EARTHQUAKES IN ALASKA
August 1995

ALASKA EARTHQUAKE INFORMATION CENTER

A report of the Alaska State Seismologist’s Office
EARTHQUAKES IN ALASKA - August 1995

By

N. Ratchkovski¹ and R. Hansen¹

with the assistance of

K. Fogleman², B. Hammond³, K. Lindquist¹, N. McGregor-Scott², L. Rao¹, and C. Rowe¹

September, 2001

The Alaska Earthquake Information Center is a cooperative program between
the Geophysical Institute of the University of Alaska¹ and the U.S. Geological Survey
(Earthquake Hazards Program², and Branch of Earthquake and Geomagnetic Information³).

DISCLAIMER
This report has not been edited or reviewed for conformity with U.S. Geological Survey and
State of Alaska standards and nomenclature. The data in this report are preliminary and subject
to revision. Most of the earthquake parameters have been determined by AEIC. The data
are released on the condition that neither the U.S. Geological Survey, nor the
United States Government, nor the Geophysical Institute, University of
Alaska-Fairbanks may be held liable for any damages resulting
from its authorized or unauthorized use.
The Alaska Earthquake Information Center (AEIC) is a cooperative program established to monitor earthquakes in Alaska and to provide earthquake information to citizens and public officials and to the earth science community.

Most of the earthquakes located by AEIC occur in a “core” area in central and southern Alaska, between latitudes 57ºN and 67ºN, and longitudes 135ºW and 156ºW; however, this listing also includes earthquakes not located by AEIC but reported in the National Earthquake Information Center’s (NEIC) monthly Preliminary Determination of Epicenters (PDE) for a larger region between latitudes 48ºN and 75ºN, and longitudes 130ºW to 170ºE.

The magnitude level for completeness and the precision of the locations vary across the state due to uneven station spacing and to differences in earthquake depths. The data are more complete and the hypocenters are more accurate in regions where the station density is greatest. In southern and central Alaska where the majority of the stations are located, the earthquake catalogs are complete for shallow (depth < 30 km) earthquakes of about magnitude 2.0 and larger. The magnitude threshold at which the catalogs are complete increases with depth. For earthquakes deeper than 100 km in southern and central Alaska, the catalogs are complete above about magnitude 2.7. The earthquake catalogs are reasonably complete for the entire state for events greater than or equal to magnitude 4.5. Earthquakes in southern and central Alaska, where calculated hypocenters are more accurate, have horizontal (epicentral) and vertical (depth) errors (median value) of 1.1 and 1.9 km, respectively.


The seismicity shown for western Canada is not complete, and does not represent the total activity for the area. For more information on Canadian seismicity, contact: Pacific Geoscience Center, Geological Survey of Canada, P.O. Box 6000 Sidney, British Columbia, V8L 4B2 Canada.

Cover

Structural damage to the school building in Anchorage, after the March 27, 1964 earthquake.

Photo from the UAF Geophysical Institute Alaska Earthquake Photograph archives.

Acknowledgments

CONTENTS

This monthly earthquake catalog contains the following:

Highlights: A discussion of important or particularly interesting earthquakes which occurred during the month.

Maps and cross-sections: Five maps illustrating Alaska seismicity during the month. Figure 1 is a map which includes all located earthquakes for the state and surrounding region. Figure 2a focuses on earthquakes in a “core” area of central and southern Alaska, and depicts line segments for two cross-sections through the Alaska/Aleutian Wadati Benioff zone (Figure 2b). Figure 3 shows events in the “core” area larger than magnitude 3.0, Figure 4 shows all “core” events shallower than 30 km depth, and Figure 5 shows all “core” events of depth greater than or equal to 30 km.

Listings: Three listings of hypocenters are presented, as follows: first, a complete listing of all located earthquakes for the month, corresponding to the epicenters plotted in Figure 1; next, Appendix 1 contains a subset of the full listing restricted to only those events of magnitude 4.0 and larger; and lastly, Appendix 2 lists known or suspected quarry blasts during the month. These blasts have been excluded from Figures 1 - 5. Listings include, for each event: date and origin time, epicenter, depth, preferred magnitude, solution quality statistics and comments (region, alternate magnitudes, available felt reports and other remarks).

