NOvA Data Driven Trigger - Feature #8202

Add RawMilliBlockHeader to the Event Data Stream

03/30/2015 04:54 PM - Jan Zirnstein

Status:	New		**Start date:**	03/30/2015
Priority:	Normal		**Due date:**	
Assignee:	Jan Zirnstein		**% Done:**	0%
Category:			**Estimated time:**	8.00 hours
Target version:				

Description

Would be neat to have access to the RawMilliBlockHeader information.

Specifically I will create a new function in NovaDDTHitProducer_module.cc which will fill the RawMilliBlockHeader information based on the RawMilliBlock filled by the NovaDDTHitProducer::populateMilliBlock function.

The struct is defined in DAQDataFormats/RawMilliBlockHeader.h:

```
struct RawMilliBlockHeader {
uint32_t    total_bytes;
uint32_t    seqNum;
uint64_t    timeStart;
uint64_t    timeEnd;
struct    { uint16_t        incomplete:1;
uint16_t        truncated:1; // if some slcs drop b/c shm too small
uint16_t  overflowCorruption:1;
uint16_t        unused:13;
int16_t        expected_count; // for Far Detector, the number is expected to be 198
}        flags;
uint32_t    millislice_count;
// the first RawMilliSlice follow immediately after the end of this structure in memory
};
```

The flags.expected_count is not populated, but we could hardcode it to 168 (14 diblocks * 12 DCMs) which should be the number for FD.

The 13 unused bits will remain just that, unused.