OBN SURVEY EXAMPLE

Layout

Projections

Optimal Station Placement

-optiSeis
User Defined Size

Parameters Entered
1. Station Intervals
2. Line Intervals
3. Line Bearings
4. Origin
5. Size

Trimmed to Polygon

Parameters Entered
1. Station Intervals
2. Line Intervals

Parameters Auto-Calculated
• Line Bearings
• Origin
• Size
LAYOUT EXAMPLE – PARAMETER ENTRY

Optimal Seismic Design – optiSeis Solutions Ltd.

Field Outline

1500m Receiver Outline

3000m Source Outline
NO OUTLINE

Legend
- Field Outline
- 1500m Receiver Outline
- 3000m Source Outline
TRIMMED TO OUTLINE
SURVEY ATTRIBUTES

Fold Plot

Offset Triangle Plots

Spider Plots

Polar Azimuth Plots
STATION OFFSETS

Load/Create Exclusions
Load from Shape File or Create
- Polygons
- Lines
- Points

Set to Affect Sources or Receivers

Project Sources/Receivers
Set Projection Parameters
Group Stations
Smooth Lines
## EXCLUSION ZONES

<table>
<thead>
<tr>
<th>Name</th>
<th>Affect Sources</th>
<th>Affect Receivers</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔ Polygon</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ New Polygon</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ larger platform</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>✔ wide pipeline</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>□ field + 1500m buffer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ Pipeline buffers</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>✓ Well 150m buffer</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>□ 3km buffer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ Block Boundary &amp; F...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ block field</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ platform</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Point</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Legend
- Field Outline
- Platform Receiver Buffer
- Platform Source Buffer
- Pipelines & Well Heads Receiver Buffers

Scale 1:60000 (meters)
THEORETICAL LAYOUT
SHALLOW TARGET OFFSET

Legend
Field Outline
Platform Receiver Buffer
Platform Source Buffer
Pipelines & Well Heads Receiver Buffers
EXCLUDED SOURCES & RECEIVERS

Legend
Field Outline
Platform Receiver Buffer
Platform Source Buffer
Pipelines & Well Heads Receiver Buffers
Excluded Stations
OFFSET SOURCES

Legend
Field Outline
Platform Receiver Buffer
Platform Source Buffer
Pipelines & Well Heads Receiver Buffers
Excluded Stations
OFFSET RECEIVERS WITHIN BIN

**Legend**
- Field Outline
- Platform Receiver Buffer
- Platform Source Buffer
- Pipelines & Well Heads Receiver Buffers
- Excluded Stations
PREDICTED OSP RECEIVERS

Legend
- Field Outline
- Platform Receiver Buffer
- Platform Source Buffer
- Pipelines & Well Heads Receiver Buffers
- OSP Stations
OSP (OPTIMAL STATION POSITION)

Select Areas for Optimization
- Excluded Sources/Receivers
- or
- Low Fold Bins

Calculate OSP
- Select
  - Offset/Fold/Azimuth Range
  - Midpoint Distribution
Automatic 3D Layout

Rapid Station Repositioning

Optimal Station Positioning

Bin Attribute Analysis

Survey Assessment Tools