Other types of information available regularly from AEIC:

Parameters for the most recent 100 earthquakes of magnitude 2.0 and larger are available through the Internet via finger quake@giseis.alaska.edu OR by sending email to quake@giseis.alaska.edu; in the latter case a return email message will contain the earthquake listing.

Weekly and Monthly Seismicity Reports - issued within seven days of the end of each week and month, respectively. These reports include highlights of recent activity, a preliminary listing of events, and epicenter maps. The weekly and monthly reports may be found on the Internet at http://www.aeic.alaska.edu/.

Alaska Earthquakes and AEIC Seismic Network Operations - annual reports listing only the larger events, but including a discussion of the recorded seismicity and more detailed information about instrumentation, data processing and velocity models.

Catalog of Alaska Earthquake Focal Mechanisms - annual catalogs of focal mechanisms determined from initial P-wave polarities recorded by the regional seismograph network, as well as source mechanisms determined independently by NEIC and other seismic observatories.
HIGHLIGHTS

During August, 1995, the Alaska Earthquake Information Center located 543 earthquakes, 26 of which had magnitudes 4.0 or greater, and 2 suspected quarry blasts. The largest event occurred on August 16 in the Near Is. region of Alaska (m_b 5.3). Four events were felt. Earthquakes of particular interest during the month are discussed below:

August 2, 21:19:23 UTC (1:19 pm ADT), M_L 3.7, 63.550°N, 151.022°W, depth=12.48 km
A minor earthquake in Central Alaska located 5 km (3 miles) north-west of Kantishna and 104 km (65 miles) north-west of Cantwell. It was felt strongly in Kantishna. First motion focal mechanisms indicates a thrust type motion on either northwest- or southeast-dipping plane.

August 25, 11:57:12 UTC (3:57 am ADT), M_L 4.5, 64.650°N, 148.323°W, depth=13.80 km
A light earthquake located in Central Alaska 38 km (24 miles) east-northeast of Nenana and 36 km (22 miles) south-west of Fairbanks. It was felt widely in the Fairbanks area and was followed by four aftershocks of magnitude M_L 0.6-2.5 within an hour. Focal mechanism for the main shock shows strike-slip faulting on a near-vertical plane; either left-lateral motion on south-north focal plane or right-lateral on west-east plane. The main shock is probably due to a slip on one of the north-east-trending mapped faults in the area.
August 31, 13:32:01 UTC (5:32 am ADT), $M_L$ 4.0, 59.369°N, 150.992°W, depth=41.05 km
A light earthquake in Kenai Peninsula located 41 km (26 miles) east-southeast of Seldovia and 43 km (27 miles) southeast of Homer. It was felt in Homer. Focal mechanism indicates normal faulting on either northwest or south-east-dipping plane, tensional axis is in the direction of plate convergence. The focal depth and type of the faulting indicate that this event occurred inside the subducting Pacific plate.

August 31, 8:20:55 UTC (August 30, 11:55 pm ADT), $M_L$ 5.0, 69.360°N, 147.151°W, depth=34.53 km
A moderate earthquake in northeast Brooks Range located 56 km (35 miles) east-south-east of Pump Station #2 and 104 km (65 miles) south-east of Deadhorse. It was followed by a magnitude $M_L$ 4.3 aftershock two hours later.
Figure 2b: August 1995 -- Cross-sections from Figure 2a

![Graph showing cross-sections with depth and distance along profile A-A']

Distance Along Profile A - A' (km)

Figure 2b: August 1995 -- Cross-sections from Figure 2a

![Graph showing cross-sections with depth and distance along profile B-B']

Distance Along Profile B - B' (km)
Figure 3: August 1995 -- Magnitude 3.0 and Greater
Figure 5: August 1995 – Earthquake Depth >= 30 km
Monthly Listing of Earthquake Hypocenters in Alaska

Events are listed in chronological order. The following data are given for each event:

1. **DATE AND TIME** in Coordinated Universal Time (UTC): year (YR), month (MO), day (DY), Julian day (JDA Y), hour (HR), minute (MN) and second (SEC). To convert to Alaska Standard Time (AST) or Alaska Daylight Time (ADT) subtract 9 or 8 hours, respectively.

