SAMPLES FROM BINDER'S LOGFILE: A SUCCESSFUL STACK
Five picks stack to declare a new earthquake
(quality 0 picks have stacking weight= 4, event threshold=18)

STACKING PHASE

pick-quality field of TYPE_PICK2K message; quality=0 yields stacking weight=4 for this run

```
   10   6   3 3640 HGS   NCVHZ D0  19991004003915.29     1519     1809     1580
```
← raw TYPE_PICK2K message
```
19991004_UTC_00:39:20 grid_stack, mhit = 0
```
← result of stacking attempt: maximum hit count, mhit=0, means that this pick stacked with no other recent picks.
```
   10   6   3 3641 HCA   NCVHZ U0  19991004003915.00      370      478      250
19991004_UTC_00:39:20 grid_stack, mhit = 8
```
← next stacking attempt: mhit=8 tells us that this pick (stack weight=4) combined with another pick or picks (combined stack weight=4).
```
   10   6   3 3642 HFE   NCVHZ U0  19991004003915.56     1418     1732     1704
19991004_UTC_00:39:21 grid_stack, mhit = 12

   10   6   3 3643 HCR   NCVHZ D0  19991004003916.21     1233     1385     1166
19991004_UTC_00:39:21 grid_stack, mhit = 16

   10   6   3 3644 HLP   NCVHZ U0  19991004003916.39     1203     1475      855
19991004_UTC_00:39:21 grid_stack, mhit = 20
```
← next stacking attempt: mhit=20 is over the event threshold! Declare new event!

LOG of a SUCCESSFUL STACK

Grid counts, depth = 10.0 km. ← graphic of one layer (depth =10.0 km) of stacking grid will follow
```
44444444444444444444444444444488888884448ccccccggggggg
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44444444444444444444444444444488888844448ccccccggcccccc
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44444444444444444444444444444448kg888844444444444444
44444444444444444444444444444*44ck88444444444444444444
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44444444444444444444444444444884cc844444444444444444444
44444444444444444444444444488844cc84444444444444444444
44444444444444444444444488888448c8884444444444444444444
44444444444444444444488888444888888844444444444444444
44444444444444444488888884448888c8844444444444444444
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44488888888888888444444444888888c88888ccccccc8888484444
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```
This block of lines is a graphical representation (map view) of one depth layer of the stacking grid. Only the stacking area around the initiating pick is shown, not the entire stacking grid. Each character represents the maximum hit count (0-9=0-9, a-z=10-35) of one grid cell in this layer. The asterisk marks the grid cell that contains the initiating pick. The depth layer shown (here it's10 km) will always contain at least one grid cell having the maximum hit count (here it's 20=k) for the successful stack.

```
  hit[0] = 77 126 2
  hit[1] = 77 126 3
  hit[2] = 77 126 4
  hit[3] = 78 126 4
```
These lines list the array indices of all of the grid cells which had the maximum hit count (=20) for this stack. The average of the center points of these cells will be passed to the locator as the event's starting (or stacking) location.
```
  starting location 1999Oct 4   39 12.26 37.0540 -121.4601 15.0
grid_stack : npix = 5
```
← 5 picks contributed to the maximum hit count for this stack

EVENT LOCATION

```
  iter :  0   Start          0.09   37.0540  -121.4601   15.00
  iter :  1   Free           0.02   37.0415  -121.4678   10.00
  iter :  2   Free           0.02   37.0416  -121.4667    9.68
  iter :  3   Free           0.02   37.0416  -121.4667    9.69
```
One line for the result of each iteration in the locator:
iter : iteration# solution-type event-rms lat lon depth
```
19991004_UTC_00:39:21   hyp : 51090925 1999Oct 4   39 13.02  37.0416 -121.4667   9.69    5
```
final location: hyp : eventid yearmondy hrmn sec lat lon depth #picks
```
  par : dmin = 2.4, ravg = 9.1, gap = 124.2
  pck : HGS   NCVHZ P  0D  6.20  15.29 -0.00 <1.00>
  pck : HCA   NCVHZ P  0U  2.39  15.00 -0.00 <1.00>
  pck : HFE   NCVHZ P  0U  8.59  15.56  0.00 <1.00>
  pck : HCR   NCVHZ P  0D 13.96  16.21 -0.09 <1.00>
  pck : HLP   NCVHZ P  0U 14.54  16.39  0.00 <1.00>
```
One line for each pick associated with the event:
pck : SNC phs quality fm dist arr-secs residual <location-weight>
where SNC = site network component codes, phs = phase assigned by binder (P,Pg,Pn,S,Sg,Sn), fm= first motion, arr-secs = seconds portion of arrival time.
```
  rms :   0.02, dmin =   2.39
```
← Event's final rms residual and distance to its closest station.