ARKXXII/2 Carbon Measurements

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Abstract

This document outlines the procedures followed in collection and analysis for DIC and TAlk of seawater samples during Polarstern cruise ARKXXII/2 and the subsequent processing of the results. Some of the various considerations during data processing are discussed, as well as the basic workings of the MATLAB-routines that were programmed specifically to facilitate rapid but thorough and well-documented processing of the measurements. Scripts are included verbatim, as are several figures and an extensive table containing raw and processed results. Briefly, sampling was performed according to DOE1994, but analysis follows DOE1994 less stringent. An assessment of data quality is presented at the end of this document. Although the measurement system was not absolutely calibrated, resulting data is very well correctable through the use of CRM, after which data is deemed to be of reasonably high quality.

Contents

1 Metadata

Name of cruise: ARKXXII/2

Research vessel: F/S Polarstern

Time: 28 July (Tromsoe) to 10 October 2007 (Bremerhaven)

Working area: Eurasian Arctic

Parameters: Total alkalinity (TAlk) and dissolved inorganic carbon (DIC)

Analyst: Sven Ober (RoyalNIOZ, The Netherlands)

Analyzer: VINDTA #14 (owned by NIOZ)

Data processing: Steven van Heuven (University of Groningen, The Netherlands)

# of samples analyzed: 453

# of stations sampled: 40

# of CRM analyses: 140 (70 bottles, two subsequent runs from each bottle).

2 Analytical methods

2.1 Sampling procedure

Samples were collected in 250ml borosilicate bottles following DOE1994. Samples were poisoned with HgCl, closed with ground glass stoppers, using grease and rubber bands and stored dark and cold until analysis. All samples were analyzed on board, within 8 weeks after sampling. A correction for the diluting effect of adding HgCl is performed, but the headspace equilibration correction (ΔD) is not, because the atmospheric concentration of CO_2 in the rosette tapping room was not known. Since headspace volume was consistently very low ($\sim$1% of sample volume), no influence on DIC of more than .5 µmol/kg is expected.

2.2 Analyzer description

Samples were analyzed on a VINDTA 3C (Versatile Instrument for Determination of Titration Alkalinity) type 3C, developed and built by Dr. Ludger Mintrop, MARIANDA, Kiel, Germany. This device concurrently performs a potentiometric alkalinity titration and a coulometric DIC titration (see DOE1994 and references therein). Calculations performed by the VINDTA at time of measurement were considered to be preliminary, because of a lack of accurate salinity and nutrient values, which are required for these calculations. Storage of all raw titration results allowed for post-cruise recalculation of all results.

2.3 Analysis procedure

Samples were allowed to reach analysis temperature by being placed in a waterbath of 25.0ºC for $\sim$1 hour. Sample bottle stoppers were removed immediately prior to insertion of the sampling line to the machine. Samples were drawn towards the machine by a peristaltic pump. Although a slight underpressure is generated in the sampling line in this way, no excessive bubble formation (dissolved gas being 'pulled out of solution') was observed. Sample was first used to rinse and fill the DIC pipette, and after that to rinse and fill the TAlk pipette. Care was taken to avoid sample carry-over (by separating subsequent samples by a small volume of air). Measurements were not performed around the clock, but mainly during daytime. In order to set the measurement accuracy, Certified Reference Material was analyzed at least twice during a measurements day: after the coulometric cell was successfully started (i.e., after a suitable number of dummy runs were performed and coulometer blank level was stable), and shortly before the end of the day. Occasionally CRM was analyzed halfway the day as well.

2.4 DIC-specific remarks

DIC determinations were performed using the standard coulometric method, using a UIC model 5011 coulometer. No current-to-frequency calibration has been performed either pre- or post-cruise, and an inaccuracy may be present in the coulometric data, up to 0.5% (i.e., 10 μmol/kg) in either direction. Also, no highly accurate determination of pipette volume has been performed, but pipette is known to have been 19.5$\pm$0.1 ml (accuracy thus $\sim$0.5% i.e., $\sim$10 μmol/kg). These errors are expected to have been very constant during the course of the cruise, and both have a linear effect on the measured values and are therefore exactly correctable by the use of CRM. No gas-loop calibration was used.

2.5 TAlk-specific remarks

TAlk determinations were performed by an acid titration that combines aspects from both the commonly used 'closed cell' method and the 'open cell' method, following the VINDTA's standard settings. Batches of acid were carefully prepared to be 0.1M, but no determinations of the exact acid strengths were performed (error assumed to be <0.25% i.e., $\sim$6 μmol/kg). Also, no highly accurate determination of pipette volume has been performed, but pipette is known to have been 97.0$\pm$0.5 ml (accuracy $\sim$0.5% i.e., $\sim$12μmol/kg). Burette (on a Metrohm Titrino model 719) volume was determined post cruise to be exactly 5.00ml to within 0.1% (i.e., $\sim$0.2μmol/kg). New electrodes from Metrohm (reference) and

Orion (measurement) were used, but no formal assessment of their quality (E^0, Nernst response) was performed[1]. Significant and unquantifiable inaccuracies may therefore be present in the final dataset.

[1]Please note that even when correcting values to CRM-results, a non-Nernstian electrode will yield inaccurate values on samples with TAlk values different from those of the CRM!

3 Post-cruise data processing

A suite of flexible MATLAB scripts was developed to assist in thorough though rapid processing of CO_2-system data gathered during oceanographic expeditions. The scripts as they are detailed here are a customized version (specific to the particular format of the data gathered on this cruise) of the more general scripts. The following subsection will explain the basic workings of each routine

3.1 vindta222_loadvindtafile

This scripts loads the dataset output by the VINDTA CO_2-analyzer. This contains such variables as runname, runtime, the sample's station, cast and depth values, CRM batch numbers, etc. The DIC and TAlk values calculated by the VINDTA at the end of analysis runs are loaded as well, although these will later on be overwritten with values recalculated from the raw coulometer and titration results and the final salinity and nutrients data.

3.2 vindta222_loadbottlefile

This scripts simply loads a cruise's bottlefile, which in this case formatted as an ODV spreadsheet. For each oceanographic sample that was collected during the cruise, station-, cast- and bottle numbers and values of salinity, phosphate and silicate are stored in memory.

3.3 vindta222_loadlogfile

This script loads the coulometric logfile generated by the VINDTA's software, associated with DIC-related actions performed by the VINDTA. It contains all coulometer readings that were acquired during the cruise and some associated values (runname, time, etc.). This information was used to calculate the coulometer's blank level (and standarddeviation of that) for each run, by averaging the coulometer increments that were recorded after the carbon peak had been titrated away. To be sure none of the titration peak was accidentally taken into this calculation, averaging was performed for minutes 6 through 14 (which was always the end of each DIC run, roughly coinciding with the end of the TAlk determination of the same sample). For each run, the calculated values for blank and blank_std are stored.

3.4 vindta222_findrawtitfiles

This scripts browses through the VINDTA's output directories, storing names and dates of these files. This information will be used to match the raw titration data to the data that was collected earlier in the process.

3.5 vindta222_matchbottledata

This scripts matches to each of the CO_2-system analyses performed on the VINDTA, the associated chemical and physical parameters (that were loaded in the previous step) by comparing station- cast- and bottlenumber between the two datasets. After this step, accurate salinity, phosphate, silicate, are thus associated with the VINDTA runs.

3.6 vindta222_matchblanks

Somewhat analogous to the previous step, this scripts matches the information about per-run coulometer blank level (collected in the first step), to the VINDTA runs.

3.7 vindta222_matchrawtitdata

Again analogous to earlier steps, this scripts matches the raw potentiometric titration results to the VINDTA runs, this time on the basis of the timestamp that is known for each run, assuming that the raw results were be written approximately 20 minutes after the start of an analysis. If the software cannot make a definitive match, user input confirmation is required.

3.8 vindta222_setbaseline

Plotting the calculated per-run baseline (see 4.3) against time, clearly reveals both trends and noise in the coulometer's per-run blank value. Some of this noise is of course associated with the stochasticity of the per-minute increments. It was determined preferable to set the per-run level manually, smoothing out that variability, but remaining close the actually observed vales. Note that this is different from the standard method of setting a blank level prior to doing the actual runs, in which case the set blank may not correspond closely to the actual values observed during the day. This scripts plots observed blank levels (and blank_stds) against time and allows the user to graphically define a line that overrules the observed values. This level is allowed to gradually in- or decrease with time if the per-run blank level strongly suggests this to reflect the actual coulometer behavior (as is for instance visible at the third measurement series. This step does require some understanding of (or rather éxperience with) the behavior of coulometric systems. DIC-results are flagged as q̈uestionablewẗhen they are obtained in a run that had a baseline that was more than one standard deviation away from the user-set baseline *or* that was higher than a certain threshold (set to 160cpm) *or* that had a standard deviation higher that a certain threshold (set to 80cpm). Please refer to figure 1 for an overview of the observed blanks, and the user-set blank that were used for calculations.

3.9 vindta222_recalculatedic

Since the original calculations of DIC, performed by the VINDTA upon completing each analysis, are invalid since the user manually set the baseline levels (see 4.8), a recalculation is required. Pipette volume, electronic calibration of the coulometer and the gas loop calibration are set in this script, all potentially as a (stepwise) function of time. The script subsequently performs the DIC calculation using pipette volume, sample density, rawcounts, blank level, run duration and coulometer- and gas loop calibration.

3.10 vindta222_recalculatetalk

For each run, raw titration data is read from disk. Now that for each run all information required to precisely (re-)calculate TAlk is available (salinity, pipette volume, sample temperature, PO4, Si, electrode readings, acid volumes, acid salinity, acid concentration, etc.), a recalculation of TAlk is performed using the VINDTA_CALC_ALK routine, which is not covered here. The output of these routines is stored.

3.11 vindta222_flagbadcrms

Although care is taken to waste as little CRM as possible, these runs do occasionally fail. If the failure is obvious (caused by analyzer breakdown for instance) a rerun may be performed, but not-so-obvious runs may end up as valid in the dataset. This scripts graphically display results from all CRM runs (as deviations from the certified values) vs. time. Slow drifts through time are easily observed this way (for instance caused by the slow weakening of titration acid will slowly alter the TAlk's deviation). Obvious outliers are assumed not to represent the actual long term-deviation of the analytical setup but rather result from problems with sample handling. The script allows the user to graphically indicate these runs, upon which they will be flagged as b̈adänd not subsequently used.

3.12 vindta222_correctcrmsdic

This script is probably the one that is of most influence to the final DIC results. The user is presented a figure displaying the CRM deviations (that is, the ratio between the CRM measurement and its certified value) versus time, three subsequent measurement periods (i.e., three days) at a time. This gives a quick overview of the changing response of the setup through time.

Because CRM's were only run early and late in the day (occasionally halfway, too), the changing response cannot be traced exactly, but will have to be interpolated between the 2 (or 3) known values. Various formal ways of doing this exist, from simply averaging the two (or three) value and assuming no change during the day, through linear interpolations, to complicated curve fits taken the average behavior of the system into account. This routine is potentially flexible in that it allow the user to define *any* curve he can come up with. Of course, the user must try to follow his expert's judgement when

define this curve. To avoid ǵoal-seekingb́y the user, no feedback on the proposed correction of the final DIC values is given.

After a curve is satisfactorily defined for a particular day, the figure shifts sideways and input for the next period is asked. See figure (2) for the final result for this particular dataset. User-defined correction curves are subsequently used to calculate the final DIC values.

3.13 vindta222_correctcrmstalk

This script is identical to the previous one, except that it works on the TAlk data.

3.14 vindta222_flagbadsamples

This script presents the user with two figures displaying the final values of DIC (or TAlk) vs. depth profiles of all samples that have not already been flagged as b́ad; Obvious outliers can then be selected by the user and be flagged as b́ad; which removes them from the figure, which makes for a highly convenient way of flagging data,

3.15 vindta222_updatebottlefile

This script appends the final DIC and TAlk values, their quality flags and a lot of associated data (correction factors, TAlk calculation details, etc.) to the already existing cruise dataset ('bottlefile'). This file is easily imported into programs such as Microsoft's Excel or ODV for further analysis or graphing of the data.

4 Analytical quality assessment

Because not all components of the system were accurately calibrated, a significant systematic error was expected to present in the results. On top of that, medium-term drift in the VINDTA's response were expected, for instance due to changing coulometric cell chemistry or variations in room temperature over the course of a day. To determine (and correct for) these accuracy errors, CRM was analyzed. During the course of the cruise, two subsequent samples were drawn and analyzed from each of a total of 70 bottles of CRM. Running two analyses from one bottle also allows for an assessment of the the precision of measurements, by means of calculating the standard deviation of all differences between these duplicates[2].

4.1 CRM DIC results: accuracy

See figure 2. Results of analyses of CRM were consistently (only) around 0.25% (i.e., $\sim 5\mu$mol/kg) higher than the certified value. Apparently, errors in pipette volume calibration and coulometer current-to-counts calibration were smaller than feared or cancelled each other out to some extent. There were, however, significant trends during days (up to $\sim 5\mu$mol/kg), and a less pronounced day-to-day variation. Both short- and medium term variation are considered to have been quite captured through the use of CRM and corrected for to a final accuracy of $\sim 2\mu$mol/kg.

4.2 CRM DIC results: precision

See figure 3. Precision for DIC, defined as the standard deviation of differences between duplicate analyses of CRM[3], is $\sim 1.5\mu$mol/kg.

NOTE: All DIC data from runs performed on the following days should be mistrusted due to high coulometer noise (see figure 1): 10–14, 17–22 (first half of the day), 26, 28, 30 and 31 of August. All other days the coulometer displayed regular behavior and data may be considered accurate and precise.

4.3 CRM TAlk results: accuracy

See figure 2. Results for CRM can be seen to vary quite smoothly through time (except during measurement days 26/08 and 29/08, which display unexplainable high drifts and off-trend values, respectively). Within-day drift of up to $\sim 4\mu$mol/kg are also clearly visible. Also shown in the figure are the correction factors applied to the oceanographic samples. Instrument drift is considered to have been corrected by use of CRM to within 0.1%-0.2%, i.e., to within $\sim$2-4μmol/kg.

4.4 CRM TAlk results: precision

See figure 4. Precision for TAlk, defined as the standard deviation of differences between duplicate analyses of CRM[4], is $\sim 1.5\mu$mol/kg.

[2] Admittedly, for DIC, duplicate analyses from a single bottle is not an optimal solution due to potential gas exchange between the CRM and the opened headspace in the 20 minutes that it takes to run the first sample. However, this effect seems to be of limited size as evident from the histogram, which suggests an average loss of CO_2 to the headspace of $\sim 1\mu$mol/kg during those 20 minutes. It needs to be pointed out that any potential variation in this rate of outgassing will lead to an overestimation of the DIC measurement precision.

[3] For DIC, 19 obviously bad measurements were excluded. 56 usable pairs of duplicates remain.

[4] For TAlk, 2 obviously bad measurements were excluded. 68 usable pairs of duplicates remain.