2. **LATITUDE** and **LONGITUDE** of epicenter in degrees (DEG). South and west = negative.

3. **DEPTH**, depth of focus in kilometers. Symbols after the depth indicate the following:
   - **N** = Depth was fixed at 33 km for earthquakes whose character on seismograms indicates a shallow focus but whose depth is not satisfactorily determined by the data.
   - **D** = Depth was restrained by the computer program based on 2 or more compatible pP phases and/or unidentified secondary arrivals used as pP.
   - **G** = Depth was fixed at other than 33 km.
   - * or ? = Less well-constrained free depth determined by NEIC. For detailed explanation see January 1993 Preliminary Determination of Epicenters.

4. **PREF MAG**, the AEIC ML is the preferred magnitude, unless it is unavailable or when the National Earthquake Information Service (NEIS) mb ≥ 4.5 or Ms ≥ 6.8. For preferred magnitudes other than AEIC ML a letter code after the magnitude indicates the type as follows:
   - mb = Body-wave magnitude (Mb) computed by NEIS.
   - Ms = Surface wave magnitude (MS) computed by NEIS.
   - A = Local magnitude (ML) from Alaska Tsunami Warning Center, Palmer, Alaska (PMR).
   - C = Local magnitude (ML) from Pacific Geoscience Centre, Sidney, British Columbia, Canada (PGC).
   - D = Duration magnitude (MD) from AEIC.
   - L = Duration magnitude (MD) from Columbia University, Lamont-Doherty Earth Observatory, Palisades, New York (PAL).

5. **RMS**, root-mean-square traveltime residual in seconds:
   \[ RMS = \sqrt{\frac{\sum_{i=1}^{N} W_i \times R_i^2}{N}} \]
   Where \( R_i \) is the observed minus computed time of the i-th observation, \( W_i \) is the corresponding weight of the observation, and weights are normalized so that their sum equals N, the total number of P, S, and S-P observations used in the solution.

6. **SEH**, standard error in the horizontal direction with least control in kilometers.

7. **SEZ**, standard error of depth in kilometers.

8. **GAP**, largest azimuthal separation between stations in degrees with respect to the epicenter.

9. **PHASES**, number of P and S phases used in the solution.

10. **MIN DIS**, epicentral distance in kilometers to the station closest to the epicenter.

11. **Q**, quality of the hypocenter. This index is a measure of the precision of the hypocenter and is calculated from SEH and SEZ:
   - **A** ≤ 1.34
   - **B** ≤ 2.67
   - **C** ≤ 5.35
   - **D** > 5.35

12. **T**, event type as follows:
   - **E** - Local or regional tectonic earthquake located by AEIC.
   - **a** - Volcano-tectonic earthquake located by AEIC.
   - **B** - Long period volcano earthquake located by AEIC.
   - **R** - Regional event not located by AEIC.
   - **Q** - Known or suspected quarry or mine blast located by AEIC.

13. **COMMENTS**, symbols and abbreviations used in comments:
   - **BRK** - University of California, Berkeley.
   - **Mo** - Seismic moment.
   - **PAL** - Columbia University, Lamont-Doherty Earth Observatory, Palisades, New York.
   - **PAS** - California Institute of Technology, Pasadena.
   - **PGC** - Pacific Geoscience Centre, Sidney, British Columbia, Canada.
   - **PMR** - Alaska Tsunami Warning Center, Palmer, Alaska.
   - **PPT** - Laboratoire de Geophysique, Papeete, French Polynesia.
   - **SPEC** - An NEIS solution based on use of dense local networks, a local crustal model, or other methods not routinely applied in calculating the hypocenter parameters.

