SPECIAL DATA COLLECTION SYSTEM EVENT REPORT
NTS Event "TOPGALLANT", 28 February 1975

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September 1975

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SDCS Event Report No. 9

NTS Event "TOPGALLANT", 28 February 1975

This event report contains seismic data from the Special Data Collection System (SDCS), and other sources for the above event. Published epicenter information from seismic observations is:

<table>
<thead>
<tr>
<th></th>
<th>Origin Time</th>
<th>Latitude</th>
<th>Longitude</th>
<th>mb</th>
<th>Ms</th>
</tr>
</thead>
<tbody>
<tr>
<td>NORSAR</td>
<td>15:14:57</td>
<td>36 N</td>
<td>115 W</td>
<td>5.7</td>
<td>N/A</td>
</tr>
<tr>
<td>LASA</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>PDE</td>
<td>15:15:00</td>
<td>37.1N</td>
<td>116.1W</td>
<td>5.7</td>
<td>N/A</td>
</tr>
<tr>
<td>Hagfors Array, Sweden</td>
<td>15:14:54</td>
<td>36 N</td>
<td>118 W</td>
<td>5.9</td>
<td>4.3</td>
</tr>
</tbody>
</table>

Using WH2YK, HN-ME, TFO, LASA and NORSAR, the epicenter location becomes

SDCS & Arrays   15:15:01    37.1N    116.0W    5.5    4.4

Scaling factors on plots are millimicrons at 1 Hz (not corrected for instrument response) with the exception of LASA and NORSAR short-period plots. LASA SP scaling factors are millimicrons per inch. Scaling factors are not reported for NORSAR short-period.

RK-ON and FN-WV were not operational for this event. Data recorded at CPSO was unusable and the long-period vertical at HN-ME was effectively inoperative. The data for LASA and TFSO were obtained from individual sensors due to the proximity of those stations to the hypocenter. Long-period data for the arrays was unrecoverable.
<table>
<thead>
<tr>
<th>SITE CODE</th>
<th>LOCATION</th>
<th>SITE COORDINATES</th>
<th>ELEVATION METERS</th>
<th>INSTRUMENTATION SHORT-PERIOD</th>
<th>INSTRUMENTATION LONG-PERIOD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>DEG MN SECS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALPA</td>
<td>Alaska</td>
<td>65 14 00.0 N</td>
<td>626</td>
<td>None</td>
<td>31500</td>
</tr>
<tr>
<td></td>
<td></td>
<td>147 44 56.0 W</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPSO</td>
<td>McMinnville, Tennessee</td>
<td>35 35 41.4 N</td>
<td>574</td>
<td>6480 V</td>
<td>SL210 V</td>
</tr>
<tr>
<td></td>
<td></td>
<td>085 54 13.5 W</td>
<td></td>
<td>7515 H</td>
<td>SL220 H</td>
</tr>
<tr>
<td>FN-WV</td>
<td>Franklin, West Virginia</td>
<td>38 32 58.0 N</td>
<td>910</td>
<td>KS36000</td>
<td>KS36000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>079 30 47.0 W</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LASA</td>
<td>Billings, Montana</td>
<td>46 41 19.0 N</td>
<td>744</td>
<td>HS10</td>
<td>7505A V</td>
</tr>
<tr>
<td></td>
<td></td>
<td>106 13 20.0 W</td>
<td></td>
<td></td>
<td>8700C H</td>
</tr>
<tr>
<td>HN-ME</td>
<td>Houlton, Maine</td>
<td>46 09 43.0 N</td>
<td>213</td>
<td>18300</td>
<td>SL220 H</td>
</tr>
<tr>
<td></td>
<td></td>
<td>067 59 09.0 W</td>
<td></td>
<td></td>
<td>SL210 V</td>
</tr>
<tr>
<td>NORSAR</td>
<td>Kjeller, Norway</td>
<td>60 49 25.4 N</td>
<td>379</td>
<td>HS10</td>
<td>7505A V</td>
</tr>
<tr>
<td></td>
<td></td>
<td>010 49 56.5 E</td>
<td></td>
<td></td>
<td>8700C H</td>
</tr>
<tr>
<td>RK-ON</td>
<td>Red Lake, Ontario</td>
<td>50 50 20.0 N</td>
<td>366</td>
<td>18300</td>
<td>SL210 V</td>
</tr>
<tr>
<td></td>
<td></td>
<td>093 40 20.0 W</td>
<td></td>
<td></td>
<td>SL220 H</td>
</tr>
<tr>
<td>WH2YK</td>
<td>White Horse, Yukon</td>
<td>60 41 41.0 N</td>
<td>853</td>
<td>18300</td>
<td>SL210 V</td>
</tr>
<tr>
<td></td>
<td></td>
<td>154 58 02.0 W</td>
<td></td>
<td></td>
<td>SL220 H</td>
</tr>
</tbody>
</table>

Notes:

Details of the program used to obtain beamed vertical, radial and transverse data at LASA, ALPA and NORSAR are in the process of being reviewed. Vertical beams are probably valid, horizontal beams at the LASA and NORSAR are questionable. Horizontal beams at ALPA are probably invalid.

FN-WV, RK-ON, WH2YK and HN-ME horizontal instruments are oriented radial and transverse to the Nevada Test Site. CPSO is oriented N-S and E-W. LASA, NORSAR and ALPA beams have been rotated to radial and transverse with respect to the event location.
## HYPOCENTER DETERMINATION

**INPUT FOR EVENT**

15:15:00.0 37.000N 116.000W 0KM.