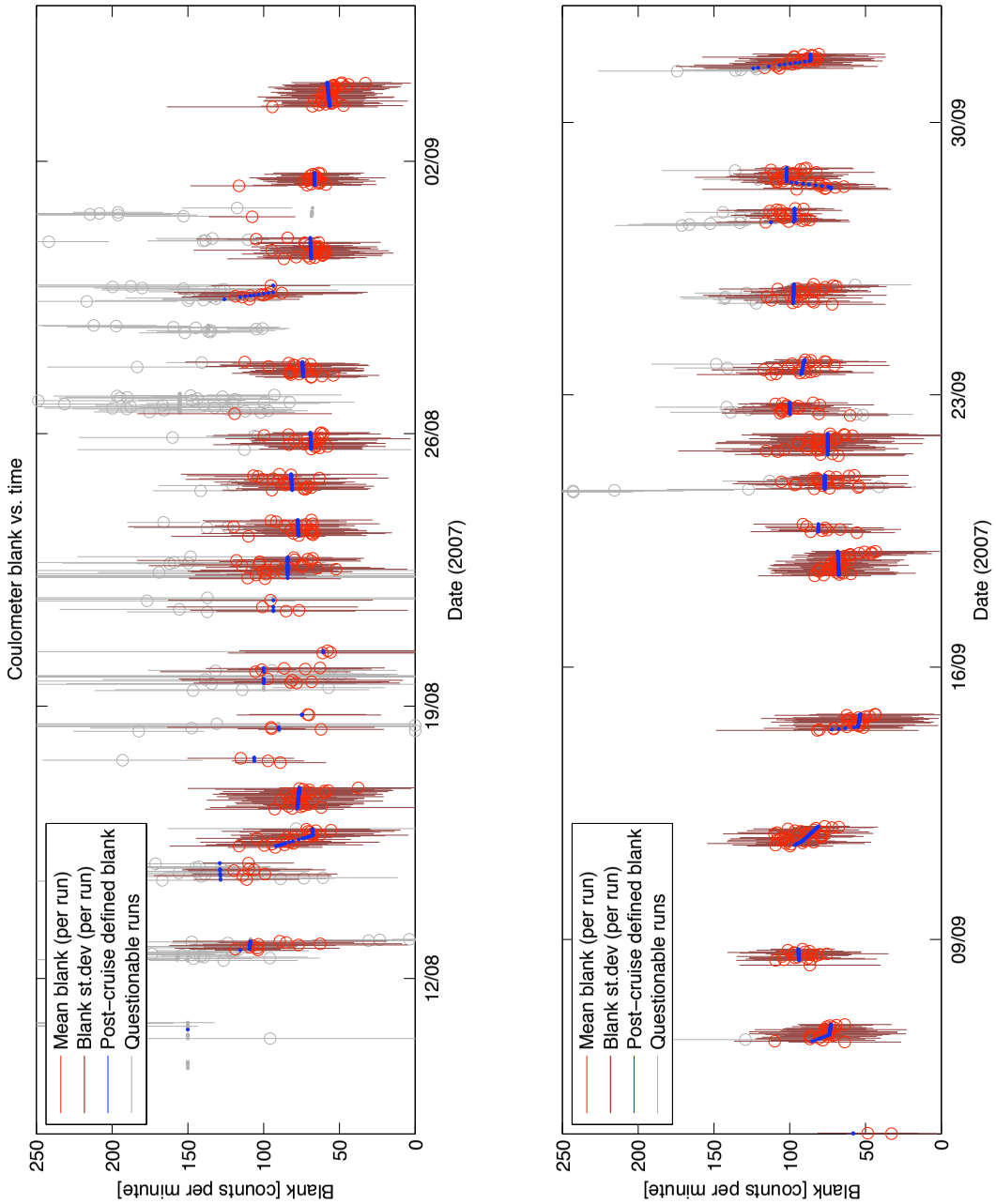

Figure 1: Timeseries of per-run- and user-set-coulometer blank levels.

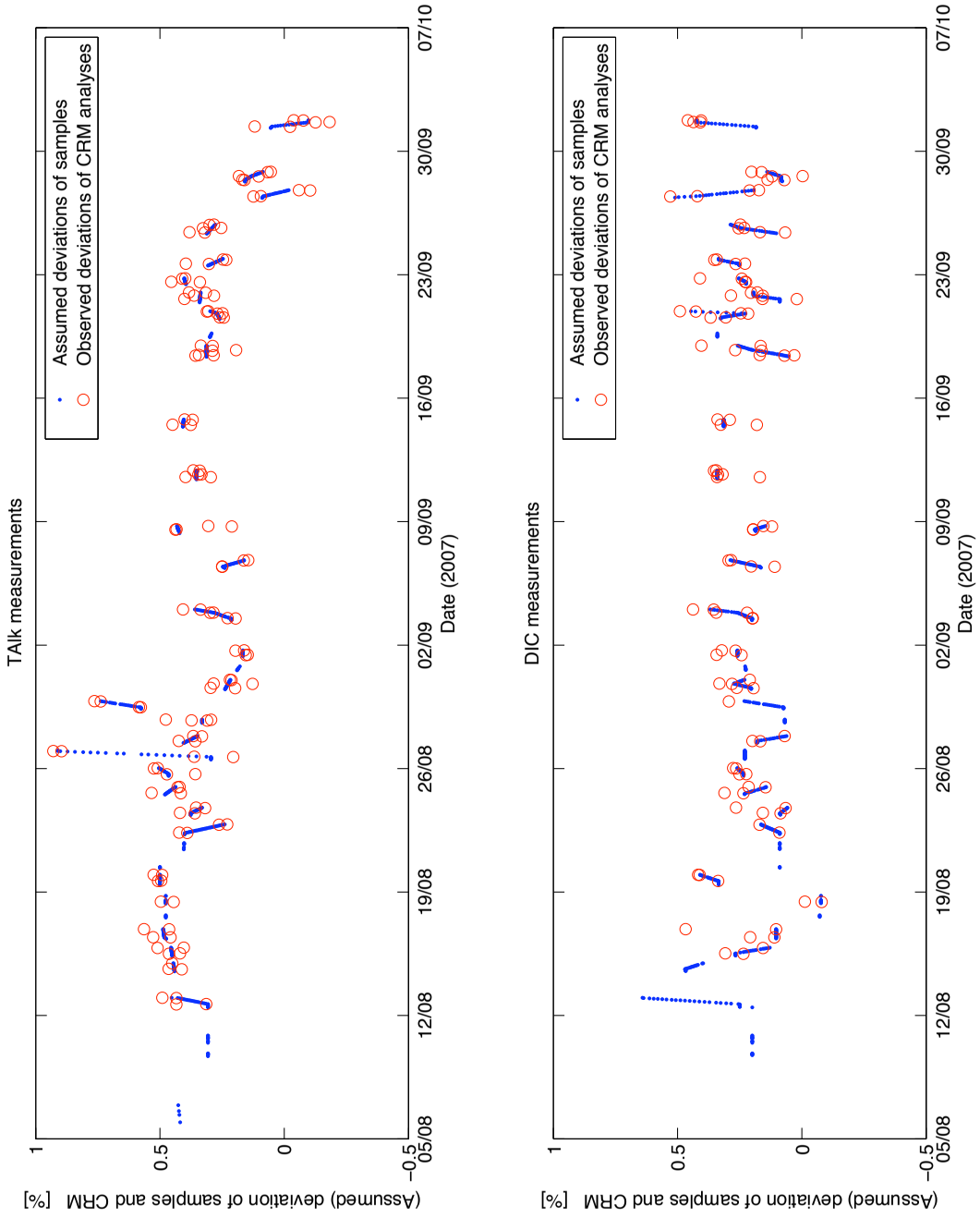

Figure 2: Timeseries of TAlk and DIC CRM deviations and user-set correction factors for samples.

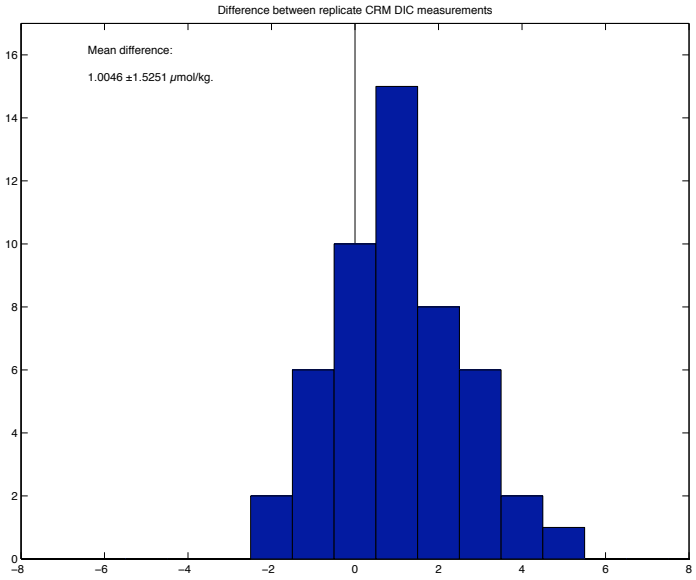

Figure 3: Histogram of differences between duplicate DIC analyses of the same CRM.

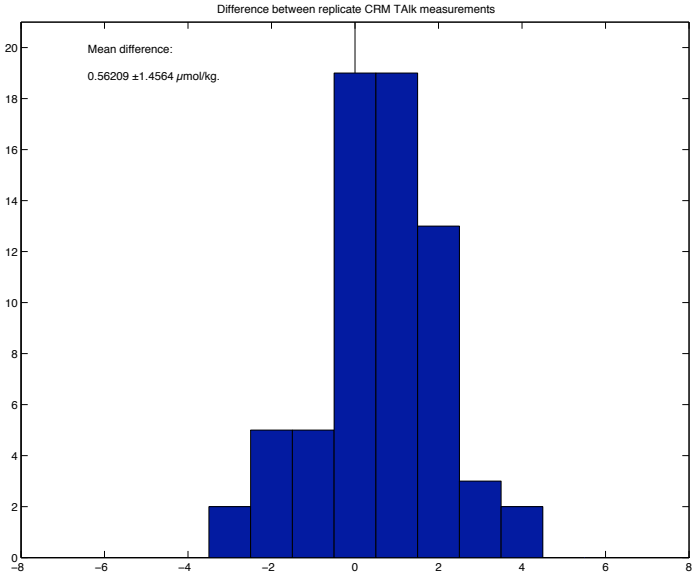

Figure 4: Histogram of differences between duplicate TAlk analyses of the same CRM.

A Appendix: Scripts

This appendix lists the scripts used in processing.

A.1 vindta222_loadvindtafile.m

```
% Load the main VINDTA file (concatenated by user in e.g. Excel)

CO2file   = 'VINDTADATA222.csv';

% Read VINDTA data...
[runname station cast niskin depth salinity rawcounts runlength blank...
    tct crmCT crmAT crmbatch at rms machine ctgood atgood rundatetimestr] = ...
    textread(CO2file,'%*q%q%d%d%d%d%*q%f%d%d%*q%*q%d%f%*q%f%*q%f%d%f%*q%f%*q%*q%*q%*q%*q%*q%*q%*q%*q%*q%u%u%u%s',...
    'headerlines',1,'delimiter',',','emptyvalue',NaN);
nos=length(at); % Number of Samples
disp(cat(2,'VINDTA data loaded. Length: ',int2str(nos))); disp(' ');

% ...and create sensible dates from/for it...
rundatetime=datenum(rundatetimestr,'yyyy-mm-dd-HH-MM');

% Define sampletypes - These are the criteria as valid during ANT24-3
sampletype = nan(nos,1);
F=station==9;                 sampletype(F)=1; % i.e., junk
F=station> 9;                 sampletype(F)=3; % i.e., regular sample
F=station==0;                 sampletype(F)=4; % i.e., CRM

% Generate some vectors
pipvolct      = nan(length(at),1);
pipvolat      = nan(length(at),1);
acidconc      = nan(length(at),1);
coulocalfacs = ones(length(rawcounts),1); % Set coulometer calc factor to 1. (since not known)
piptempct     = ones(length(at),1).*25; % Assume that sample in pipette was 25deg (which it was!)
piptempat     = ones(length(at),1).*25; % Assume that sample in pipette was 25deg (which it was!)
acidsalt      =  ones(length(at),1).*35; % TAlk titration acid salinity (g/L)

% Set pipette volumes
pipvolat(:)=97.0;
pipvolct(:)=19.5;

%Set acid strength
acidconc(:)=0.1;

clear CO2file nos F blank
```

A.2 vindta222_loadbottlefile.m

```
% Load the cruises's bottlefile

bottlefile='bottlefilegood.csv';
fid=fopen(bottlefile);

A=textscan(fid,'%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f','delimiter',',','headerlines',1);
bottlestat = A{1};
bottlecast = A{2};
bottlebotl = A{18};
bottledpth = A{11};
bottlesal  = A{14};
bottlesi   = A{22};
bottlepo4  = A{21};

% Generate sensible dates:
bottledate = datenum(A{3},A{4},A{5},A{6},A{7},0);

% Store contents for future use.
BOTTLEFILE=A;

clear bottlefile fid A
```

A.3 vindta222_loadlogfile.m

```
% This routine gathers the baseline info from VINDA logfiles.

logfile = 'logfile.bak';
disp('Make sure that the last line of each logfile is the last minute of a run! If not, just delete the rest using a texteditor.'); disp(' ')


% Read the first 4 characters of each line in the file, as well as the
disp('Fetching baseline data from logfile.'); disp(' ');
fid=fopen(logfile);  % Open datafile

AAA=textscan(fid,'%2c%s%s%*[^\n]','headerlines',0,'delimiter','\t','MultipleDelimsAsOne',1); % Read data
A=AAA{1}; % This should contain the first 2 characters of each line. 'Ti' and '16' should be recognisable in this.
B=AAA{2}; % This should contain the raw counts
C=AAA{3}; % This should contain the run names

% Find the upper and lower limit of the runs in the file
strtpos=strmatch('Ti',A,'exact')+1 ; % Since the run start one line later than the header
stoppos=strmatch('14',A,'exact');     % This will only be used to determine whether a run actually finished

F=strmatch('14',A(strtpos+13,1:2)); % find those runs that, 13 lines later, reach minute 14, rather than somewhere halfway the next run due to abort...

% Feedback to user:
disp(cat(2,int2str(size(strtpos,1)),' runs have started.'))
disp(cat(2,int2str(size(F,1)),' runs have finished.'))
disp(' ')
rr=setdiff((1:length(strtpos))',F);
for i = 1:size(rr,1)
    disp(cat(2,'Removed run no. ',int2str(rr(i)),' (somewhere near line ',int2str(strtpos(rr(i))+2.02*rr(i)),' in logfile). Did not finish.'));
end
strtpos=strtpos(F); % ... and strip them from index string.

% Set the row IDs where the names, times and counts of the succesfulruns are to be found
namepos=strtpos-3; datepos=strtpos-4;

BASELINE=cell(size(strtpos,1),6);

for i=1:length(strtpos)
    counts=B(strtpos(i):strtpos(i)+13);
    name=C{namepos(i)};
    if ~isempty(name)
        datetime=B{datepos(i)}(end-14:end);
        datetime=datenum(datetime,'mm/dd/yy   HH:MM');
    else
        disp(cat(2,'Problem with reading header of run no. ',int2str(i),' (somewhere near line ',int2str(strtpos(i)+2.02*i),' in logfile).'));
        datetime=NaN;
        name='NONAME';
    end

    cnts=nan(length(counts),1);
    for j=1:length(counts)
        cnts(j)=str2double(counts{j});
    end
    incr=diff([0;cnts]);
    BASELINE(i,:)={name cnts incr mean(incr(6:end)) std(incr(6:end)) datetime};
end

fclose(fid); disp(' '); disp('Done!'); disp(' ');
clear counts namepos strtpos rr F stoppos A B C incr cnts datetime name datepos AAA fid logfile
```

A.4 vindta222_findrawtitfiles.m

```
% Find the available raw titration data files and store info about them.

basedir='/Users/Steven/Documents/-WORK/CarboOcean/CarboOcean Cruises/ARK22-2 - Arctic Ocean/vindta222/VINDTA DATA/';

A=dir(basedir)';
dirnames={A.name}';
dirnames=dirnames(4:end);
nod=length(dirnames);
DATFILESHORTNAMESA = {};
DATFILEFULLNAMESA  = {};
DATFILEDATESA      = [];
for i = 1:nod
    datadiri = cat(2,basedir,dirnames{i});
    query    = cat(2,datadiri,'/*.dat');
    B=dir(query);
    datfileshortnames={B.name}';
    datfiledates=cell2mat({B.datenum})';
    nof=size(datfileshortnames,1);
    datfilefullnames=cell(nof,1);
    for j=1:nof
        datfilefullnames{j,1}=cat(2,datadiri,'/',datfileshortnames{j});
    end
    [datfiledates,F]=sort(datfiledates);
    DATFILESHORTNAMESA = [DATFILESHORTNAMESA;datfileshortnames(F)]; % Not preallocated!
    DATFILEFULLNAMESA  = [DATFILEFULLNAMESA ;datfilefullnames(F) ]; % Not preallocated!
    DATFILEDATESA      = [DATFILEDATESA     ;datfiledates        ]; % Not preallocated!
end

format long
nofa=size(DATFILESHORTNAMESA,1);
disp('Number of datafiles found:')
disp(nofa); disp(' ');
```