Errors and uncertainties in the reported parameters may result from random errors present in the phase data, or from systematic errors introduced either by the velocity models used to locate the earthquakes or by poor geometrical distribution of recording stations about the source. One should be particularly cautious using solutions that have GAP > 180 degrees, P < 6, S = 0, MIN DIS > DEPTH, RMS > 0.75s, SEH > 5km, or SEZ > 10km. Solutions with A and B quality are generally more reliable, but this does not guarantee that the accuracy of the solutions is within the limits implied by SEH and SEZ. Catalogs prior to January 1998 have printed SEH and SEZ values that are too large by a factor of 1.87.
<table>
<thead>
<tr>
<th>DATE</th>
<th>TIME</th>
<th>LAT DEG</th>
<th>LON DEG</th>
<th>DEPTH</th>
<th>MAG</th>
<th>RMS</th>
<th>SEH</th>
<th>SEZ</th>
<th>GAP</th>
<th>PHASES</th>
<th>PS</th>
<th>DIS</th>
<th>REGION</th>
</tr>
</thead>
<tbody>
<tr>
<td>95 08 1 (213)</td>
<td>04:21:00.700</td>
<td>62.893</td>
<td>-150.474</td>
<td>89.23</td>
<td>2.1</td>
<td>0.27</td>
<td>0.99</td>
<td>1.52</td>
<td>127.0</td>
<td>28</td>
<td>43.59</td>
<td>B E</td>
<td>CENTRAL ALASKA</td>
</tr>
<tr>
<td>95 08 1 (213)</td>
<td>08:06:38.490</td>
<td>61.781</td>
<td>-149.730</td>
<td>39.25</td>
<td>1.3</td>
<td>0.21</td>
<td>0.58</td>
<td>1.19</td>
<td>100.0</td>
<td>25</td>
<td>16.46</td>
<td>A E</td>
<td>SOUTHERN ALASKA</td>
</tr>
<tr>
<td>Date</td>
<td>Time</td>
<td>Latitude</td>
<td>Longitude</td>
<td>Depth (m)</td>
<td>Strike</td>
<td>Dip</td>
<td>Thrust</td>
<td>Lon T/P</td>
<td>Lat T/P</td>
<td>Type</td>
<td>Location</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>------------</td>
<td>-----------</td>
<td>-----------</td>
<td>-----------</td>
<td>---------</td>
<td>--------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>-------------------</td>
<td>------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>95 08 22</td>
<td>23:44:35.00</td>
<td>63.244</td>
<td>-151.002</td>
<td>5.82</td>
<td>2.3</td>
<td>0.18</td>
<td>0.69</td>
<td>138.0</td>
<td>23</td>
<td>34.69</td>
<td>CENTRAL ALASKA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>95 08 23</td>
<td>01:35:21.20</td>
<td>60.524</td>
<td>-150.411</td>
<td>3.19</td>
<td>1.6</td>
<td>0.43</td>
<td>0.61</td>
<td>93.0</td>
<td>38</td>
<td>26.35</td>
<td>SOUTHERN ALASKA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>95 08 23</td>
<td>02:56:18.10</td>
<td>60.271</td>
<td>-146.425</td>
<td>5.69</td>
<td>2.2</td>
<td>0.22</td>
<td>0.81</td>
<td>69.0</td>
<td>26</td>
<td>14.68</td>
<td>SOUTHERN ALASKA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>95 08 23</td>
<td>02:56:47.00</td>
<td>60.271</td>
<td>-146.425</td>
<td>5.69</td>
<td>2.2</td>
<td>0.22</td>
<td>0.81</td>
<td>69.0</td>
<td>26</td>
<td>14.68</td>
<td>SOUTHERN ALASKA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>95 08 23</td>
<td>03:01:28.10</td>
<td>60.282</td>
<td>-146.450</td>
<td>0.09</td>
<td>2.1</td>
<td>0.31</td>
<td>0.56</td>
<td>97.6</td>
<td>22</td>
<td>48.81</td>
<td>SOUTHERN ALASKA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>95 08 23</td>
<td>10:39:14.80</td>
<td>60.271</td>
<td>-146.425</td>
<td>5.69</td>
<td>2.2</td>
<td>0.22</td>
<td>0.81</td>
<td>69.0</td>
<td>26</td>
<td>14.68</td>
<td>SOUTHERN ALASKA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>95 08 24</td>
<td>00:34:30.00</td>
<td>60.271</td>
<td>-146.425</td>
<td>5.69</td>
<td>2.2</td>
<td>0.22</td>
<td>0.81</td>
<td>69.0</td>
<td>26</td>
<td>14.68</td>
<td>SOUTHERN ALASKA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>95 08 24</td>
<td>00:34:30.00</td>
<td>60.271</td>
<td>-146.425</td>
<td>5.69</td>
<td>2.2</td>
<td>0.22</td>
<td>0.81</td>
<td>69.0</td>
<td>26</td>
<td>14.68</td>
<td>SOUTHERN ALASKA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>95 08 24</td>
<td>00:34:30.00</td>
<td>60.271</td>
<td>-146.425</td>
<td>5.69</td>
<td>2.2</td>
<td>0.22</td>
<td>0.81</td>
<td>69.0</td>
<td>26</td>
<td>14.68</td>
<td>SOUTHERN ALASKA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>95 08 24</td>
<td>00:34:30.00</td>
<td>60.271</td>
<td>-146.425</td>
<td>5.69</td>
<td>2.2</td>
<td>0.22</td>
<td>0.81</td>
<td>69.0</td>
<td>26</td>
<td>14.68</td>
<td>SOUTHERN ALASKA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Notes:**
- Depth values are in meters.
- Strike and Dip values indicate the orientation of the fault plane.
- Thrust and Lon T/P (longitude of thrust plane) values are in degrees.
- Lat T/P (latitude of thrust plane) values are also in degrees.
- Location values indicate the region within Alaska.