<table>
<thead>
<tr>
<th>STA.</th>
<th>ARRIVAL</th>
<th>RESIDUALS</th>
<th>DIST.</th>
<th>AZ.</th>
</tr>
</thead>
<tbody>
<tr>
<td>TPO</td>
<td>15 16 14.8</td>
<td>-0.0</td>
<td>REST</td>
<td>REST</td>
</tr>
<tr>
<td>LAG</td>
<td>15 17 52.9</td>
<td>-0.1</td>
<td>-0.1</td>
<td>12.0</td>
</tr>
<tr>
<td>WH2YK</td>
<td>15 20 39.3</td>
<td>0.2</td>
<td>0.2</td>
<td>26.5</td>
</tr>
<tr>
<td>HN-ME</td>
<td>15 22 08.1</td>
<td>0.4</td>
<td>0.4</td>
<td>36.6</td>
</tr>
<tr>
<td>NAO</td>
<td>15 26 32.4</td>
<td>-0.5</td>
<td>-0.5</td>
<td>73.2</td>
</tr>
</tbody>
</table>

### 67 HERRIN TRAVEL TIME TABLES

<table>
<thead>
<tr>
<th>ORIGIN</th>
<th>LAT.</th>
<th>LONG.</th>
<th>DEPTH (KM)</th>
<th>SDV</th>
<th>IT</th>
<th>STA</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:15:01.1 37.116N 116.033W</td>
<td>3.2</td>
<td>CALC</td>
<td>0.3</td>
<td>2</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>15:15:01.2 37.114N 116.044W</td>
<td>0.3</td>
<td>REST</td>
<td>0.3</td>
<td>2</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

### CALC

-0.0

### REST

0.0

### CHI2 COVERAGE ELLIPSE:

- 95% CONF. LEVEL, SDV = 1.90
  - MAJOR = 64.2KM, MINOR = 31.3KM, AZ = 57
  - AREA = 6313 SQ.KM.

---

4.
DATA SUMMARY

INPUT FOR EVENT 28 FEB 76
15:15:00.0 37.000W 116.000W 0.0Km.

<table>
<thead>
<tr>
<th>STA</th>
<th>PHASE</th>
<th>TIME</th>
<th>INST</th>
<th>PER</th>
<th>A/T</th>
<th>MB</th>
<th>MS</th>
<th>DIP</th>
<th>DICT</th>
</tr>
</thead>
<tbody>
<tr>
<td>TFO</td>
<td>EP</td>
<td>15 16</td>
<td>14.8</td>
<td>Z6CL</td>
<td>0.4</td>
<td>627</td>
<td>5.84</td>
<td>4.8</td>
<td></td>
</tr>
<tr>
<td>LAO</td>
<td>EP</td>
<td>15 17</td>
<td>52.9</td>
<td>SPZ</td>
<td>0.6</td>
<td>9999</td>
<td>5.16</td>
<td>26.5</td>
<td></td>
</tr>
<tr>
<td>WH2/YK</td>
<td>EP</td>
<td>15 20</td>
<td>39.3</td>
<td>SPZ</td>
<td>1.2</td>
<td>104</td>
<td>71</td>
<td>4.39</td>
<td></td>
</tr>
<tr>
<td>WH2/YK</td>
<td>LQ</td>
<td>15 29</td>
<td>53.0</td>
<td>LPT</td>
<td>18.0</td>
<td>126</td>
<td>26.5</td>
<td>36.6</td>
<td></td>
</tr>
<tr>
<td>WH2/YK</td>
<td>LR</td>
<td>15 32</td>
<td>19.0</td>
<td>LPZ</td>
<td>18.0</td>
<td>71</td>
<td>5.47</td>
<td>36.6</td>
<td></td>
</tr>
<tr>
<td>HN-ME</td>
<td>EP</td>
<td>15 22</td>
<td>08.1</td>
<td>SPZ</td>
<td>1.0</td>
<td>168</td>
<td>20</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>HN-ME</td>
<td>E</td>
<td>15 34</td>
<td>53.0</td>
<td>LPT</td>
<td>20.0</td>
<td>11</td>
<td>5.85</td>
<td>73.2</td>
<td></td>
</tr>
<tr>
<td>NAO</td>
<td>EP</td>
<td>15 26</td>
<td>32.4</td>
<td>AB</td>
<td>1.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ORIGIN LAT.  LONG.  DEPTH (KM)  MAG  SDV  STA  LPMAG  LPSDV  LPSTA
15:15:01.7 37.115N 116.033W 3  CALC  5.49  0.34  3  4.39+++++  1
15:15:01.2 37.114N 116.044W 0  PEST  5.50  0.34  3  4.39+++++  1

TFO NOT USED IN CALC RUN SP AVG. MAG.
TFO NOT USED IN PEST RUN SP AVG. MAG.

5.
LASA

1 28 FEB 1975
2 15 15 22 38.6N 115.9W 06 8 5.5 37 NEVADA
3 15 17 55.0 LAO P 115.8 1.1 8.2 10.7 225.3

EPX 1
ABN 78

13 17 145.0

AB 140

FAB 130

PAB1 120

PAB2 130

PAB3 150

PAB4 140

BP-6 0.6-2.0 Hz

10 sec