A.5 vindta222_matchbottledata.m

```
% Match bottle data to vindta runs

format short g

realsamples = find(sampletype==3);
noas = length(sampletype);  % Number of runs (all samples)
nors = length(realsamples); % Number of real samples

matchedsal = nan(noas,1);
matchedsi  = nan(noas,1);
matchedpo4 = nan(noas,1);
matcheddep = nan(noas,1);
V2Bindex   = nan(noas,1);

for i=1:nors

    sid=realsamples(i);

    vstat = station(sid);
    vcast = cast(sid);
    vbotl = niskin(sid);
%     vdpth = depth(sid);
%     vsali = salinity(sid);

    F = bottlestat==vstat & bottlecast==vcast & bottlebotl==vbotl;

%    bstat = bottlestat(F);
%    bcast = bottlecast(F);
%    bbotl = bottlebotl(F);
%    bdpth = bottledpth(F);
%    bsali = bottlesal(F);
%    bpo4  = bottlepo4(F);
%    bsi   = bottlesi(F);

    matchedsal(sid) = bottlesal(F);
    matchedpo4(sid) = bottlepo4(F);
    matchedsi (sid) = bottlesi(F);
    matcheddep(sid) = bottledpth(F);

    V2Bindex(sid)=find(F); % The location in the bottlefile where the later calculated ct and at values should be written to.

end

matchedsal(matchedsal<0) = nan; % Salinities of -9999 to be replaced with nan (but not '0', so as not to overwrite the CRM's salinities later on)
matchedpo4(matchedpo4<0) = 0;   % When nutrients are from a different cast then the co2 data, 0 is better then -9999
matchedsi (matchedsi <0) = 0;   % When nutrients are from a different cast then the co2 data, 0 is better then -9999

F=~isnan(matchedsal); salinity(F) = matchedsal(F);
F=~isnan(matchedsi);  si(F)       = matchedsi(F);
F=~isnan(matchedpo4); po4(F)      = matchedpo4(F);
F=~isnan(matcheddep); depth(F)    = matcheddep(F);



% Set properties of CRMs
crmCT=nan(size(at));
crmAT=nan(size(at));
F=sampletype==4 & crmbatch==53; po4(F) = 0.41; si(F) = 2.1 ; salinity(F) = 33.453;  crmCT(F)=2012.03; crmAT(F)=2222.68;
F=sampletype==4 & crmbatch==70; po4(F) = 0.36; si(F) = 1.77; salinity(F) = 33.016;  crmCT(F)=1989.53; crmAT(F)=2160.46;
F=sampletype==4 & crmbatch==71; po4(F) = 0.30; si(F) = 2.1 ; salinity(F) = 33.923;  crmCT(F)=2032.84; crmAT(F)=2254.50;
F=sampletype==4 & crmbatch==73; po4(F) = 0.35; si(F) = 1.1 ; salinity(F) = 34.523;  crmCT(F)=2057.30; crmAT(F)=2253.50;
F=sampletype==4 & crmbatch==74; po4(F) = 0.22; si(F) = 1.8 ; salinity(F) = 34.739;  crmCT(F)=2085.53; crmAT(F)=2305.34;
F=sampletype==4 & crmbatch==76; po4(F) = 0.38; si(F) = 2.23; salinity(F) = 34.835;  crmCT(F)=2101.69; crmAT(F)=2314.49;

clear bottle* vstat vcast vbotl vdpth vsali F bstat bcast bbotl bdpth bsali bpo4 bsi sid i j realsamples noas nors matched*
```

A.6 vindta222_matchblanks.m

```
% Match the blank data (calculated from logfiles) to the vindta runs

SRN = runname;      % vector of Sample Run Names
SDT = rundatetime; % vector of Sample DateTimes
perrunblank     = nan(length(SDT),1); % preallocate
perrunblankstd = nan(length(SDT),1); % preallocate

LRN = BASELINE(:,1);                % LOGRUNNAME
LDT = cell2mat(BASELINE(:,6));      % LOGDATETIME
BLNK     = cell2mat(BASELINE(:,4)); % Blanks    previously calc'd from logfile
BLNKSTD = cell2mat(BASELINE(:,5)); % Blankstds previously calc'd from logfile

igood=0; % counter

for i = 1:length(LDT)
    F=SDT==LDT(i);

    if sum(F)==0;
        if isnan(LDT(i)); LDT(i)=0; end
        disp(cat(2,'0 matches found for ',LRN{i},' at ',datestr(LDT(i),0))); disp(' ');
        continue
    end

    % If the found match has the matching names, too, then accept and continue
    if strcmp(LRN{i},SRN{F})
        perrunblank(F)=BLNK(i);
        perrunblankstd(F)=BLNKSTD(i);
        igood=igood+1;
        continue
    else % else ask user input
        disp(cat(2,'Badly-named match found for ',LRN{i},' at ',datestr(LDT(i),0),': ',SRN{F}));
        %               xxx1=[i-2:i+2];
        %               xxx2=[(find(F)-2):(find(F)+2)];
        %
        %               disp(' '); disp('Trying to find a match for the 3rd one of these runs (as from LOGFILE.BAK):')
        %               for j=1:5; disp(cat(2,int2str(j),': ',LRN{xxx1(j)})); end; disp(' ');
        %
        %               disp('Files around match:')
        %               for j=1:5; disp(cat(2,int2str(j),': ',SRN{xxx2(j)})); end; disp(' '); disp(' '); disp(' ');
        %
        %               answer=input(cat(2,'Please select correct match for ',LRN{i},' (1 through 5) : [3] '),'s');
        %               answer=str2num(answer);
        %               if isempty(answer)
        %                   disp('no answer, set 3'); answer=3;
        %               elseif answer>5 | answer<1
        %                   disp('bad value, set 3'); answer=3;
        %               end
        %               F=xxx2(answer);
        disp(cat(2,SRN{F},' selected.'));
        perrunblank(F)=BLNK(i);
        perrunblankstd(F)=BLNKSTD(i);
        igood=igood+1;
    end
end

disp(cat(2,'Matching succes rate (%): ',num2str((igood/length(LDT))*100),'.'));
disp(cat(2,'Matches not found: ',num2str(length(LDT)-igood),'.'));

clear BLNK igood LDT SRN SDT LRN z i j F
```

A.7 vindta222_matchrawtitdata.m

```
% Match the files containing raw titration data (found earlier) to the vindta runs

format long g

SRN = runname;      % SAMPLERUNNAME
SDT = rundatetime; % SAMPLEDATETIME

MATCHEDFILENAMESSHORT = cell(length(runname),1);
MATCHEDFILENAMESFULL  = cell(length(runname),1);

DRNS = DATFILESHORTNAMESA;
DRNF = DATFILEFULLNAMESA;
DDT  = DATFILEDATESA;

F=sampletype>0; %(sampletype==3 | sampletype==2);
SID=find(F); % Sample ID's
nos=length(SID);

% for each of the samples, try to find a matching .dat-file
for j = 1:nos
    sid=SID(j);

    srn=SRN(sid); % name of the sample under consideration
    sdt=SDT(sid); % datetime at beginning of the run. .dat-file is written 20 minutes later, so ddt is always larger than the associated sdt

    timediff=DDT-sdt-1/(24*6);
    timediff(timediff<0)=nan;
    F=find(timediff==min(timediff));

    drns=DRNS{F};
    drnf=DRNF{F};
    ddt=DDT(F);
    dt=(ddt-sdt)*24*60;

    if isempty(strfind(drns,cell2mat(srn))) && dt>23
        disp(['Unsuccesfully tried to match "' cell2mat(srn) '". Closest match in time was "' drns '"'])
        disp([int2str(dt) ' minutes'])
        disp(datestr(sdt))
        disp(datestr(ddt))
        FF=[F-10:F+10]';

        for k = 1:21
            disp(cat(2,int2str(k),'    ',DRNS{FF(k)}));
        end
        answer=input('please pinpoint the right file - ');
        F=FF(answer);
        drns=DRNS{F};
        drnf=DRNF{F};
        ddt=DDT(F);
        dt=(ddt-sdt)*24*60;
        disp(['Matched "' cell2mat(srn) '" to "' drns '". Timediff was ' int2str(dt) ' minutes']); disp(' '); disp(' '); disp(' '); % pause
    else
                    disp(['Matched "' cell2mat(srn), '" to "', drns '". Timediff was ' int2str(dt) ' minutes'])
    end
    MATCHEDFILENAMESSHORT(sid,1) = {drns};
    MATCHEDFILENAMESFULL(sid,1)  = {drnf};

end

clear SRN SDT DRNS DRNF DDT F SID nos j sid srn sdt timediff F srns srnf ddt dt k FF answer
```

A.8 vindta222_setbaseline.m

```
a=[1 2 3 3 4 5 6 6 6 7 8 9 9]% Let user specify the blank level (to use in calculating DIC later on)

% Initialize figure
figure('Position',[1 200 1400 700],'Color','w','PaperOrientation','Landscape','Toolbar','none','Menubar','none'); clf;

% Determine the coulometric cells' start sampledatetimes from file
drdt=[0;diff(rundatetime)];
F=drdt>.25; F(1)=true;
celldatetime=rundatetime(F);
celldatetime=[celldatetime;max(rundatetime)];
usersetblank = nan(length(at),1); % Preallocate a vector for user-set blank values
cdt=celldatetime;

FA=ctgood==1; % all samples
for i = 1:length(cdt)-1;
    start = cdt(i);
    stop  = cdt(i+1);
    FT=rundatetime>(start-1) & rundatetime<(stop+1); % Index for all runs in period + 1 days around

    % ***********
    % TOP PANEL
    % ***********
    subplot(2,1,1,'align'); cla;

    % Draw all blank values during this cruise for this machine
    for i = 1:length(rundatetime)
        plot([rundatetime(i) rundatetime(i)],[perrunblank(i)-perrunblankstd(i) perrunblank(i)+perrunblankstd(i)],'-','color',[.5 0 0]); hold on
    end
    plot(rundatetime,perrunblank,'ro'); hold on

    % Draw corrections from previous periods, too
    plot(rundatetime,usersetblank,'b.');

    % Draw period-markers
    ylim=get(gca,'Ylim');
    plot([start start],[ylim(1) ylim(2)],'b-','linewidth',2);
    plot([stop  stop ],[ylim(1) ylim(2)],'b-','linewidth',2);
    title('CT during cruise');
    datetick('x',19)
    set(gca,'xlim',[min(rundatetime)-1 max(rundatetime)+1]);
    set(gca,'ylim',[0 250]);

    % **************
    % BOTTOM PANEL
    % **************
    subplot(2,1,2,'align'); cla;

    % Draw corrections from previous periods
    ylim=[0 250]; F=FT;
    plot(rundatetime(F),usersetblank(F),'bo','linewidth',1,'markersize',4);  hold on

    % Draw times of measurement as gray lines
    x=[rundatetime(F) rundatetime(F)];
    y=[ones(sum(F),1).*ylim(1) ones(sum(F),1).*ylim(2)];
    plot(x',y','-','color',[.9 .9 .9]); hold on

    % Draw blank
    rdt=rundatetime(F); blk=perrunblank(F); blkstd=perrunblankstd(F);
    for j = 1:length(rundatetime(F))
        plot([rdt(j) rdt(j)],[blk(j)-blkstd(j) blk(j)+blkstd(j)],'-','color',[.5 0 0]); hold on
    end
    plot(rdt,blk,'r.-');

    % Draw period-markers
    plot([start start],[ylim(1) ylim(2)],'b-','linewidth',2);
    plot([stop  stop ],[ylim(1) ylim(2)],'b-','linewidth',2);
    title('Per-run coulometer blank. One coulometric cell period.');
    set(gca,'ylim',ylim); datetick('x',19); set(gca,'xlim',[start-2 stop+2])

    % **************
    % DONE WITH BASE PLOT
```

```
    % so now, because only runs in the period are to be regarded, redefine FT
    FT=rundatetime>start & rundatetime<stop; % Index for all runs in period
    RDT=rundatetime(FT);

    % Ask user to draw correctionline
    disp('Please draw correction line in lower panel. Press SPACEBAR or right mouse button at last point.')
    done=0;
    while done==0
        y=0; x=0; j=0; but=0; xy=[]; next=0;
        while ~(next==1 && j>1)     % while it is not true that user is done AND more than 2 points where supplied...
            [x,y,but] = ginput(1);  % ... ask for another point

            if isempty(but); but=0; continue; end

            if but==1 || but==3 || but==32;
                j=j+1;
                plot(x,y,'bo')
                xy(:,j)=[x;y];
            end

            if but==3 || but==32; next=1; end

            if j>1; h=plot(xy(1,[j-1 j]),xy(2,[j-1 j]),'k-'); hold on; end

        end

        ints=[min([start;RDT]):0.1:max([stop;RDT])];
        F=~any(diff(xy,1,2)); xy(:,F)=[]; % this line removes duplicate points
        xys=interp1(xy(1,:),xy(2,:),ints,'linear');
        h1=plot(ints,xys,'-','color',[.7 .7 1]); hold on
        ints=RDT;
        xys=interp1(xy(1,:),xy(2,:),ints,'linear');
        h2=plot(ints,xys,'b.');

        drawnow; figure(gcf)
        answer=input('Satisfied? [Y/n]  >> ','s'); figure(gcf)

        if strcmp(upper(answer),'N')
            delete(h1); delete(h2);
        else
            done=1;
        end
    end
    usersetblank(FT)=xys;
end

clear done answer h2 xys ints h1 F but j h i xy next rdt x y ylim drdt FA cdt celldatetime F start stop FT
```

A.9 vindta222_recalculatedic.m

```
% Recalculate DIC!

F=sampletype==4 & crmbatch==53; po4(F) = 0.41; si(F) = 2.1 ; salinity(F) = 33.453; % CRMct=2012.03; at=2222.68
F=sampletype==4 & crmbatch==70; po4(F) = 0.36; si(F) = 1.77; salinity(F) = 33.016; % ct=1989.53; at=2160.46
F=sampletype==4 & crmbatch==71; po4(F) = 0.30; si(F) = 2.1 ; salinity(F) = 33.923; % ct=2032.84; at=2254.50
F=sampletype==4 & crmbatch==73; po4(F) = 0.35; si(F) = 1.1 ; salinity(F) = 34.523; % ct=2057.30; at=2253.50
F=sampletype==4 & crmbatch==74; po4(F) = 0.22; si(F) = 1.8 ; salinity(F) = 34.739; % ct=2085.53; at=2305.34
F=sampletype==4 & crmbatch==76; po4(F) = 0.38; si(F) = 2.23; salinity(F) = 34.835; % ct=2101.69; at=2314.49

densSW    = sw_dens0(salinity,piptempct)./1000; % Used the Seawater library of routines. Google it!
netcounts = rawcounts-(runlength.*usersetblank);
sampmass  = (pipvolct.*densSW)./1000; % in kg
ct        = (netcounts./4824.45);     % in microgram (per sample)
ct        = ct./sampmass;             % in microgram/kg
ct        = ct.*coulocalfacs;         % in microgram/kg
```