**Locations:**
- SOUTHERN ALASKA
- CENTRAL ALASKA
- ALASKA
- KENAI PENINSULA, ALASKA
- NEAR ISLANDS, ALEUTIAN IS.
- SOUTHERN ALASKA
- CENTRAL ALASKA
- SOUTHERN ALASKA
<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Speed (kts)</th>
<th>Course (deg)</th>
<th>Heading (deg)</th>
<th>Depth (ft)</th>
<th>Temp (deg F)</th>
<th>Salinity</th>
<th>Conductivity</th>
<th>Lat. Ref.</th>
<th>Lon. Ref.</th>
</tr>
</thead>
<tbody>
<tr>
<td>95 08 25</td>
<td>00:30:10.000</td>
<td>51.377</td>
<td>-150.084</td>
<td>3.8</td>
<td>290.0</td>
<td>247.0</td>
<td>1150.0</td>
<td>31.50</td>
<td>4.0</td>
<td>22.5</td>
<td>A</td>
<td>E</td>
</tr>
<tr>
<td>95 08 25</td>
<td>02:45:09.000</td>
<td>51.377</td>
<td>-150.084</td>
<td>3.8</td>
<td>290.0</td>
<td>247.0</td>
<td>1150.0</td>
<td>31.50</td>
<td>4.0</td>
<td>22.5</td>
<td>A</td>
<td>E</td>
</tr>
<tr>
<td>95 08 25</td>
<td>04:45:09.000</td>
<td>51.377</td>
<td>-150.084</td>
<td>3.8</td>
<td>290.0</td>
<td>247.0</td>
<td>1150.0</td>
<td>31.50</td>
<td>4.0</td>
<td>22.5</td>
<td>A</td>
<td>E</td>
</tr>
<tr>
<td>95 08 25</td>
<td>06:45:09.000</td>
<td>51.377</td>
<td>-150.084</td>
<td>3.8</td>
<td>290.0</td>
<td>247.0</td>
<td>1150.0</td>
<td>31.50</td>
<td>4.0</td>
<td>22.5</td>
<td>A</td>
<td>E</td>
</tr>
<tr>
<td>95 08 25</td>
<td>08:45:09.000</td>
<td>51.377</td>
<td>-150.084</td>
<td>3.8</td>
<td>290.0</td>
<td>247.0</td>
<td>1150.0</td>
<td>31.50</td>
<td>4.0</td>
<td>22.5</td>
<td>A</td>
<td>E</td>
</tr>
<tr>
<td>95 08 25</td>
<td>10:45:09.000</td>
<td>51.377</td>
<td>-150.084</td>
<td>3.8</td>
<td>290.0</td>
<td>247.0</td>
<td>1150.0</td>
<td>31.50</td>
<td>4.0</td>
<td>22.5</td>
<td>A</td>
<td>E</td>
</tr>
<tr>
<td>95 08 25</td>
<td>12:45:09.000</td>
<td>51.377</td>
<td>-150.084</td>
<td>3.8</td>
<td>290.0</td>
<td>247.0</td>
<td>1150.0</td>
<td>31.50</td>
<td>4.0</td>
<td>22.5</td>
<td>A</td>
<td>E</td>
</tr>
<tr>
<td>95 08 25</td>
<td>14:45:09.000</td>
<td>51.377</td>
<td>-150.084</td>
<td>3.8</td>
<td>290.0</td>
<td>247.0</td>
<td>1150.0</td>
<td>31.50</td>
<td>4.0</td>
<td>22.5</td>
<td>A</td>
<td>E</td>
</tr>
<tr>
<td>95 08 25</td>
<td>16:45:09.000</td>
<td>51.377</td>
<td>-150.084</td>
<td>3.8</td>
<td>290.0</td>
<td>247.0</td>
<td>1150.0</td>
<td>31.50</td>
<td>4.0</td>
<td>22.5</td>
<td>A</td>
<td>E</td>
</tr>
<tr>
<td>95 08 25</td>
<td>18:45:09.000</td>
<td>51.377</td>
<td>-150.084</td>
<td>3.8</td>
<td>290.0</td>
<td>247.0</td>
<td>1150.0</td>
<td>31.50</td>
<td>4.0</td>
<td>22.5</td>
<td>A</td>
<td>E</td>
</tr>
<tr>
<td>95 08 25</td>
<td>20:45:09.000</td>
<td>51.377</td>
<td>-150.084</td>
<td>3.8</td>
<td>290.0</td>
<td>247.0</td>
<td>1150.0</td>
<td>31.50</td>
<td>4.0</td>
<td>22.5</td>
<td>A</td>
<td>E</td>
</tr>
<tr>
<td>Time</td>
<td>Latitude</td>
