	0.0			
28	-11.5	-24.9	-18.2	36.2	0.0	0.0	0.0	0.0			
29	-12.5	-28.6	-20.6	38.6	0.0	0.0	0.0	0.0			
30	-16.0	-29.0	-22.5	40.5	0.0	0.0	0.0	0.0			
31	-10.9	-31.8	-21.4	39.4	0.0	0.0	0.0	0.0			
Sum				1146.8	0.0	6.2	0.0	6.2			
Avg	-13.9	-24.1	-19.0								
Xtrm	4.4	-35.2									

## 8. Instruments

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<b>Survey</b>	Trimble GPS RTK ground base survey
<b>Recording</b>	Sercel 408 FDU's with 36-meter extension OYO 10 Hertz's 6 per Marsh Geophones Pelton-Vib Pro Vibroseis electronics

## 9. Parameters

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137.96 kilometers

Receiver Spacing	20 meters
Source Spacing	20 meters
Number of Traces Recorder	400
Coverage	20000 %
Receiver array	6 phones over 20 meters
Number of Sweeps	2
Sweep Length	16 seconds
Sweep Frequency	10 -120 Hz
Record Length	6 seconds
Sample Rate	2 Milliseconds
Channels on Crew	1000



## 10. Local Contracting

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Local contracts and supplies were from the town of Deline, Norman Wells, Tulita and various suppliers from throughout the Northwest Territories. Services that were not obtainable in the region were procured in other provinces.

Requests for Proposals (RFPs) were sent to the Deline Land Corporation who then distributed these to qualified local contractors to bid on the goods or services that were required to successfully complete the program.

Awarded contracts were based on commercial terms, safety and the ability to supply the goods or services.

## 11. Local Benefits

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Prior to the recording crew arriving in the field, an HSE / HR advisor was stationed in Deline to work with the local employment office to hire on and train potential new hires.

After passing a company drug testing policy, the candidates were then trained in WHIMS, H2S, Standard First Aid, and Mountain Survival Techniques. To provide additional employment, 4 locals from the Deline area were flown to Ft McMurray, Alberta to work on one of Veritas' Alberta crews for an additional 25 days into the month of April until spring break up.

## 12. Geophysical Data Processing

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The processing for each of the lines is summarized in the pages to follow.

## Geophysical Data Processing – DLN-02

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### Processing Parameters:

- 1 - Demultiplex/Reformat
- 2 - Geometry: Straight Line
- 3 - Manual Trace Edits
- 4 - Amplitude Recovery: T-Square Function  
 $A \cdot t^{**N}$   $A=1, N=2$
- 5 - Type of Deconvolution: Surface Consistent Spiking  
Operator Length: 200ms  
Pre-whitening: 0.1 PCT
- 6 - Full Fold Trace Gather
- 7 - Spectral Balancing  
Frequency: 5/10 – 100/120 Hz
- 8 - Structure Statics: 2 Layer Drift Computation  
Analysis Method: GLI  
Datum Elevation: 300 m  
Replacement Velocity: 3300 m/s  
Wave Velocity: 610 m/s  
Application: Surface Consistent Short Wavelength Comp.
- 9 - Velocity Analysis  
Preliminary  
Surface Consistent Statics
- 10 - Statics  
Automatic Surface Consistent  
Design Window: 300 – 5000 ms  
Design Filter: 8/12 – 50/60 Hz  
Max. Static +/- 32 ms
- 11 - Velocity Analysis  
Final  
Surface Consistent Statics
- 12 - Statics  
Automatic Surface Consistent  
Design Window: 300 – 3500 ms  
Design Filter: 8/12 – 50/60 Hz  
Max. Static +/- 24 ms



13 - NMO:	Correction from Surface
14 - Mute Pattern:	First Break
15 - Structure Statics Analysis Method: Application:	GLI Long Wavelength Component
16 - Statics: Design Window: Design Filter: Max. Static	Trim 300 – 5000 ms 8/12 – 50/60 Hz +/- 12 ms
17 - Stack:	Full Fold
18 - Noise Attenuation: Frequency Range:	FX Deconvolution 5 – 100 Hz
19 - Finite Difference Migration:	Using 90% of NMO Velocity
20 - Noise Attenuation:	Semblance Weighted Slant Stack
21 - Bandpass Filter: Window 1: Window 2: Window 3:	Time Variant 8/12 – 90/110 Hz    0-1000ms 8/12 – 70/90 Hz    1000-3000ms 8/12 – 50/70 Hz    3000-6000ms
22 – Trace Scaling: Window: Length:	AGC 0 500 500 2000 2000 6000 200 500 1000
<b>Display Parameters:</b> Horizontal: Vertical:	24 Traces per Inch 3.75 Inches per Second

## Geophysical Data Processing – GB-02

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### Processing Parameters:

- 1 - Demultiplex/Reformat
- 2 - Geometry: Straight Line
- 3 - Manual Trace Edits
- 4 - Amplitude Recovery: T-Square Function  
 $A \cdot t^{**N}$  A=1, N=2
- 5 - Dering: 60 Hz
- 6 - Deconvolution: Surface Consistent Spiking  
Operator Length: 200 ms  
Pre-whitening: 0.1 PCT
- 7 - Full Fold Trace Gather
- 8 - Spectral Balancing  
Frequency: 5/10 – 100/120 Hz
- 9 - Structure Statics: 2 Layer Drift Computation  
Analysis Method: GLI  
Datum Elevation: 300 m  
Replacement Velocity: 3300 m/s  
Wave Velocity: 610 m/s  
Application: Surface Consistent Short Wavelength Comp.
- 10 - Velocity Analysis Preliminary  
Surface Consistent Statics
- 11 - Statics Automatic Surface Consistent  
Design Window: 300 – 5000 ms  
Design Filter: 8/12 – 50/60 Hz  
Max. Static +/- 32 ms
- 12 - Velocity Analysis Final  
Surface Consistent Statics

13 - Statics	Automatic Surface Consistent
Design Window:	300 – 1500 ms
Design Filter:	8/12 – 50/60 Hz
Max. Static	+/- 24 ms
14 - NMO:	Correction from Surface
15 - Mute Pattern:	First Break
16 - Structure Statics	
Analysis Method:	GLI
Application:	Long Wavelength Component
17 - Statics:	Trim
Design Window:	300 – 5000 ms
Design Filter:	8/12 – 50/60 Hz
Max. Static	+/- 12 ms
18 - Stack:	Full Fold
19 - Noise Attenuation:	FX Deconvolution
Frequency Range:	5 – 100 Hz
20 - Finite Difference Migration:	Using 90% of NMO Velocity
21 - Noise Attenuation:	Semblance Weighted Slant Stack
22 - Bandpass Filter:	Time Variant
Window 1:	8/12 – 90/110 Hz    0-1000ms
Window 2:	8/12 – 70/90 Hz    1000-3000ms
Window 3:	8/12 – 50/70 Hz    3000-6000ms
23 – Trace Scaling:	AGC
Window:	0 500 500 2000 2000 6000
Length:	200 500 1000
<b>Display Parameters:</b>	
Horizontal:	24 Traces per Inch
Vertical:	3.75 Inches per Second

## Geophysical Data Processing – KA-02

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### Processing Parameters:

- 1 - Demultiplex/Reformat
- 2 - Geometry: Straight Line
- 3 - Manual Trace Edits
- 4 - Amplitude Recovery: T-Square Function  
 $A \cdot t^N$   $A=1, N=2$
- 5 - Deconvolution: Surface Consistent Spiking  
Operator Length: 200 ms  
Pre-whitening: 0.1 PCT
- 6 - Full Fold Trace Gather
- 7 - Spectral Balancing  
Frequency: 5/10 – 100/120 Hz
- 8 - Structure Statics: 2 Layer Drift Computation  
Analysis Method: GLI  
Datum Elevation: 300 m  
Replacement Velocity: 3300 m/s  
Wave Velocity: 610 m/s  
Application: Surface Consistent Short Wavelength Comp.
- 9 - Velocity Analysis Preliminary  
Surface Consistent Statics
- 10 - Statics Automatic Surface Consistent  
Design Window: 500 – 5000 ms  
Design Filter: 8/12 – 50/60 Hz  
Max. Static +/- 32 ms
- 11 - Velocity Analysis Final  
Datum
- 12 - Statics Automatic Surface Consistent  
Design Window: 300 – 3500 ms  
Design Filter: 8/12 – 80/90 Hz  
Max. Static +/- 24 ms

13 - NMO:	Correction from Surface
14 - Mute Pattern:	First Break
15 - Structure Statics Analysis Method: Application:	GLI Long Wavelength Component
16 - Statics: Design Window: Max. Static	Trim 300 – 5000 ms +/- 12 ms
17 - Stack:	Full Fold
18 - Noise Attenuation: Frequency Range:	FX Deconvolution 5 – 100 Hz
19 - Finite Difference Migration:	Using 90% of NMO Velocity
20 - Noise Attenuation:	Semblance Weighted Slant Stack
21 - Bandpass Filter: Window 1: Window 2: Window 3:	Time Variant 8/12 – 90/110 Hz    0-1000ms 8/12 – 70/90 Hz    1000-3000ms 8/12 – 50/70 Hz    3000-6000ms
22 – Trace Scaling: Window: Length:	AGC 0 500 500 2000 2000 6000 200 500 1000
<b>Display Parameters:</b>	
Horizontal:	24 Traces per Inch
Vertical:	3.75 Inches per Second

## Geophysical Data Processing – KA-04

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### Processing Parameters:

- 1 - Demultiplex/Reformat
- 2 - Geometry: Straight Line
- 3 - Manual Trace Edits
- 4 - Amplitude Recovery: T-Square Function  
 $A \cdot t^{**N}$   $A=1, N=2$
- 5 - Dering: 60 Hz
- 6 - Deconvolution: Surface Consistent Spiking  
Operator Length: 120 ms  
Pre-whitening: 0.1 PCT
- 7 - Full Fold Trace Gather
- 8 - Spectral Balancing  
Frequency: 5/10 – 100/120 Hz
- 9 - Structure Statics: 2 Layer Drift Computation  
Analysis Method: GLI  
Datum Elevation: 300 m  
Replacement Velocity: 3300 m/s  
Wave Velocity: 610 m/s  
Application: Surface Consistent Short Wavelength Comp.
- 10 - Velocity Analysis  
Preliminary  
Surface Consistent Statics
- 11 - Statics  
Automatic Surface Consistent  
Design Window: 500 – 5000 ms  
Design Filter: 8/12 – 50/60 Hz  
Max. Static +/- 32 ms
- 12 - Velocity Analysis  
Final  
Surface Consistent Statics

13 - Statics	Automatic Surface Consistent
Design Window:	300 – 3500 ms
Design Filter:	8/12 – 50/60 Hz
Max. Static	+/- 24 ms
14 - Statics	Automatic Surface Consistent
Design Window:	300 – 5000 ms
Design Filter:	8/12 – 80/90 Hz
Max. Static	+/- 24 ms
15 - NMO:	Correction from Surface
16 - Mute Pattern:	First Break
17 - Structure Statics	
Analysis Method:	GLI
Application:	Long Wavelength Component
18 - Statics:	Trim
Design Window:	300 – 5000 ms
Max. Static	+/- 12 ms
19 - Stack:	Full Fold
20 - Noise Attenuation:	FX Deconvolution
Frequency Range:	5 – 100 Hz
21 - Finite Difference Migration:	Using 90% of NMO Velocity
22 - Noise Attenuation:	Semblance Weighted Slant Stack
23 - Bandpass Filter:	Time Variant
Window 1:	8/12 – 90/110 Hz    0-1000ms
Window 2:	8/12 – 70/90 Hz    1000-3000ms
Window 3:	8/12 – 50/70 Hz    3000-6000ms
24 – Trace Scaling:	AGC
Window:	0 500 500 2000 2000 6000
Length:	200 500 1000
<b>Display Parameters:</b>	
Horizontal:	24 Traces per Inch
Vertical:	3.75 Inches per Second

## Geophysical Data Processing – KA-06

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### Processing Parameters:

- 1 - Demultiplex/Reformat
- 2 - Geometry: Crooked Line
- 3 - Manual Trace Edits
- 4 - Amplitude Recovery: T-Square Function  
 $A \cdot t^{**N}$  A=1, N=2
- 5 - Deconvolution: Surface Consistent Spiking  
Operator Length: 200 ms  
Pre-whitening: 0.1 PCT
- 6 - Full Fold Trace Gather
- 7 - Spectral Balancing  
Frequency: 5/10 – 100/120 Hz
- 8 - Structure Statics: 2 Layer Drift Computation  
Analysis Method: GLI  
Datum Elevation: 300 m  
Replacement Velocity: 3300 m/s  
Wave Velocity: 610 m/s  
Application: Surface Consistent Short Wavelength Comp.
- 9 - Velocity Analysis  
Preliminary  
Surface Consistent Statics
- 10 - Statics  
Automatic Surface Consistent  
Design Window: 500 – 5000 ms  
Design Filter: 8/12 – 50/60 Hz  
Max. Static +/- 32 ms
- 11 - Velocity Analysis  
Final  
Surface Consistent Statics



12 - Statics	Automatic Surface Consistent
Design Window:	300 – 3500 ms
Design Filter:	8/12 – 50/60 Hz
Max. Static	+/- 24 ms
13 - Statics	Automatic Surface Consistent
Design Window:	300 – 5000 ms
Design Filter:	8/12 – 80/90 Hz
Max. Static	+/- 24 ms
14 - NMO:	Correction from Surface
15 - Mute Pattern:	First Break
16 - Structure Statics	
Analysis Method:	GLI
Application:	Long Wavelength Component
17 - Statics:	Trim
Design Window:	300 – 5000 ms
Max. Static	+/- 12 ms
18 - Stack:	Full Fold
19 - Noise Attenuation:	FX Deconvolution
Frequency Range:	5 – 100 Hz
20 - Finite Difference Migration:	Using 90% of NMO Velocity
21 - Noise Attenuation:	Semblance Weighted Slant Stack
22 - Bandpass Filter:	Time Variant
Window 1:	8/12 – 90/110 Hz    0-1000ms
Window 2:	8/12 – 70/90 Hz    1000-3000ms
Window 3:	8/12 – 50/70 Hz    3000-6000ms
23 – Trace Scaling:	AGC
Window:	0 500 500 2000 2000 6000
Length:	200 500 1000
<b>Display Parameters:</b>	
Horizontal:	24 Traces per Inch
Vertical:	3.75 Inches per Second

## 13. Enclosures

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### **Paper**

2 – Shotpoint maps

1 – Copy of Migrated Processing (normal polarity) for each line

1 – Copy of Migrated Processing (reverse polarity) for each line

### **Digital Format**

1 – CD Shotpoint map

1 – CD SEGP1

1 – CD Migrated processing Tifs for each line