A.10 vindta222_recalculatetalk.m

```
% Fetch raw tit data associated files and calculate TAlk

basedir='/Users/Steven/Documents/-WORK/CarboOcean/CarboOcean Cruises/ARK22-2 - Arctic Ocean/vindta222/RECALCOUTPUT/';
mkdir(basedir)

% Select subset of runs to recalc (enter '>0' for all runs)
F=sampletype>0; %(sampletype==3 | sampletype==2);
SID=find(F);     % Sample ID's
TITVOLS=cell(length(sampletype),1);
TITEMFS=cell(length(sampletype),1);
TITTMPS=cell(length(sampletype),1);

% Preallocate
at     = nan(length(at),1);
atDIC  = nan(length(at),1);
atRMS  = nan(length(at),1);
atE0   = nan(length(at),1);
atK1   = nan(length(at),1);
aciddens = nan(length(at),1); aciddens(:)=1.022;

CC=2;
showiterations=0;
showfigure=0;
savefigure=0;
counter=0;

% for each of the samples, try to find a matching .dat-file
diary(cat(2,basedir,'-titraties.txt'));
output=nan(length(SID),5);
z=0;
E0=600;
for j = SID'
    z=z+1;
    counter=counter+1;
    filename       = MATCHEDFILENAMESFULL{j};
    filenameshort  = MATCHEDFILENAMESSHORT{j};
    fid            = fopen(filename);
    data           = textscan(fid,'%n%n%n','headerlines',2); % Load only the titration data
    fclose(fid);

    % Get titration results
    titvols = data{1};
    titemfs = data{2};
    tittmps = data{3}; tittmps(:)=25;

    % Store titration results
    TITVOLS(j) = {titvols};       % Volumes of acid added    (ml)
    TITEMFS(j) = {titemfs};       % EMF readings electrode   (mV)S
    TITTMPS(j) = {tittmps};       % Temperatures             (oC)

    machinename='VINDTA C (#14)';

    if isempty(titvols)
        disp(cat(2,'*** Run ',filenameshort,' skipped due to empty datafile ***'));
        continue
    end

    tittempc=tittmps(1);
    figurefilename=cat(2,basedir,datestr(rundatetime(j),'yyyymmddHHMM'),' - ',filenameshort(1:end-4),'.pdf');
    runname=cat(2,'ARK222 - ',int2str(station(j)),'-',int2str(cast(j)),'-',int2str(niskin(j)),'-',int2str(depth(j)),'m');
    runtime=datestr(rundatetime(j));

    if ismember(counter,[0:10:length(SID)]);
        disp(cat(2,'Now processing ',runname,'. ',int2str(counter),'/',int2str(length(SID))));
    end

    [OutputGran OutputX2 SystemDetails] = ...
        VINDTA_CALCALK(titvols,titemfs,tittempc,salinity(j),po4(j),si(j),pipvolat(j),acidconc(j),aciddens(j),...
        E0,showiterations,showfigure,savefigure,figurefilename,runname,runtime,machinename);

    output(z,:)=OutputX2';
```

```
72
73      at(j)     = OutputX2(1);
74      atDIC(j) = OutputX2(2);
75      atRMS(j) = OutputX2(3);
76      atE0(j)  = OutputX2(4);
77      atK1(j)  = OutputX2(5);
78
79  end
80  nums=[1:size(output,1)]';
81  output=[nums output];
82  csvwrite(cat(2,basedir,'-output.txt'),output);
83  diary off
84  clear output OutputGran OutputX2 SystemDetails tittempc tittmps titemfs titvols filename figurefilename
85  clear runname runtime machinename TITVOLS TITEMFS TITTMPS datacounter z j SID showfigure savefigure basedir
```

A.11 vindta222_flagbadcrms.m

```
clear mean*
close('all')

machinename=['A';'B'];   % Names of machines used
colors={[1 0 0],[0 0 1],[1 .5 .5],[.5 .5 1]};
nos = length(ct);
ec  = nan(nos,1); % empty column
userhappy=0;

disp('The following batch of CRM were used:')
disp(unique(crmbatch(sampletype==4)))

% Ask user whether or not to reuse Excel's quality flags
reset=input('Reset CRM quality flags?  [y/N] --- ','s');
if lower(reset)=='y'
    disp('resetting');
    ctgood(1:end)=1;
    atgood(1:end)=1;
end

% Automatically marks the really outlandish values in the dataset
ctgood(ct<1800 | ct>2400)=0;
atgood(at<2000 | at>2600)=0;

disp('PLEASE FLAG THE OBVIOUSLY BAD CRMS!!!')

% Preload the figure
crmstdfig  = figure('Position',[1 750 1280 800],'Color','w','PaperOrientation','Landscape','Toolbar','none','Menubar','none'); clf;

% ********************************************************************
% Calculate, plot and filter CRM and STD data.
% ********************************************************************
while userhappy==0;

    % Calculate deviation from avg for CRMs, scale as percentages
    atcrmdev=(at./crmAT-1).*100;
    ctcrmdev=(ct./crmCT-1).*100;

    % Plot CRM absolute values.
    figure(crmstdfig); clf
    subplot(2,2,1);
    F=sampletype==4 & atgood==1;
    plot(rundatetime(F),at(F),'ro');
    title('AT-values of CRMs')
    set(gca,'UserData',{1 'at' F});
    subplot(2,2,2);
    F=sampletype==4 & ctgood==1;
    plot(rundatetime(F),ct(F),'ro');
    title('CT-values of CRMs')
    set(gca,'UserData',{2 'ct' F});

    % Plot CRMs deviations
    subplot(2,2,3);
    F=sampletype==4 & atgood==1;
    plot(rundatetime(F),atcrmdev(F),'ro'); hold on;
    plot(rundatetime(F),atcrmdev(F),'r-');
    title('Deviation (in %) from average CRM value for AT');
    set(gca,'UserData',{3 'at' F});
    subplot(2,2,4);
    F=sampletype==4 & ctgood==1;
    plot(rundatetime(F),ctcrmdev(F),'ro'); hold on;
    plot(rundatetime(F),ctcrmdev(F),'r-');
    title('Deviation (in %) from average CRM value for CT');
    set(gca,'UserData',{4 'ct' F});

    answer=input('Data acceptable? [Y/n] --- ','s');
    if lower(answer)≠'y'
        userhappy=0; % stays 0
        disp('Please mark samples for deletion. Click right mouse button or press [enter] when done.');
        but=1; n=1; clear squares

```

```
        % Record user-input coordinates
        while but == 1
            [x1,y1,but] = ginput(1);
            Userdata=get(gca,'Userdata');
            o1=Userdata{1};
            hold on; plot(x1,y1,'g.');
            if but==1
                [x2,y2,but] = ginput(1);
                Userdata=get(gca,'Userdata');
                o2=Userdata{1};
                plot(x1,y1,'g.');
                if o1==o2 & but==1;
                    xmin=min([x1 x2]); xmax=max([x1 x2]);
                    ymin=min([y1 y2]); ymax=max([y1 y2]);
                    ypar=Userdata{2};
                    F=Userdata{3};
                    squares(n,:)={xmin xmax ymin ymax ypar F};
                    n=n+1;
                    plot([xmin xmin],[ymin ymax],'g-',[xmax xmax],[ymin ymax],'g-',[xmin xmax],[ymin ymin],'g-',[xmin xmax],[ymax ymax],'g-');
                end
            end
        end

        % Filter out the user-marked measurements:
        for i = 1:size(squares,1)
            F=squares{i,6};
            F=eval(cat(2,'F & rundatetime > ',int2str(squares{i,1}),' & rundatetime < ',int2str(squares{i,2}),' & ',...
                squares{i,5},' > ',int2str(squares{i,3}),' & ',...
                squares{i,5},' < ',int2str(squares{i,4})));
            eval(cat(2,squares{i,5},'good(F)=0;'));
        end
    else
        userhappy=1;
        disp('Done.')
    end
end
close('all');
```

A.12 vindta222_correctcrmsdic.m

```
% Close all figures
close('all')

% Preallocate the vector that will hold the user-specified correction factors
ctfactors = nan(length(ct),1);

% Initialize figure
figure('Position',[1 200 1400 700],'Color','w','PaperOrientation','Landscape','Toolbar','none','Menubar','none'); clf;

% Determine the coulometric cells' start sampledatetimes from file
drdt=[0;diff(rundatetime)];
F=drdt>.25; F(1)=true;
celldatetime=rundatetime(F);
celldatetime=[celldatetime;max(rundatetime)];

% FS=sampletype==2 & ctgood==1 & ct>1800 & ct<2400; % FC indexes all good ct STD runs on machine k

cdt=celldatetime;

FA=ctgood==1; % all good samples
FC=ctgood==1 & sampletype==4; % all good CRMs

for i = 4:length(cdt)-1;
    dct=crmCT./ct;
    start = cdt(i);
    stop  = cdt(i+1);
    FT=rundatetime>(start-1) & rundatetime≤(stop+1); % Index for all runs in period + 1 days around

    % ***********
    % TOP PANEL
    % ***********
    subplot(2,1,1,'align'); cla;

    % Draw all dct's during this cruise for this machine
    F=FC; plot(rundatetime(F),dct(F),'ro'); hold on
    F=FA; plot(rundatetime(F),ctfactors(F),'b.');

    % Draw period-markers
    ylim=get(gca,'Ylim');
    plot([start start],[ylim(1) ylim(2)],'b-','linewidth',2);
    plot([stop  stop ],[ylim(1) ylim(2)],'b-','linewidth',2);
    title('CT during cruise');
    datetick('x',19)
    set(gca,'xlim',[min(rundatetime)-1 max(rundatetime)+1]);
%   set(gca,'ylim',[0 500]);

    % **************
    % BOTTOM PANEL
    % **************
    subplot(2,1,2,'align'); cla;

    % Draw times of measurement as gray lines
    F=FT&FA;
    x=[rundatetime(F) rundatetime(F)];
    y=[ones(sum(F),1).*ylim(1) ones(sum(F),1).*ylim(2)];
    plot(x',y','-','color',[.6 .6 .6]); hold on

    % Draw period-markers
    plot([start start],[ylim(1) ylim(2)],'b-','linewidth',2);
    plot([stop  stop ],[ylim(1) ylim(2)],'b-','linewidth',2);

    % Draw the CRM measurements
    F=FT&FC;
    plot(rundatetime(F),dct(F),'b-o','linewidth',1,'markersize',4);  hold on

    % Write titles
    title('Per-run coulometer blank. One coulometric cell period.');
    set(gca,'ylim',ylim);
    datetick('x',19);
    set(gca,'xlim',[start-2 stop+2])

```

```
72
73      % **************
74      % DONE WITH BASE PLOT
75      % **************
76
77      % Now, because only runs in the period are to be regarded, redefine FT
78      FT=rundatetime>start & rundatetime≤stop; % Index for all runs in period
79      RDT=rundatetime(FT);
80
81      % Ask user to draw correctionline
82      disp('Please draw correction line in lower panel. Press SPACEBAR or right mouse button at last point.')
83      done=0;
84      while done==0
85          y=0; x=0; j=0; but=0; xy=[]; next=0;
86          while ¬(next==1 && j>1)      % while it is not true that user is done AND more than 2 points where supplied...
87              [x,y,but] = ginput(1);  % ... ask for another point
88
89              if isempty(but); but=0; continue; end
90
91              if but==1 || but==3 || but==32;
92                  j=j+1;
93                  plot(x,y,'bo')
94                  xy(:,j)=[x;y];
95              end
96
97              if but==3 || but==32; next=1; end
98
99              if j>1; h=plot(xy(1,[j-1 j]),xy(2,[j-1 j]),'k-'); hold on; end
100
101         end
102
103         ints=[min([start;RDT]):0.1:max([stop;RDT])];
104         F=¬any(diff(xy,1,2)); xy(:,F)=[]; % this line removes duplicate points
105         xys=interp1(xy(1,:),xy(2,:),ints,'linear');
106         h1=plot(ints,xys,'-','color',[.7 .7 1]); hold on
107         ints=RDT;
108         xys=interp1(xy(1,:),xy(2,:),ints,'linear');
109         h2=plot(ints,xys,'b.');
110
111         drawnow
112         figure(gcf)
113         answer=input('Satisfied? [Y/n]  >> ','s');
114         figure(gcf)
115
116         if strcmp(upper(answer),'N')
117             delete(h1); delete(h2);
118         else
119             done=1;
120         end
121
122     end
123     ctfactors(FT)=xys;
124 end
125
126 % Correct for dilution effect of addition of 50 L HgCl (adds ¬0.4 mol/kg)
127 F=sampletype==3;
128 ct(F)=ct(F).*(250.05./250);
129
130
131 % Correct values for VINDTA response
132 ctcorrected=ct.*ctfactors;
```

A.13 vindta222_correctcrmstalk.m

```
% Close all figures
close('all')

% Preallocate the vector that will hold the user-specified correction factors
atfactors = nan(length(ct),1);

% Initialize figure
figure('Position',[1 200 1400 700],'Color','w','PaperOrientation','Landscape','Toolbar','none','Menubar','none'); clf;

% determine the days on which measurements were taken
cdt=unique(floor(rundatetime));

cdt=[floor(min(rundatetime)):4:ceil(max(rundatetime))+4];

FA=atgood==1; % all good samples
FC=atgood==1 & sampletype==4; % all good CRMs

for i = 1:length(cdt)-1;
    dat=crmAT./at;
    start = cdt(i);
    stop  = cdt(i+1);
    FT=rundatetime>(start-1) & rundatetime<(stop+1); % Index for all runs in period + 1 days around

    % ***********
    % TOP PANEL
    % ***********
    subplot(2,1,1,'align'); cla;

    % Draw all dct's during this cruise for this machine
    F=FC; plot(rundatetime(F),dat(F),'ro'); hold on
    F=FA; plot(rundatetime(F),atfactors(F),'b.');

    % Draw period-markers
    ylim=get(gca,'Ylim');
    plot([start start],[ylim(1) ylim(2)],'b-','linewidth',2);
    plot([stop  stop ],[ylim(1) ylim(2)],'b-','linewidth',2);
    title('CT during cruise');
    datetick('x',19)
    set(gca,'xlim',[min(rundatetime)-1 max(rundatetime)+1]);
    %   set(gca,'ylim',[0 500]);

    % **************
    % BOTTOM PANEL
    % **************
    subplot(2,1,2,'align'); cla;

    % Draw times of measurement as gray lines
    F=FT&FA;
    x=[rundatetime(F) rundatetime(F)];
    y=[ones(sum(F),1).*ylim(1) ones(sum(F),1).*ylim(2)];
    plot(x',y','-','color',[.6 .6 .6]); hold on

    % Draw period-markers
    plot([start start],[ylim(1) ylim(2)],'b-','linewidth',2);
    plot([stop  stop ],[ylim(1) ylim(2)],'b-','linewidth',2);

    % Draw the CRM measurements
    F=FT&FC;
    plot(rundatetime(F),dat(F),'b-o','linewidth',1,'markersize',4);  hold on

    % Write titles
    title('Per-run coulometer blank. One coulometric cell period.');
    set(gca,'ylim',ylim);
    datetick('x',19);
    set(gca,'xlim',[start-2 stop+2])


    % **************
    % DONE WITH BASE PLOT
    % **************