<td>Longitude</td>
<td>Depth</td>
<td>Magnitude</td>
<td>U</td>
<td>Duration</td>
<td>200</td>
<td>209</td>
<td>300</td>
<td>400</td>
<td>500</td>
<td>600</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------</td>
<td>-----------</td>
<td>--------</td>
<td>------------</td>
<td>----</td>
<td>----------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>95 08 31 (243) 04:38:16.820</td>
<td>60.638</td>
<td>-143.133</td>
<td>12.58</td>
<td>1.0</td>
<td>0.08</td>
<td>1.61</td>
<td>2.15</td>
<td>215.0</td>
<td>7</td>
<td>13.34</td>
<td>B</td>
<td>E</td>
</tr>
<tr>
<td>95 08 31 (243) 04:43:47.100</td>
<td>60.641</td>
<td>-143.112</td>
<td>9.41</td>
<td>1.1</td>
<td>0.18</td>
<td>1.21</td>
<td>1.48</td>
<td>207.0</td>
<td>10</td>
<td>13.01</td>
<td>B</td>
<td>E</td>
</tr>
<tr>
<td>95 08 31 (243) 07:02:36.920</td>
<td>60.078</td>
<td>-152.715</td>
<td>103.41</td>
<td>3.3</td>
<td>0.28</td>
<td>0.41</td>
<td>0.65</td>
<td>42.0</td>
<td>54</td>
<td>19.46</td>
<td>A</td>
<td>E</td>
</tr>
<tr>
<td>95 08 31 (243) 07:17:02.210</td>
<td>62.260</td>
<td>-150.977</td>
<td>78.40</td>
<td>2.4</td>
<td>0.21</td>
<td>1.19</td>
<td>0.99</td>
<td>120.0</td>
<td>29</td>
<td>40.14</td>
<td>A</td>
<td>E</td>
</tr>
<tr>
<td>95 08 31 (243) 08:09:03.840</td>
<td>64.493</td>
<td>-147.826</td>
<td>13.58</td>
<td>1.1</td>
<td>0.16</td>
<td>1.70</td>
<td>3.17</td>
<td>177.0</td>
<td>13</td>
<td>17.23</td>
<td>C</td>
<td>E</td>
</tr>
<tr>
<td>95 08 31 (243) 08:20:55.430</td>
<td>69.360</td>
<td>-147.151</td>
<td>34.53</td>
<td>5.0</td>
<td>0.34</td>
<td>13.54</td>
<td>30.34</td>
<td>208.0</td>
<td>22</td>
<td>240.39</td>
<td>D</td>
<td>E</td>
</tr>
<tr>
<td>95 08 31 (243) 10:31:15.920</td>
<td>69.268</td>
<td>-147.349</td>
<td>31.65</td>
<td>4.2</td>
<td>0.88</td>
<td>13.45</td>
<td>30.43</td>
<td>203.0</td>
<td>23</td>
<td>235.06</td>
<td>D</td>
<td>E</td>
</tr>
<tr>
<td>95 08 31 (243) 13:32:01.790</td>
<td>59.369</td>
<td>-150.992</td>
<td>41.05</td>
<td>4.0</td>
<td>0.32</td>
<td>0.93</td>
<td>0.72</td>
<td>119.0</td>
<td>23</td>
<td>22.35</td>
<td>A</td>
<td>E</td>
</tr>
<tr>
<td>95 08 31 (243) 17:53:19.400</td>
<td>50.129</td>
<td>-151.077</td>
<td>37.99</td>
<td>1.6</td>
<td>0.27</td>
<td>1.41</td>
<td>3.01</td>
<td>73.0</td>
<td>19</td>
<td>15.12</td>
<td>C</td>
<td>E</td>
</tr>
<tr>
<td>95 08 31 (243) 17:53:35.010</td>
<td>61.577</td>
<td>-146.434</td>
<td>21.02</td>
<td>1.8</td>
<td>0.27</td>
<td>0.65</td>
<td>2.09</td>
<td>42.0</td>
<td>23</td>
<td>28.91</td>
<td>B</td>
<td>E</td>
</tr>
<tr>
<td>95 08 31 (243) 22:12:14.000</td>
<td>51.761</td>
<td>-175.672</td>
<td>33.00D</td>
<td>4.2</td>
<td>0.14</td>
<td>1.86</td>
<td>2.97</td>
<td>135.0</td>
<td>23</td>
<td>45.14</td>
<td>C</td>
<td>E</td>
</tr>
</tbody>
</table>
APPENDIX 1.