```

```
72      % Now, because only runs in the period are to be regarded, redefine FT
73      FT=rundatetime>start & rundatetime<stop; % Index for all runs in period
74      RDT=rundatetime(FT);
75
76      % Ask user to draw correctionline
77      disp('Please draw correction line in lower panel. Press SPACEBAR or right mouse button at last point.')
78      done=0;
79      while done==0
80          y=0; x=0; j=0; but=0; xy=[]; next=0;
81          while ¬(next==1 && j>1)      % while it is not true that user is done AND more than 2 points where supplied...
82              [x,y,but] = ginput(1);  % ... ask for another point
83
84              if isempty(but); but=0; continue; end
85
86              if but==1 || but==3 || but==32;
87                  j=j+1;
88                  plot(x,y,'bo')
89                  xy(:,j)=[x;y];
90              end
91
92              if but==3 || but==32; next=1; end
93
94              if j>1; h=plot(xy(1,[j-1 j]),xy(2,[j-1 j]),'k-'); hold on; end
95
96          end
97
98          ints=[min([start;RDT]):0.1:max([stop;RDT])];
99          F=¬any(diff(xy,1,2)); xy(:,F)=[]; % this line removes duplicate points
100         xys=interp1(xy(1,:),xy(2,:),ints,'linear');
101         h1=plot(ints,xys,'-','color',[.7 .7 1]); hold on
102         ints=RDT;
103         xys=interp1(xy(1,:),xy(2,:),ints,'linear');
104         h2=plot(ints,xys,'b.');
105
106         drawnow
107         figure(gcf)
108         answer=input('Satisfied? [Y/n]  >> ','s');
109         figure(gcf)
110
111         if strcmp(upper(answer),'N')
112             delete(h1); delete(h2);
113         else
114             done=1;
115         end
116     end
117     atfactors(FT)=xys;
118 end
119 atcorrected=at.*atfactors;
```

A.14 vindta222_flagbadsamples.m

```
% ********************************************************************
% Calculate, plot and filter sample data.
% ********************************************************************

close('all')

reset=input('Reset sample quality flags? [y/N] --- ','s');
if upper(reset)=='Y'
    F=sampletype==3;
    ctgood(F)=1;
    atgood(F)=1;
end

profilefig = figure('Position',[1 302 1280 1000],'Color','w','PaperOrientation','Landscape','Toolbar','none','Menubar','none'); clf;

userhappy=0;
while userhappy==0;
    % draw AT- and CT-plots
    get(gcf,'Children')
    figure(profilefig); clf
    ustats=unique(station(station>200));
    handles=nan(length(ustats),5);

    for i=1:length(ustats) % Plot all profiles of cruise a in light color
        subplot(2,1,1,'align');
        F = station==ustats(i) & sampletype==3 & atgood==1;
        X=atcorrected(F); Y=depth(F); [Y,I]=sort(Y); X=X(I);
        markhandleAAT=plot(X,Y,'ro','markersize',4);   hold on;
        linehandleAAT=plot(X,Y,'-','color',[1 .4 .4]);

        subplot(2,1,2,'align')
        F = station==ustats(i) & sampletype==3 & ctgood==1;
        X=ctcorrected(F); Y=depth(F); [Y,I]=sort(Y); X=X(I);
        markhandleACT=plot(X,Y,'ro','markersize',4);   hold on;
        linehandleACT=plot(X,Y,'-','color',[1 .4 .4]);

        % Generate info for per-station highlighting, later on.
        if isempty(markhandleAAT); markhandleAAT=NaN; end
        if isempty(linehandleAAT); linehandleAAT=NaN; end
        if isempty(markhandleACT); markhandleACT=NaN; end
        if isempty(linehandleACT); linehandleACT=NaN; end
        handles(i,[1:5])=[ustats(i) markhandleAAT linehandleAAT markhandleACT linehandleACT];
    end

    % Set axis limits.
    subplotIDs=get(gcf,'Children');
    subplotIDs=subplotIDs(length(subplotIDs):-1:1); % reverse this vector
    y=get(subplotIDs([1 2]),'Ylim');

    % set(subplotIDs([1 2]),'grid','on');
    set(subplotIDs([1 2]),'ydir','rev');

    % Filter out unwanted data. See 'vindtacrm' for a more advanced
    % method, involving 'Userdata'.
    answer=input('Is the bottle data acceptable? [Y/n] --- ','s');
    if lower(answer)~='y'
        userhappy=0; % stays 0
        disp('Please mark samples for deletion. Click right mouse button or press [enter] when done.');
        but=1;
        n=1;
        squares=[];
        while but == 1

            hold on
            [x1,y1,but] = ginput(1); o1=gco;
            hold on; plot(x1,y1,'g.');
            if but==1
                [x2,y2,but] = ginput(1); o2=gco;
                hold on; plot(x1,y1,'g.');

                if o1==o2 & but==1;
```

```
                    xmin=min([x1 x2]);
                    xmax=max([x1 x2]);
                    ymin=min([y1 y2]);
                    ymax=max([y1 y2]);
                    squares(n,:)=[o1 xmin xmax ymin ymax];
                    plot([xmin xmin],[ymin ymax],'g-',[xmax xmax],[ymin ymax],'g-',[xmin xmax],[ymin ymin],'g-',[xmin xmax],[ymax ymax],'g-');
                    n=n+1;
                end
            end
        end

        % Filter out the user-marked CRM AT values:
        F=find(squares(:,1)==subplotIDs(1));
        if ~isempty(F)
            for i=1:length(F)
                FF = atcorrected>squares(F(i),2) & atcorrected<squares(F(i),3) & depth>squares(F(i),4) & depth<squares(F(i),5) & sampletype==3;
                atgood(FF)=0;
            end
        end

        % Filter out the user-marked CRM CT values:
        F=find(squares(:,1)==subplotIDs(2));
        if ~isempty(F)
            for i=1:length(F)
                FF = ctcorrected>squares(F(i),2) & ctcorrected<squares(F(i),3) & depth>squares(F(i),4) & depth<squares(F(i),5) & sampletype==3;
                ctgood(FF)=0;
            end
        end

    else
        userhappy=1;
        disp('Done.');
    end
end
```

A.15 vindta222_updatebottlefile.m

```
co2file='co2correctedFINAL.csv';

data=nan(1000,8);
unqstats=unique(station(sampletype==3));
m=0;

% Find those samples that are currently still listed as good, but show dodgy blank characteristics
F = ctgood==1 & (perrunblank-perrunblankstd>usersetblank | perrunblank+perrunblankstd<usersetblank | perrunblankstd>80 | usersetblank>120 | usersetblank<5); ctgood(F)=4; % Map those

% Remap QF of 0 to 8 (ODV standard for BAD)
ctgood(ctgood==0)=8;
atgood(atgood==0)=8;

disp(cat(2,int2str(sum(ctgood==1)),' DIC-samples are rated as good!'))
disp(cat(2,int2str(sum(ctgood==4)),' DIC-samples are considered questionable...'))
disp(cat(2,int2str(sum(ctgood==8)),' DIC-samples are considered bad.'))

for i = unqstats'

    F=sampletype==3 & station==i;
    unqcasts=unique(cast(F));

    for j=unqcasts'

        F=sampletype==3 & station==i & cast==j;
        unqbots=unique(niskin(F));

        for k=unqbots'

            m=m+1; bat=nan; bct=nan; batqf=1; bctqf=1; atfound=0; ctfound=0;

            if atfound==0
                F=sampletype==3 & station==i & cast==j & niskin==k & atgood==1; % Find any good AT values
                if sum(F)>0                          % If something is found...
                    bat = nanmean(atcorrected(F)); % store value and
                    batqf=1;                         % ... set QF to good.
                    atfound=1;
                end
            end
            if atfound==0
                F=sampletype==3 & station==i & cast==j & niskin==k & atgood==4; % Find questionable AT values
                if sum(F)>0                          % If something is found...
                    bat = nanmean(atcorrected(F)); % store value
                    batqf=4;                         % ... set QF to ques.
                    atfound=1;
                end
            end
            if atfound==0
                F=sampletype==3 & station==i & cast==j & niskin==k & atgood==8; % Find BAD AT values
                if sum(F)>0                          % If something is found...
                    bat = nanmean(atcorrected(F)); % store value
                    batqf=8;                         % ... set QF to bad.
                    atfound=1;
                end
            end

            if ctfound==0
                F=sampletype==3 & station==i & cast==j & niskin==k & ctgood==1; % Find any good CT values
                if sum(F)>0                          % If something is found...
                    bct = nanmean(ctcorrected(F)); % store value
                    bctqf=1;                         % ... set QF to good.
                    ctfound=1;
                end
            end
            if ctfound==0
                F=sampletype==3 & station==i & cast==j & niskin==k & ctgood==4; % Find questionable CT values
                if sum(F)>0                          % If something is found...
                    bct = nanmean(ctcorrected(F)); % store value
                    bctqf=4;                         % ... set QF to ques.
                    ctfound=1;
                end
```

```
            end
            if ctfound==0
                F=sampletype==3 & station==i & cast==j & niskin==k & ctgood==8; % Find BAD CT values
                if sum(F)>0                         % If something is found...
                    bct = nanmean(ctcorrected(F)); % store value
                    bctqf=8;                        % ... set QF to bad.
                    ctfound=1;
                end
            end

            data(m,[1:8])=[m i j k bat batqf bct bctqf];

        end
    end
end

data=data(¬isnan(data(:,1)),:); % remove trailing empty rows
data(data==0)=8;                % Map QF's of zero to 8 (odv standard). Zero's only appear in qf columns.

% csvwrite(co2file,data)

bottlefile='bottlefilegood.csv';
fid=fopen(bottlefile);
A=textscan(fid,'%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f%f','delimiter',',','headerlines',1);
A=cell2mat(A);
sa=size(A);
A=[A nan(sa(1),4)];
ns=data(:,2);
nc=data(:,3);
nb=data(:,4);
nd=data(:,5:8);

for i = 1:sa(1)
    F = ns==A(i,1) & nc==A(i,2) & nb==A(i,18);
    if sum(F)==1;
        A(i,sa(2)+[1:4])=nd(F,:);
    elseif sum(F)>1;
        keyboard
    elseif sum(F)==0
        disp(cat(2,'No vindtasample found for "',int2str(A(i,1)),'-',int2str(A(i,2)),'-',int2str(A(i,18)),'.'));
    end
end
A(isnan(A))=-9999;
csvwrite(co2file,A)

fclose(fid);
```

A.16 vindta222_makefigs.m

```
close('all')

F=[false;diff(sampletype)]==0 & sampletype==4;
F=find(F);
ctduplos=nan(size(F));
atduplos=nan(size(F));
for i = 1:length(F)
    f1=F(i)-1;
    f2=F(i);
    if ctgood(f1)==1 & ctgood(f2)==1;
        ctduplos(i)=ct(f1)-ct(f2);
    end

    if atgood(f1)==1 & atgood(f2)==1;
        atduplos(i)=at(f1)-at(f2);
    end

end


% plot CT CRM histogram figure
figure(1); clf
set(gcf,'PaperSize',fliplr(get(gcf,'PaperSize'))); % Trick to get @
```

A.17 vindta222_tableforlatex.m

```
runnumber=[1:length(station)]';
F1=sampletype==1; F3=sampletype==3; F4=sampletype==4;
sts=cell(size(sampletype));
sts(F1)={'JNK'}; sts(F3)={'SMP'}; sts(F4)={'CRM'};

perrunblank(perrunblank>999)=nan;
perrunblankstd(perrunblankstd>999)=nan;
atRMSx=atRMS;
atRMSx(atRMSx>99)=nan;
atcorrectedx=atcorrected;
atcorrectedx(atcorrectedx>9999)=nan;

a01 = runnumber;                                  a01=num2cell(a01);
a02 = sts;
a03 = station;                    a03(¬F3)=nan;   a03=num2cell(a03);
a04 = round(depth);               a04(¬F3)=nan;   a04=num2cell(a04);
a05 = round(perrunblank);                         a05=num2cell(a05);
a06 = round(perrunblankstd);                      a06=num2cell(a06);
a07 = round(usersetblank);                        a07=num2cell(a07);
a08 = round(ct.*10)./10;                          a08=num2cell(a08);
a09 = 1./(ctcrmdev./100+1);       a09( F1)=nan;   a09=num2cell(a09);
a10 = ctfactors;                  a10( F1)=nan;   a10=num2cell(a10);
a11 = round(ctcorrected*10)/10;   a11( F1)=nan;   a11=num2cell(a11);
a12 = ctgood;                     a12( F1)=nan;   a12=num2cell(a12);
a13 = round(at*10)/10;            a13( F1)=nan;   a13=num2cell(a13);
a14 = atRMS;                      a14( F1)=nan;   a14=num2cell(a14);
a15 = 1./(atcrmdev./100+1);       a15( F1)=nan;   a15=num2cell(a15);
a16 = atfactors;                  a16( F1)=nan;   a16=num2cell(a16);
a17 = round(atcorrected*10)/10;   a17( F1)=nan;   a17=num2cell(a17);
a18 = atgood;                     a18( F1)=nan;   a18=num2cell(a18);
a19 = crmbatch;                   a19(¬F4)=nan;   a19=num2cell(a19);
a20 = rundatetimestr;

headers={'\#' 'T' 'STN' 'DPT' 'BK' '±' 'SBK' 'DIC' 'CRMfac' 'DICfac' 'DICcor'...
    'QF' 'TAlk' 'RMS' 'CRMfac' 'TAlkfac' 'TAlkcor' 'QF' 'Batch' 'Date \& time'};
data=[a01 a02 a03 a04 a05 a06 a07 a08 a09 a10 a11 a12 a13 a14 a15 a16 a17 a18 a19 a20];

datab=cell(size(data)); a=size(data);
for i = 1:a(1)*a(2);
    if isnan(data{i});
        data(i)={' '};
    end
end

data(1:20,:)
keyboard

matrix2latexsvh243(data,'../Datareport/datatableforreport.tex','columnLabels',headers);



return









runnumber=[1:length(station)]';
F1=sampletype==1; F3=sampletype==3; F4=sampletype==4;
sts=cell(size(sampletype));
sts(F1)={'JNK'}; sts(F3)={'SMP'}; sts(F4)={'CRM'};

perrunblank(perrunblank>999)=nan;
perrunblankstd(perrunblankstd>999)=nan;

a01 = runnumber;                                  a01=num2cell(a01);
a02 = sts;
```

```
a03 = station;                    a03(¬F3)=nan; a03=num2cell(a03);
a04 = round(depth);               a04(¬F3)=nan; a04=num2cell(a04);
a05 = round(perrunblank);                       a05=num2cell(a05);
a06 = round(perrunblankstd);                    a06=num2cell(a06);
a07 = round(usersetblank);                      a07=num2cell(a07);
a08 = round(ct.*10)./10;                        a08=num2cell(a08);
a09 = 1./(ctcrmdev./100+1);       a09(¬F4)=nan; a09=num2cell(a09);
a10 = ctfactors;                  a10( F1)=nan; a10=num2cell(a10);
a11 = round(ctcorrected*10)/10;   a11( F1)=nan; a11=num2cell(a11);
a12 = ctgood;                     a12( F1)=nan; a12=num2cell(a12);
a13 = round(at*10)/10;            a13( F1)=nan; a13=num2cell(a13);
a14 = atRMS;                      a14( F1)=nan; a14=num2cell(a14);
a15 = 1./(atcrmdev./100+1);       a15(¬F4)=nan; a15=num2cell(a15);
a16 = atfactors;                  a16( F1)=nan; a16=num2cell(a16);
a17 = round(atcorrected*10)/10;   a17( F1)=nan; a17=num2cell(a17);
a18 = atgood;                     a18( F1)=nan; a18=num2cell(a18);
a19 = crmbatch;                   a19(¬F4)=nan; a19=num2cell(a19);
a20 = rundatetimestr;

headers={'\#' 'T' 'STN' 'DPT' 'BK' '±' 'SBK' 'DIC' 'CRMfac' 'DICfac' 'DICcor'...
    'QF' 'TAlk' 'RMS' 'CRMfac' 'TAlkfac' 'TAlkcor' 'QF' 'CRM\#' 'Date \& time'};
data=[a01 a02 a03 a04 a05 a06 a07 a08 a09 a10 a11 a12 a13 a14 a15 a16 a17 a18 a19 a20];

datab=cell(size(data)); a=size(data);
for i = 1:a(1)*a(2);
    if isnan(data{i});
        data(i)={''};
    end
end
matrix2latexsvh222(data,'../Datareport/datatableforreport.tex','columnLabels',headers);
```

B Appendix: Data

T Sample type designator. Valid values:

SMP – Regular oceanographic sample
JNK – Junk sample
CRM – Certified Reference Material

STN Station number (only for oceanograpic samples)

DPT Depth (only for oceanograpic samples)

BK Coulometer blank during this run (as determined from titration tail) [counts/min]

± Standard deviation of coulometer blank [counts/min]

SBK Blank as determined by the user (user for calculating DIC) [counts/min]

DIC Uncorrected DIC value of this run [μmol/kg]

CRMfac Deviation of CRM DIC from certified value (DIC/certified value)

DICfac Correction factor applied to DIC values of samples

DICcor Corrected and FINAL DIC value [μmol/kg]

QF Quality flag for DIC measurement (1=good, 4=questionable, 8=bad)

TAlk Uncorrected TAlk value of this run [μmol/kg]

RMS RMS of residuals of TAlk calculation from raw titration results [μmol/kg]

CRMfac Deviation of CRM TAlk from certified value (TAlk/certified value)

TAlkfac Correction factor applied to TAlk values of samples

TAlkcor Corrected and FINAL TAlk value [μmol/kg]

QF Quality flag for TAlk measurement (1=good, 4=questionable, 8=bad)

Batch The batch number of CRMs

Date & time Date and time the run was performed

Table starts here...

#	T	STN	DPT	BK	±	SBK	DIC	CRMfac	DICfac	DICcor	QF	TAlk	RMS	CRMfac	TAlkfac	TAlkcor	QF	Batch	Date & time
1	JNK																		2007-08-05-22-46
2	JNK					150	0.0												2007-08-06-08-54
3	JNK					150	0.0												2007-08-06-13-56
4	JNK					150	0.0												2007-08-06-21-53
5	JNK				225	150	2261.0												2007-08-09-16-36
6	JNK				124	150	1185.9												2007-08-09-18-11
7	JNK				98	150	1153.3												2007-08-09-18-36
8	JNK				106	150	1121.7												2007-08-09-19-05
9	JNK			790	86	150	1036.8												2007-08-09-19-36
10	JNK			463	54	150	568.1												2007-08-09-20-01
11	JNK			406	88	150	2086.9												2007-08-09-20-31
12	JNK			96	145	150	2040.2												2007-08-10-10-55
13	JNK			325	30	150	2084.7												2007-08-10-12-27
14	JNK			324	54	150	2077.9												2007-08-10-12-54
15	JNK			330	51	150	2082.1												2007-08-10-13-19
16	JNK					150	0.0												2007-08-10-16-21
17	JNK			452	77	150	2103.0												2007-08-10-17-02
18	JNK			401	82	150	2090.0												2007-08-10-17-36
19	JNK			235	92	150	2073.9												2007-08-10-18-29
20	JNK			277	69	150	2069.4												2007-08-10-18-55
21	JNK			259	100	150	2069.1												2007-08-10-20-16
22	JNK			225	93	150	2068.5												2007-08-10-20-44
23	JNK			126	49	150	2031.7												2007-08-12-11-02
24	JNK			224	68	157	2053.5												2007-08-12-11-35
25	JNK			146	39	157	2029.7												2007-08-12-12-07
26	JNK			96	33	157	2025.1												2007-08-12-12-30
27	JNK			140	69	157	2023.2												2007-08-12-13-11
28	JNK			142	26	157	2030.8												2007-08-12-13-44
29	JNK			154	40	156	2032.4												2007-08-12-14-33
30	CRM			174	42	156	2095.6	1.002899	1.002494	2100.8	4	2304.5	3.3	1.004339	1.003067	2311.6	1	76	2007-08-12-15-01
31	CRM			146	43	149	2097.3	1.002073	1.002552	2102.7	4	2307.3	3.5	1.003136	1.003067	2314.3	1	76	2007-08-12-15-36
32	SMP	261	3700	184	53	138	2148.5		1.002846	2154.7	4	2292.8	1.9		1.003156	2300.0	1		2007-08-12-16-14
33	SMP	261	3300	121	23	131	2147.8		1.003040	2154.3	4	2291.3	1.7		1.003219	2298.6	1		2007-08-12-16-39
34	SMP	261	3501	121	50	122	2149.2		1.003265	2156.3	4	2293.2	1.9		1.003291	2300.8	1		2007-08-12-17-08
35	SMP	261	3199	104	28	115	2147.0		1.003451	2154.4	1	2290.4	2.2		1.003351	2298.0	1		2007-08-12-17-32
36	SMP	261	3000	119	30	109	2151.8		1.003715	2159.7	1	2290.4	2.1		1.003436	2298.3	1		2007-08-12-18-06
37	SMP	261	2750	104	54	109	2146.7		1.003917	2155.1	1	2290.7	2.2		1.003501	2298.7	1		2007-08-12-18-32
38	SMP	261	2500	143	55	109	2151.1		1.004126	2160.0	1	2290.0	1.6		1.003568	2298.2	1		2007-08-12-18-59
39	SMP	261	2301	109	30	109	2152.6		1.004320	2161.9	1	2290.9	2.0		1.003631	2299.2	1		2007-08-12-19-24
40	SMP	261	2301	128	50	109	2148.9		1.004514	2158.6	1	2291.2	2.1		1.003693	2299.6	1		2007-08-12-19-49
41	SMP	261	1751	107	55	109	2151.2		1.004700	2161.3	1	2288.6	2.5		1.003753	2297.2	1		2007-08-12-20-13
42	SMP	261	1501	77	72	109	2149.5		1.004886	2160.0	1	2287.8	2.7		1.003813	2296.5	1		2007-08-12-20-37
43	SMP	261	1002	103	36	109	2153.7		1.005072	2164.6	1	2290.3	2.3		1.003873	2299.2	1		2007-08-12-21-01
44	SMP	261	702	63	54	109	2149.4		1.005235	2160.7	1	2286.1	3.0		1.003926	2295.1	1		2007-08-12-21-22
45	SMP	261	502	124	37	109	2150.1		1.005444	2161.8	1	2289.9	2.5		1.003993	2299.0	1		2007-08-12-21-49
46	SMP	261	352	85	45	109	2144.3		1.005615	2156.3	1	2288.2	1.9		1.004048	2297.4	1		2007-08-12-22-11
47	SMP	261	201	147	45	109	2139.5		1.005793	2151.9	1	2286.9	2.1		1.004105	2296.3	1		2007-08-12-22-34
48	SMP	261	125	89	71	109	2133.4		1.005964	2146.1	1	2270.2	2.0		1.004160	2279.6	1		2007-08-12-22-56
49	SMP	261	101	31	47	109	2121.0		1.006134	2134.0	4	2260.8	2.2		1.004215	2270.3	1		2007-08-12-23-18
50	CRM			23	45	109	2089.7	1.005716	1.006367	2103.0	4	2304.5	3.5	1.004338	1.004290	2314.4	1	76	2007-08-12-23-48
51	CRM			4	12	109	2086.9	1.007085	1.006410	2100.3	4	2303.2	3.2	1.004906	1.004531	2313.6	1	76	2007-08-13-00-10
52	JNK			272	69														2007-08-14-12-00
53	JNK			167	64	128	2000.0												2007-08-14-12-35
54	JNK			111	35	128	2023.3												2007-08-14-13-01
55	JNK			89	30	128	2021.4												2007-08-14-13-24
56	JNK			73	21	128	2024.9												2007-08-14-13-47
57	JNK			61	50	128	2020.8												2007-08-14-14-10
58	CRM			141	41	129	2092.4	1.004430	1.004700	2102.3	4	2305.0	3.3	1.004124	1.004427	2315.2	1	76	2007-08-14-14-56
59	CRM			114	59	129	2091.3	1.004966	1.004681	2101.1	4	2303.8	3.3	1.004649	1.004429	2314.0	1	76	2007-08-14-15-26
60	SMP	266	2950	139	63	129	2150.7		1.004627	2160.7	4	2291.5	2.3		1.004432	2301.7	1		2007-08-14-16-01

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#	T	STN	DPT	BK	±	SBK	DIC	CRMfac	DICfac	DICcor	QF	TAlk	RMS	CRMfac	TAlkfac	TAlkcor	QF	Batch	Date & time
61	SMP	266	2749	99	48	129	2144.3		1.004595	2154.2	4	2288.8	2.1		1.004433	2298.9	1		2007-08-14-16-22
62	SMP	266	2500	156	61	129	2154.9		1.004527	2164.7	4	2290.4	2.2		1.004437	2300.6	1		2007-08-14-17-06
63	SMP	266	2001	144	22	129	2160.5		1.004475	2170.2	4	2290.5	2.0		1.004439	2300.7	1		2007-08-14-17-40
64	SMP	266	1751	124	54	129	2154.1		1.004434	2163.7	4	2288.6	2.4		1.004441	2298.7	1		2007-08-14-18-07
65	SMP	266	1501	120	30	129	2153.2		1.004397	2162.6	4	2288.8	2.0		1.004443	2299.0	1		2007-08-14-18-31
66	SMP	266	1351	106	47	129	2152.1		1.004357	2161.4	4	2287.2	2.3		1.004445	2297.4	1		2007-08-14-18-57
67	SMP	266	1250	110	42	129	2154.6		1.004314	2163.9	4	2288.1	2.7		1.004447	2298.3	1		2007-08-14-19-25
68	SMP	266	1000	128	43	129	2157.8		1.004263	2167.0	4	2289.8	2.6		1.004449	2299.9	1		2007-08-14-19-58
69	SMP	266	751	145	49	129	2152.7		1.004230	2161.8	4	2288.2	2.5		1.004451	2298.4	1		2007-08-14-20-20
70	SMP	266	571	142	47	129	2156.1		1.004179	2165.2	4	2289.9	2.2		1.004453	2300.1	1		2007-08-14-20-53
71	CRM			171	66	129	2105.4	0.998252	1.004007	2113.8	8	2312.9	3.9	1.000667	1.004461	2323.3	8	76	2007-08-14-22-45
72	CRM			110	30	129	2093.2	1.004050	1.003973	2101.5	4	2304.1	4.4	1.004504	1.004463	2314.4	1	76	2007-08-14-23-07
73	JNK			92	31														2007-08-15-08-49
74	JNK			116	46	92	2037.3												2007-08-15-09-37
75	JNK			100	38	90	2031.2												2007-08-15-10-03
76	JNK			86	52	89	2027.8												2007-08-15-10-25
77	JNK			94	37	87	2036.9												2007-08-15-10-48
78	JNK			80	35	86	2034.5												2007-08-15-11-17
79	CRM			83	59	83	2096.8	1.002351	1.002690	2102.4	1	2303.8	2.6	1.004637	1.004518	2314.2	1	76	2007-08-15-11-59
80	CRM			87	32	81	2095.2	1.003082	1.002664	2100.8	1	2304.8	2.7	1.004194	1.004521	2315.2	1	76	2007-08-15-12-37
81	JNK			80	38	77	2029.2												2007-08-15-13-39
82	SMP	266	501	104	40	74	2158.2		1.002352	2163.2	1				1.004528		1		2007-08-15-14-21
83	SMP	266	401	85	30	72	2155.7		1.002265	2160.5	1	2287.2	2.0		1.004530	2297.5	1		2007-08-15-14-50
84	SMP	266	300	81	35	71	2149.0		1.002200	2153.7	1	2287.4	2.2		1.004532	2297.7	1		2007-08-15-15-12
85	SMP	266	251	70	34	70	2149.4		1.002134	2154.0	1	2287.0	2.7		1.004533	2297.3	1		2007-08-15-15-34
86	SMP	266	200	68	48	68	2146.8		1.002062	2151.2	1	2288.3	2.5		1.004535	2298.6	1		2007-08-15-15-58
87	SMP	266	150	63	59	67	2147.7		1.001987	2151.9	1	2288.0	2.2		1.004537	2298.3	1		2007-08-15-16-23
88	SMP	266	125	68	27	68	2146.0		1.001918	2150.1	1	2286.3	1.9		1.004539	2296.7	1		2007-08-15-16-46
89	SMP	266	100	68	41	68	2144.1		1.001843	2148.1	1	2285.1	2.2		1.004540	2295.5	1		2007-08-15-17-11
90	SMP	266	75	69	47	68	2140.0		1.001658	2143.5	1	2289.5	1.8		1.004545	2299.9	1		2007-08-15-18-13
91	SMP	266	50	71	57	68	2139.7		1.001565	2143.0	1	2278.5	1.6		1.004547	2288.9	1		2007-08-15-18-44
92	SMP	266	23	66	37	68	2069.7		1.001499	2072.8	1	2229.5	1.9		1.004549	2239.6	1		2007-08-15-19-06
93	SMP	266	4	56	46	68	2015.6		1.001430	2018.5	1	2192.9	1.8		1.004550	2202.9	1		2007-08-15-19-29
94	CRM			72	42	68	2098.4	1.001560	1.001340	2101.2	1	2302.8	4.6	1.005097	1.004553	2313.2	1	76	2007-08-15-19-59
95	CRM			79	84	68	2099.5	1.001023	1.001289	2102.2	4	2305.2	4.0	1.004042	1.004554	2315.7	1	76	2007-08-15-20-23
96	JNK			93	46														2007-08-16-08-23
97	JNK			81	22	78	1946.2												2007-08-16-08-50
98	JNK			62	73	78	2035.2												2007-08-16-09-23
99	JNK			75	16	78	2032.9												2007-08-16-09-49
100	CRM			84	41	78	2099.4	1.001106	1.001038	2101.5	1	2304.0	4.5	1.004573	1.004820	2315.1	1	76	2007-08-16-10-14
101	CRM			74	24	78	2097.3	1.002075	1.001038	2099.5	1	2302.4	4.1	1.005271	1.004825	2313.5	1	76	2007-08-16-10-36
102	SMP	271	200	71	30	78	2147.6		1.001038	2149.8	1	2286.8	2.1		1.004828	2297.9	1		2007-08-16-11-08
103	SMP	271	301	76	42	77	2156.7		1.001038	2158.9	1	2285.1	2.4		1.004829	2296.1	1		2007-08-16-11-32
104	SMP	271	301	76	31	77	2144.5		1.001038	2146.7	1	2283.9	2.1		1.004831	2294.9	1		2007-08-16-11-54
105	SMP	271	150	76	42	77	2150.0		1.001038	2152.2	1	2288.1	2.1		1.004833	2299.2	1		2007-08-16-12-29
106	SMP	271	50	83	25	77	2087.7		1.001038	2089.8	1	2241.0	2.4		1.004835	2251.9	1		2007-08-16-12-57
107	SMP	271	25	68	47	77	2087.8		1.001038	2090.0	1	2242.5	2.2		1.004837	2253.4	1		2007-08-16-13-20
108	SMP	272	210	89	49	77	2158.4		1.001038	2160.7	1	2280.6	2.0		1.004839	2291.6	1		2007-08-16-13-58
109	SMP	272	200	75	36	77	2039.7		1.001038	2041.8	1	2202.4	2.9		1.004842	2213.1	8		2007-08-16-14-30
110	SMP	272	142	78	45	77	2154.4		1.001038	2156.6	1	2279.3	2.2		1.004843	2290.3	1		2007-08-16-14-55
111	SMP	272	101	78	45	77	2148.8		1.001038	2151.1	1	2280.5	2.7		1.004845	2291.6	1		2007-08-16-15-23
112	SMP	272	50	82	31	77	2140.9		1.001038	2143.1	1	2274.9	2.3		1.004847	2285.9	1		2007-08-16-15-45
113	SMP	272	25	76	55	77	2094.3		1.001038	2096.4	1	2245.3	2.4		1.004848	2256.2	1		2007-08-16-16-08
114	SMP	268	1500	75	49	77	2160.5		1.001038	2162.8	1	2287.6	2.5		1.004851	2298.7	1		2007-08-16-16-47
115	SMP	268	4	77	43	77	1969.6		1.001038	1971.7	1	2169.6	1.9		1.004853	2180.1	1		2007-08-16-17-10
116	SMP	268	1251	77	56	77	2155.8		1.001038	2158.0	1	2284.6	2.1		1.004854	2295.7	1		2007-08-16-17-34
117	SMP	268	1001	85	44	77	2159.4		1.001038	2161.7	1	2285.5	1.9		1.004856	2296.6	1		2007-08-16-18-06
118	SMP	268	751	60	35	77	2155.0		1.001038	2157.2	1	2284.7	2.2		1.004858	2295.8	1		2007-08-16-18-27
119	SMP	268	501	70	33	77	2153.1		1.001038	2155.3	1	2285.1	2.4		1.004859	2296.2	1		2007-08-16-18-48
120	SMP	268	301	72	55	77	2150.3		1.001038	2152.6	1	2286.0	2.4		1.004861	2297.1	1		2007-08-16-19-13