Earthquakes with a magnitude of 4.0 and greater.
This listing is a subset of earthquakes from the complete monthly listing.

<table>
<thead>
<tr>
<th>DATE</th>
<th>LAT</th>
<th>LON</th>
<th>DEPT</th>
<th>MAG</th>
<th>RMS</th>
<th>SEH</th>
<th>SEZ</th>
<th>GAP</th>
<th>PHASES</th>
<th>MIN</th>
<th>Q</th>
<th>T</th>
<th>REGION</th>
</tr>
</thead>
<tbody>
<tr>
<td>yy</td>
<td>mo</td>
<td>dy</td>
<td>jday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEG</td>
<td>DEG</td>
<td>km</td>
<td>mb</td>
<td>ML</td>
<td>sec.</td>
<td>km</td>
<td>deg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

95 08  6 (218) 08:48:01.360    52.293  -174.713   64.80   4.7 R  ANDREANOF IS., ALEUTIAN IS.
95 08  8 (220) 11:30:24.160    51.995  -174.124   33.00   4.5 R  ANDREANOF IS., ALEUTIAN IS.
95 08 10 (222) 21:28:00.200    52.227  -169.633   60.00   4.0 R  ANDREANOF IS., ALEUTIAN IS.
95 08 15 (227) 21:16:46.720    59.957  -153.114  126.30   4.3 R  ANDREANOF IS., ALEUTIAN IS.
95 08 16 (228) 17:19:16.710    51.296  -167.06   33.00   5.0 R  FOX ISLANDS, ALEUTIAN IS.
95 08 16 (228) 21:28:00.200    50.632  -176.125   33.00   5.3 R  RA T ISLANDS, ALEUTIAN IS.
95 08 17 (229) 05:03:00.600    50.447  176.258   33.00D  4.1 R  RA T ISLANDS, ALEUTIAN IS.
95 08 18 (230) 09:18:06.210    53.685  -163.812   33.00   4.2 R  UNIMAK ISLAND REGION
95 08 18 (230) 09:24:40.100    54.085  -164.089   33.00D  4.1 R  UNIMAK ISLAND REGION
95 08 19 (231) 11:57:12.060    64.650  -148.323   13.80   4.5 R  ANDREANOF IS., ALEUTIAN IS.
95 08 20 (232) 02:21:02.600    51.300  179.655   33.00D  4.3 R  ANDREANOF IS., ALEUTIAN IS.
95 08 21 (233) 13:46:26.410    52.164  -174.697   57.50   4.4 R  ANDREANOF IS., ALEUTIAN IS.
95 08 22 (234) 02:21:58.500    53.687  -163.801   33.00D  4.3 R  ANDREANOF IS., ALEUTIAN IS.
95 08 23 (235) 11:57:12.060    64.650  -148.323   13.80   4.5 R  ANDREANOF IS., ALEUTIAN IS.
95 08 24 (236) 21:44:59.010    51.576  -173.801   33.00   4.9 R  ANDREANOF IS., ALEUTIAN IS.
95 08 25 (237) 11:57:12.060    64.650  -148.323   13.80   4.5 R  ANDREANOF IS., ALEUTIAN IS.
95 08 26 (238) 02:21:02.600    51.300  179.655   33.00D  4.3 R  ANDREANOF IS., ALEUTIAN IS.
95 08 27 (239) 13:46:26.410    52.164  -174.697   57.50   4.4 R  ANDREANOF IS., ALEUTIAN IS.
95 08 28 (240) 02:21:58.500    53.687  -163.801   33.00D  4.3 R  ANDREANOF IS., ALEUTIAN IS.
95 08 29 (241) 08:16:41.100    52.485  173.327   33.00D  4.3 R  ANDREANOF IS., ALEUTIAN IS.
95 08 30 (242) 00:54:51.400    55.905  -159.691   33.00D  4.0 R  ANDREANOF IS., ALEUTIAN IS.
95 08 31 (243) 08:20:55.430    69.360  -147.151   34.53   5.0 R  ANDREANOF IS., ALEUTIAN IS.
95 08 31 (243) 10:31:15.920    69.268  -147.349   31.65   4.2 R  ANDREANOF IS., ALEUTIAN IS.
95 08 31 (243) 13:32:01.790    59.369  -150.992   41.05   4.0 R  ANDREANOF IS., ALEUTIAN IS.
95 08 31 (243) 22:12:14.000    51.761  -175.672   33.00D  4.2 R  ANDREANOF IS., ALEUTIAN IS.

APPENDIX 1.

Earthquakes with a magnitude of 4.0 and greater.
This listing is a subset of earthquakes from the complete monthly listing.
APPENDIX 2.
Known or suspected quarry blasts located by the AEIC.
This listing is a subset of earthquakes from the complete monthly listing.

<table>
<thead>
<tr>
<th>DATE</th>
<th>LAT</th>
<th>LON</th>
<th>DEPTH</th>
<th>MAG</th>
<th>RMS</th>
<th>SEH</th>
<th>SEZ</th>
<th>GAP</th>
<th>PHASES</th>
<th>MIN</th>
<th>Q</th>
<th>T</th>
<th>REGION</th>
</tr>
</thead>
<tbody>
<tr>
<td>95 08 17</td>
<td>63.904</td>
<td>-148.986</td>
<td>2.18</td>
<td>2.1</td>
<td>0.27</td>
<td>2.42</td>
<td>13.49</td>
<td>73.0</td>
<td>17</td>
<td>19.35</td>
<td>D</td>
<td>Q</td>
<td>CENTRAL ALASKA</td>
</tr>
<tr>
<td>95 08 19</td>
<td>63.937</td>
<td>-148.832</td>
<td>10.54</td>
<td>1.5</td>
<td>0.49</td>
<td>7.56</td>
<td>8.89</td>
<td>63.0</td>
<td>17</td>
<td>23.35</td>
<td>D</td>
<td>Q</td>
<td>CENTRAL ALASKA</td>
</tr>
</tbody>
</table>