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#	T	STN	DPT	BK	±	SBK	DIC	CRMfac	DICfac	DICcor	QF	TAlk	RMS	CRMfac	TAlkfac	TAlkcor	QF	Batch	Date & time
121	SMP	268	201	60	31	77	2144.4		1.001038	2146.6	1	2288.0	1.9		1.004862	2299.1	1		2007-08-16-19-34
122	SMP	268	201	57	43	77	2143.6		1.001038	2145.8	1	2285.0	2.4		1.004864	2296.1	1		2007-08-16-19-55
123	SMP	268	150	70	43	76	2144.1		1.001038	2146.3	1	2285.3	2.3		1.004865	2296.4	1		2007-08-16-20-17
124	SMP	268	125	74	58	76	2147.6		1.001038	2149.8	1	2286.2	2.2		1.004867	2297.4	1		2007-08-16-20-40
125	CRM			76	74	76	2099.5	1.001035	1.001038	2101.7	1	2303.8	4.6	1.004632	1.004869	2315.0	1	76	2007-08-16-21-12
126	CRM			38	52	76	2091.9	1.004676	1.001038	2094.1	1	2301.5	4.2	1.005643	1.004871	2312.7	1	76	2007-08-16-21-34
127	JNK			89	30														2007-08-17-13-09
128	JNK			97	24	106	2021.8												2007-08-17-14-14
129	JNK			193	53	106	2031.8												2007-08-17-14-38
130	JNK			115	35	106	2022.6												2007-08-17-15-46
131	JNK					106	2041.3												2007-08-17-16-19
132	JNK			182	43														2007-08-18-08-24
133	JNK			0	0	90	-13.1												2007-08-18-08-46
134	JNK			62	41	90	1969.3												2007-08-18-09-37
135	JNK			95	22	90	1969.1												2007-08-18-09-58
136	CRM			147	67	90	2103.4	0.999207	0.999230	2101.7	1	2304.2	3.1	1.004448	1.004766	2315.2	1	76	2007-08-18-10-23
137	CRM			95	69	90	2101.9	0.999879	0.999230	2100.3	1	2303.1	3.3	1.004962	1.004766	2314.0	1	76	2007-08-18-10-53
138	SMP	268	100			90	2324.7		0.999230	2322.9	8	2287.7	1.9		1.004766	2298.6	1		2007-08-18-11-19
139	SMP	268	100	900		90	2421.0		0.999230	2419.1	8	2283.9	2.2		1.004766	2294.7	1		2007-08-18-11-41
140	SMP	268	75	0	0	90	2166.5		0.999230	2164.8	4	2282.9	2.1		1.004766	2293.8	1		2007-08-18-12-05
141	SMP	268	75	658		90	2190.7		0.999230	2189.0	4	2283.1	2.5		1.004766	2294.0	1		2007-08-18-12-41
142	SMP	268	75	131	219	90	2136.2		0.999230	2134.5	4	2271.6	2.8		1.004766	2282.4	1		2007-08-18-13-06
143	JNK			70	48	75	1969.3												2007-08-18-18-28
144	JNK			71	38	75	2085.6												2007-08-18-18-49
145	JNK			147	65														2007-08-19-09-34
146	JNK			114	84	100	1976.2												2007-08-19-10-03
147	JNK			57	37	100	1980.6												2007-08-19-11-21
148	JNK					100	2209.8												2007-08-19-13-27
149	JNK			134	96	100	1969.3												2007-08-19-13-50
150	JNK			78	68	100	1966.9												2007-08-19-14-12
151	JNK			82	60	100	1965.0												2007-08-19-14-35
152	CRM			68	51	100	2094.6	1.003370	1.003353	2101.7	1	2302.8	4.3	1.005075	1.005000	2314.3	1	76	2007-08-19-14-58
153	CRM					100	2512.8	0.836409	1.003391	2521.3	8	2303.1	3.5	1.004951	1.005000	2314.6	1	76	2007-08-19-15-24
154	SMP	276	302	81	73	100	2174.3		1.003436	2181.8	1	2290.1	1.9		1.005000	2301.5	1		2007-08-19-15-54
155	JNK			139	68	100	1973.9												2007-08-19-16-25
156	SMP	276	501	97	58	100	2157.3		1.003519	2164.8	1	2286.5	2.8		1.005000	2297.9	1		2007-08-19-16-50
157	SMP	276	400	526	790	100	2239.7		1.003614	2247.7	8	2291.8	1.7		1.005000	2303.3	1		2007-08-19-17-54
158	SMP	276	302	390		100	2262.7		1.003663	2271.0	8	2291.1	2.0		1.005000	2302.5	1		2007-08-19-18-27
159	SMP	276	102	441		100	2195.7		1.003694	2203.8	4	2283.0	1.9		1.005000	2294.4	1		2007-08-19-18-48
160	SMP	276	50	57	40	100	2126.1		1.003727	2134.1	4	2261.6	1.9		1.005000	2272.9	1		2007-08-19-19-10
161	SMP	279	316	49	37	100	2166.5		1.003762	2174.6	4	2289.9	2.5		1.005000	2301.3	1		2007-08-19-19-34
162	SMP	279	250	60	28	100	2162.7		1.003796	2170.9	4	2287.9	2.6		1.005000	2299.4	1		2007-08-19-19-57
163	SMP	279	201	105	63	100	2166.0		1.003905	2174.4	1	2289.6	2.5		1.005000	2301.0	1		2007-08-19-21-10
164	SMP	279	150	132	37	100	2158.5		1.003945	2167.0	1	2287.0	2.6		1.005000	2298.4	1		2007-08-19-21-37
165	SMP	279	101	94	82	100	2150.9		1.003979	2159.5	4	2286.4	2.3		1.005000	2297.8	1		2007-08-19-22-00
166	SMP	279	49	101	23	100	2142.6		1.004015	2151.2	1	2271.6	2.5		1.005000	2283.0	1		2007-08-19-22-24
167	SMP	279	26	73	44	100	2103.2		1.004049	2111.7	1	2250.4	2.7		1.005000	2261.6	1		2007-08-19-22-47
168	CRM			86	52	100	2093.1	1.004112	1.004084	2101.6	1	2303.2	3.4	1.004909	1.005000	2314.7	1	76	2007-08-19-23-11
169	CRM			63	43	100	2093.0	1.004172	1.004100	2101.5	1	2302.4	3.0	1.005255	1.005000	2313.9	1	76	2007-08-19-23-33
170	JNK			61	63														2007-08-20-08-46
171	JNK			56	56	60	1970.4												2007-08-20-09-07
172	JNK			807		61	2066.8												2007-08-20-09-37
173	JNK			58	58	61	1972.6												2007-08-20-10-08
174	JNK			137	53														2007-08-21-10-04
175	JNK			85	46	94	1990.8												2007-08-21-10-36
176	JNK			77	72	94	1994.1												2007-08-21-11-01
177	JNK			156	79	94	2005.4												2007-08-21-11-39
178	JNK			101	63	94	1985.3												2007-08-21-13-07
179	JNK			177	98	94	2001.6												2007-08-21-16-53
180	JNK			95	68	94	1993.6												2007-08-21-17-20

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#	T	STN	DPT	BK	±	SBK	DIC	CRMfac	DICfac	DICcor	QF	TAlk	RMS	CRMfac	TAlkfac	TAlkcor	QF	Batch	Date & time
181	JNK					94	2664.1												2007-08-21-17-57
182	JNK			137	405	94	2106.6												2007-08-21-18-47
183	JNK			99	50														2007-08-22-06-35
184	JNK			111	39	84	1979.7												2007-08-22-06-58
185	JNK					84	2466.3												2007-08-22-07-19
186	JNK			731		84	2142.9												2007-08-22-07-41
187	JNK			431		84	2135.7												2007-08-22-08-03
188	CRM			277	832	84	2169.3	0.968833	1.000887	2171.2	8	2305.5	3.9	1.003899	1.003977	2314.7	1	76	2007-08-22-08-27
189	CRM			105	40	84	2099.8	1.000900	1.000892	2101.7	1	2304.8	3.7	1.004224	1.003929	2313.8	1	76	2007-08-22-08-48
190	SMP	285	680	98	26	84	3094.8		1.000926	3097.7	8	2289.5	2.1		1.003861	2298.3	1		2007-08-22-09-18
191	SMP	285	601			84	2338.8		1.000952	2341.0	8	2288.9	2.4		1.003812	2297.7	1		2007-08-22-09-40
192	SMP	285	500	87	25	84	2167.8		1.000977	2169.9	1	2289.4	2.0		1.003762	2298.0	1		2007-08-22-10-02
193	SMP	285	400	169	40	84	2171.3		1.001004	2173.5	4	2287.3	2.6		1.003707	2295.8	1		2007-08-22-10-26
194	SMP	285	400	95	53	84	2156.5		1.001030	2158.8	1	2288.8	2.2		1.003657	2297.2	1		2007-08-22-10-48
195	SMP	285	200	100	50	84	2154.0		1.001058	2156.2	1	2283.1	1.9		1.003601	2291.3	1		2007-08-22-11-13
196	SMP	285	75	634		84	2184.9		1.001084	2187.3	4	2269.1	2.2		1.003551	2277.1	1		2007-08-22-11-35
197	SMP	285	24	98	44	84	2098.1		1.001108	2100.5	1	2242.7	1.6		1.003503	2250.5	1		2007-08-22-11-56
198	SMP	291	2200	52	47	84	2150.7		1.001137	2153.1	1	2287.8	2.5		1.003447	2295.7	1		2007-08-22-12-21
199	SMP	291	2100	87	22	84	2155.6		1.001163	2158.2	1	2287.9	2.4		1.003394	2295.6	1		2007-08-22-12-44
200	SMP	291	1900	64	44	84	2155.6		1.001190	2158.2	1	2287.4	2.1		1.003342	2295.0	1		2007-08-22-13-07
201	SMP	291	1700	84	54	84	2156.4		1.001215	2159.0	1	2287.8	2.4		1.003292	2295.4	1		2007-08-22-13-29
202	SMP	291	1500	75	26	84	2157.1		1.001239	2159.8	1	2287.2	2.1		1.003245	2294.6	1		2007-08-22-13-50
203	SMP	291	1250	92	30	84	2160.9		1.001264	2163.6	1	2287.2	2.2		1.003195	2294.5	1		2007-08-22-14-12
204	SMP	291	751	114	62	84	2166.0		1.001290	2168.8	1	2287.8	1.9		1.003145	2295.0	1		2007-08-22-14-34
205	SMP	291	1000	74	17	84	2157.1		1.001315	2159.9	1	2286.6	2.3		1.003095	2293.7	1		2007-08-22-14-56
206	SMP	291	500	103	52	84	2157.4		1.001350	2160.3	1	2291.2	2.3		1.003025	2298.2	1		2007-08-22-15-27
207	SMP	291	201	162	22	84	2154.0		1.001377	2156.9	4	2292.0	2.2		1.002973	2298.8	1		2007-08-22-15-50
208	SMP	291	99	150	83	84	2143.3		1.001402	2146.3	4	2280.2	2.0		1.002923	2286.8	1		2007-08-22-16-12
209	SMP	291	50	159	100	84	2103.6		1.001427	2106.6	4	2238.9	2.2		1.002873	2245.4	1		2007-08-22-16-34
210	SMP	260	3925	103	27	84	2149.1		1.001457	2152.2	1	2286.7	1.9		1.002814	2293.1	1		2007-08-22-17-00
211	SMP	260	3192	68	33	84	2144.1		1.001488	2147.3	1	2288.2	2.3		1.002753	2294.5	1		2007-08-22-17-27
212	SMP	260	749	118	65	84	2158.5		1.001517	2161.7	1	2283.4	2.3		1.002696	2289.5	1		2007-08-22-17-52
213	SMP	260	50	80	41	84	2091.4		1.001546	2094.7	1	2245.8	1.9		1.002639	2251.7	1		2007-08-22-18-17
214	SMP	260	2593	71	35	84	2146.2		1.001572	2149.6	1	2284.9	2.3		1.002587	2290.8	1		2007-08-22-18-40
215	SMP	260	1397	68	34	84	2149.2		1.001603	2152.6	1	2291.7	1.9		1.002526	2297.5	1		2007-08-22-19-07
216	CRM			80	26	84	2098.1	1.001702	1.001640	2101.6	1	2308.4	5.4	1.002623	1.002451	2314.1	1	76	2007-08-22-19-40
217	CRM			148	75	84	2105.9	0.998001	1.001640	2109.4	8	2309.2	5.2	1.002295	1.002392	2314.7	1	76	2007-08-22-20-06
218	JNK			110	51														2007-08-23-08-43
219	JNK			77	45	77	1979.4												2007-08-23-09-09
220	JNK			67	32	77	1986.1												2007-08-23-09-41
221	JNK			68	22	77	1985.8												2007-08-23-10-03
222	JNK			80	61	77	1990.6												2007-08-23-10-29
223	JNK			69	54	77	1988.4												2007-08-23-10-50
224	CRM			66	35	77	2099.9	1.000858	1.000883	2101.7	1	2306.2	3.5	1.003599	1.003770	2314.9	1	76	2007-08-23-11-12
225	CRM			76	29	77	2098.4	1.001569	1.000860	2100.2	1	2304.8	3.5	1.004192	1.003743	2313.5	1	76	2007-08-23-11-45
226	SMP	295	3200	69	37	77	2152.4		1.000840	2154.2	1	2290.9	3.0		1.003714	2299.4	1		2007-08-23-12-13
227	SMP	295	3000	82	45	77	2151.4		1.000823	2153.2	1	2289.3	2.1		1.003687	2297.8	1		2007-08-23-12-38
228	SMP	295	2500	69	31	77	2152.2		1.000807	2153.9	1	2289.7	2.5		1.003663	2298.1	1		2007-08-23-13-01
229	SMP	295	2000	78	36	77	2156.7		1.000784	2158.3	1	2290.7	2.5		1.003629	2299.0	1		2007-08-23-13-34
230	SMP	295	1500	137	48	77	2162.8		1.000768	2164.4	4	2289.7	2.4		1.003605	2298.0	1		2007-08-23-13-56
231	SMP	295	1251	124	32	77	2164.2		1.000753	2165.8	4	2285.6	4.8		1.003582	2293.7	1		2007-08-23-14-18
232	SMP	295	1000	120	70	77	2163.6		1.000738	2165.2	1	2287.0	2.9		1.003560	2295.1	1		2007-08-23-14-39
233	SMP	295	750	86	46	77	2158.2		1.000715	2159.8	1	2288.1	2.8		1.003526	2296.2	1		2007-08-23-15-12
234	SMP	295	500	78	28	77	2151.8		1.000700	2153.3	1	2287.9	2.9		1.003502	2295.9	1		2007-08-23-15-34
235	SMP	295	200	72	27	77	2146.5		1.000680	2147.9	1	2289.3	2.6		1.003473	2297.2	1		2007-08-23-16-02
236	SMP	295	98	68	44	77	2120.8		1.000663	2122.2	1	2261.2	2.1		1.003447	2268.9	1		2007-08-23-16-27
237	SMP	295	50	166	24	77	2114.9		1.000627	2116.2	4	2253.1	2.0		1.003392	2260.7	1		2007-08-23-17-19
238	SMP	291	2100	92	47	77	2159.5		1.000613	2160.8	1	2289.1	2.4		1.003371	2296.8	1		2007-08-23-17-39
239	CRM			95	45	77	2100.3	1.000651	1.000586	2101.6	1	2307.1	4.0	1.003183	1.003330	2314.8	1	76	2007-08-23-18-18
240	CRM			68	40	78	2096.1	1.002647	1.000586	2097.4	1	2306.3	4.0	1.003545	1.003301	2313.9	1	76	2007-08-23-18-50

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#	T	STN	DPT	BK	±	SBK	DIC	CRMfac	DICfac	DICcor	QF	TAlk	RMS	CRMfac	TAlkfac	TAlkcor	QF	Batch	Date & time
241	JNK			142	31														2007-08-24-12-48
242	JNK			95	33	81	1984.2												2007-08-24-13-11
243	JNK			73	41	81	1988.6												2007-08-24-13-35
244	JNK			74	44	81	1984.2												2007-08-24-14-03
245	CRM			72	21	81	2096.8	1.002353	1.002265	2101.5	1	2304.9	3.8	1.004164	1.004733	2315.8	1	76	2007-08-24-14-26
246	CRM			68	35	81	2095.2	1.003115	1.002228	2099.8	1	2302.2	3.6	1.005341	1.004718	2313.1	1	76	2007-08-24-14-48
247	SMP	299	3551	71	43	81	2150.1		1.002146	2154.7	1	2291.4	2.2		1.004684	2302.1	1		2007-08-24-15-36
248	SMP	299	3500	120	49	81	2156.7		1.002105	2161.3	1	2291.1	2.6		1.004668	2301.8	1		2007-08-24-16-00
249	SMP	299	3000	86	27	81	2152.6		1.002065	2157.0	1	2288.9	2.4		1.004651	2299.5	1		2007-08-24-16-24
250	SMP	299	2500	80	48	81	2155.8		1.002029	2160.2	1	2287.8	2.5		1.004636	2298.5	1		2007-08-24-16-45
251	SMP	299	2000	83	35	81	2156.4		1.001993	2160.7	1	2287.0	2.4		1.004621	2297.6	1		2007-08-24-17-06
252	SMP	299	1500	84	38	81	2157.7		1.001941	2161.9	1	2289.0	2.3		1.004600	2299.5	1		2007-08-24-17-37
253	SMP	299	1251	86	46	82	2160.1		1.001892	2164.1	1	2287.1	2.5		1.004580	2297.6	1		2007-08-24-18-06
254	SMP	299	1000	91	23	82	2163.0		1.001781	2166.8	1	2291.0	2.5		1.004534	2301.3	1		2007-08-24-19-11
255	SMP	299	746	101	51	82	2159.7		1.001719	2163.4	1	2287.2	2.5		1.004508	2297.5	1		2007-08-24-19-48
256	SMP	299	501	94	49	82	2155.6		1.001671	2159.2	1	2285.9	2.2		1.004489	2296.1	1		2007-08-24-20-16
257	SMP	299	201	63	46	82	2146.8		1.001637	2150.3	1	2284.0	2.4		1.004475	2294.2	1		2007-08-24-20-36
258	SMP	299	100	104	29	82	2117.5		1.001537	2120.8	1	2254.9	2.5		1.004434	2264.9	1		2007-08-24-21-35
259	SMP	299	50	107	44	82	2110.3		1.001486	2113.4	1	2252.1	2.1		1.004413	2262.0	1		2007-08-24-22-05
260	CRM			82	26	82	2098.6	1.001460	1.001439	2101.6	1	2304.6	4.1	1.004292	1.004390	2314.7	1	76	2007-08-24-22-38
261	CRM			90	65	82	2097.2	1.002141	1.001439	2100.2	1	2304.8	4.8	1.004216	1.004373	2314.9	1	76	2007-08-24-23-02
262	JNK			113	110														2007-08-25-14-06
263	JNK			69	34	69	1982.7												2007-08-25-14-35
264	JNK			63	28	69	1989.7												2007-08-25-15-15
265	JNK			66	31	69	1990.9												2007-08-25-15-42
266	CRM			58	39	69	2096.4	1.002511	1.002343	2101.3	1	2303.6	4.5	1.004719	1.004649	2314.3	1	76	2007-08-25-16-07
267	CRM			65	34	69	2097.0	1.002239	1.002346	2101.9	1	2306.2	4.0	1.003575	1.004649	2317.0	1	76	2007-08-25-16-29
268	SMP	301	3650	83	50	69	2151.3		1.002370	2156.4	1	2292.5	2.1		1.004676	2303.3	1		2007-08-25-17-14
269	SMP	301	3500	73	41	69	2150.5		1.002382	2155.6	1	2290.3	2.2		1.004695	2301.1	1		2007-08-25-17-37
270	SMP	301	3000	71	51	69	2149.5		1.002393	2154.7	1	2288.5	2.2		1.004714	2299.3	1		2007-08-25-18-00
271	SMP	301	2375	67	41	69	2151.4		1.002410	2156.6	1	2290.0	2.6		1.004741	2300.9	1		2007-08-25-18-32
272	SMP	301	2251	80	28	69	2153.9		1.002445	2159.2	1	2290.6	1.9		1.004797	2301.6	1		2007-08-25-19-40
273	SMP	301	2251	66	41	69	2149.5		1.002459	2154.8	1	2288.3	2.1		1.004818	2299.3	1		2007-08-25-20-06
274	SMP	301	1501	71	34	69	2153.7		1.002470	2159.0	1	2285.9	2.3		1.004837	2297.0	1		2007-08-25-20-28
275	SMP	301	1252	64	61	69	2156.4		1.002484	2161.8	1	2285.3	2.3		1.004858	2296.4	1		2007-08-25-20-54
276	SMP	301	1002	62	46	69	2159.5		1.002496	2164.9	1	2285.1	2.2		1.004878	2296.3	1		2007-08-25-21-18
277	SMP	301	752	160	62	69	2174.3		1.002508	2179.8	8	2286.2	2.2		1.004897	2297.4	1		2007-08-25-21-41
278	SMP	301	501	104	30	69	2158.0		1.002523	2163.4	4	2284.8	2.7		1.004920	2296.0	1		2007-08-25-22-09
279	SMP	301	201	106	32	69	2152.9		1.002535	2158.4	4	2285.3	2.6		1.004939	2296.6	1		2007-08-25-22-32
280	SMP	301	100	100	33	69	2153.5		1.002549	2159.0	1	2264.0	2.2		1.004962	2275.3	1		2007-08-25-22-59
281	SMP	301	51	84	40	69	2125.6		1.002563	2131.1	1	2262.1	2.0		1.004985	2273.4	1		2007-08-25-23-27
282	SMP	299	3551	61	38	69	2149.7		1.002577	2155.2	1	2286.6	2.6		1.005006	2298.0	1		2007-08-25-23-53
283	CRM			63	32	69	2096.2	1.002642	1.002588	2101.6	1	2302.4	4.7	1.005243	1.005024	2314.0	1	76	2007-08-26-00-15
284	CRM			62	32	69	2095.9	1.002763	1.002599	2101.3	1	2302.8	5.0	1.005091	1.005044	2314.4	1	76	2007-08-26-00-38
285	JNK			119	64														2007-08-26-12-19
286	JNK			102	23	155	1975.7												2007-08-26-13-04
287	JNK			175	37	155	1989.5												2007-08-26-13-27
288	JNK			112	27	155	1986.3												2007-08-26-13-47
289	JNK			97	26	155	2036.9												2007-08-26-14-08
290	JNK			166	43	155	2228.1												2007-08-26-14-28
291	JNK			124	42	155	2042.0												2007-08-26-14-55
292	JNK			190	36	155	2041.6												2007-08-26-15-16
293	CRM			200	45	155	2082.7	1.001336	1.002293	2087.5	8	2300.6	5.2	1.002054	1.002950	2307.4	1	74	2007-08-26-15-43
294	CRM			132	50	155	2324.9	0.897058	1.002293	2330.2	8	2297.0	4.7	1.003625	1.003126	2304.2	1	74	2007-08-26-16-05
295	SMP	302	3650	188	73	155	2146.1		1.002293	2151.0	4	2288.1	2.4		1.003534	2296.2	1		2007-08-26-16-36
296	SMP	302	3001	552	138	155	4519.9		1.002293	4530.3	8	2287.0	2.8		1.003850	2295.8	1		2007-08-26-17-00
297	SMP	302	3001	167	45	155	2144.3		1.002293	2149.2	4	2287.7	2.2		1.004206	2297.3	1		2007-08-26-17-27
298	SMP	302	2502	140	42	155	2145.3		1.002293	2150.2	4	2285.7	3.0		1.004509	2296.0	1		2007-08-26-17-50
299	SMP	302	2001	231	33	155	2160.7		1.002293	2165.6	4	2284.9	2.4		1.004825	2295.9	1		2007-08-26-18-14
300	SMP	302	2001	120	57	155	2143.3		1.002293	2148.2	4	2285.3	1.9		1.005141	2297.1	1		2007-08-26-18-38

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#	T	STN	DPT	BK	±	SBK	DIC	CRMfac	DICfac	DICcor	QF	TAlk	RMS	CRMfac	TAlkfac	TAlkcor	QF	Batch	Date & time
301	SMP	302	1500	100	44	155	2144.5		1.002293	2149.5	4	2285.5	2.2		1.005470	2298.0	1		2007-08-26-19-03
302	SMP	302	1251	83	43	155	2145.9		1.002293	2150.8	4	2285.2	3.0		1.005746	2298.3	1		2007-08-26-19-24
303	SMP	302	1001	249	83	155	2160.9		1.002293	2165.9	4	2290.0	2.7		1.006457	2304.8	1		2007-08-26-20-18
304	SMP	302	1001	147	35	155	2151.3		1.002293	2156.3	4	2283.1	2.0		1.006721	2298.4	1		2007-08-26-20-38
305	SMP	302	499	119	29	155	2144.1		1.002293	2149.0	4	2285.0	2.5		1.007181	2301.4	1		2007-08-26-21-13
306	SMP	302	101	144	50	155	2145.1		1.002293	2150.0	4	2284.1	1.8		1.007497	2301.2	1		2007-08-26-21-37
307	SMP	302	91	195	40	155	2131.7		1.002293	2136.6	4	2255.8	2.3		1.007800	2273.4	1		2007-08-26-22-00
308	SMP	302	40	190	41	155	2137.7		1.002293	2142.6	4	2267.5	1.7		1.008090	2285.8	1		2007-08-26-22-22
309	SMP	301	2375	127	46	155	2149.2		1.002293	2154.1	4	2285.5	2.2		1.008419	2304.7	1		2007-08-26-22-47
310	SMP	301	2375	197	42	155	2150.4		1.002293	2155.4	4	2283.8	2.0		1.008722	2303.8	1		2007-08-26-23-10
311	CRM			148	52	155	2358.4	0.891166	1.002293	2363.8	8	2293.9	3.2	1.008959	1.009011	2314.6	1	76	2007-08-26-23-32
312	CRM			93	44	155	2277.6	0.922761	1.002293	2282.8	8	2293.2	3.5	1.009292	1.009100	2314.1	1	76	2007-08-26-23-54
313	JNK			564	175	155	4244.1												2007-08-27-00-40
314	JNK			69	31														2007-08-27-10-48
315	JNK			68	37	74	2043.3												2007-08-27-11-10
316	JNK			61	25	74	2046.6												2007-08-27-11-32
317	JNK			54	30	74	2043.4												2007-08-27-11-58
318	JNK			82	28	74	2045.5												2007-08-27-12-27
319	JNK			77	25	74	2044.3												2007-08-27-12-47
320	CRM			83	38	74	2082.1	1.001669	1.001791	2085.8	1	2297.1	5.3	1.003578	1.003907	2306.1	1	74	2007-08-27-13-16
321	CRM			83	25	74	2081.4	1.001991	1.001779	2085.1	1	2295.6	5.5	1.004244	1.003885	2304.5	1	74	2007-08-27-13-38
322	SMP	306	3701	82	33	74	2150.4		1.001706	2154.0	1	2285.8	2.8		1.003860	2294.7	1		2007-08-27-14-03
323	SMP	306	3500	72	37	74	2149.6		1.001623	2153.1	1	2287.7	2.5		1.003833	2296.5	1		2007-08-27-14-31
324	SMP	306	3000	70	36	74	2148.6		1.001514	2151.8	1	2287.3	2.8		1.003796	2296.0	1		2007-08-27-15-08
325	SMP	306	2500	66	26	74	2150.2		1.001420	2153.3	1	2286.5	2.5		1.003764	2295.1	1		2007-08-27-15-40
326	SMP	306	2001	75	41	74	2150.8		1.001317	2153.6	1	2287.4	2.2		1.003730	2295.9	1		2007-08-27-16-15
327	SMP	306	1501	72	34	74	2152.9		1.001243	2155.6	1	2283.3	2.6		1.003705	2291.8	1		2007-08-27-16-40
328	SMP	306	1249	183	59	74	2173.7		1.001161	2176.2	4	2286.6	2.5		1.003677	2295.0	1		2007-08-27-17-08
329	SMP	306	1249	97	42	74	2158.8		1.001099	2161.2	1	2283.9	2.2		1.003656	2292.2	1		2007-08-27-17-29
330	SMP	302	3001	79	49	74	2151.8		1.001002	2154.0	1	2287.8	2.2		1.003624	2296.1	1		2007-08-27-18-02
331	SMP	306	1003	80	49	74	2161.6		1.000934	2163.6	1	2284.0	2.5		1.003601	2292.2	1		2007-08-27-18-25
332	SMP	306	501	69	29	74	2155.6		1.000873	2157.5	1	2284.4	2.3		1.003580	2292.6	1		2007-08-27-18-46
333	SMP	306	151	74	37	74	2152.9		1.000805	2154.6	1	2273.1	2.1		1.003557	2281.2	1		2007-08-27-19-09
334	SMP	306	50	83	37	74	2148.4		1.000743	2150.0	1	2269.5	2.4		1.003537	2277.5	1		2007-08-27-19-30
335	CRM			141	23	74	2088.0	0.998802	1.000678	2089.4	4	2297.7	6.7	1.003309	1.003515	2305.8	1	74	2007-08-27-19-52
336	CRM			112	39	74	2084.1	1.000691	1.000613	2085.4	1	2296.9	6.8	1.003659	1.003493	2305.0	1	74	2007-08-27-20-14
337	JNK			152	30														2007-08-28-14-10
338	JNK			135	35	137	2048.1												2007-08-28-14-43
339	JNK			137	28	137	2043.1												2007-08-28-15-04
340	JNK			135	42	137	2043.5												2007-08-28-15-33
341	JNK			105	19	137	2039.7												2007-08-28-16-30
342	JNK			101	18	137	2036.6												2007-08-28-16-51
343	CRM			145	54	137	2074.7	0.958962	1.000686	2076.1	8	2153.8	4.4	1.003101	1.003301	2160.9	1	70	2007-08-28-17-17
344	CRM			160	70	137	1983.5	1.003048	1.000686	1984.8	8	2152.4	4.9	1.003728	1.003301	2159.5	1	70	2007-08-28-17-38
345	CRM			197	49	137	2302.2	0.864174	1.000686	2303.8	8	2154.1	3.8	1.002943	1.003301	2161.2	1	70	2007-08-28-18-21
346	CRM			212	41	137	1996.8	0.996370	1.000686	1998.1	8	2150.2	4.2	1.004766	1.003301	2157.3	1	70	2007-08-28-18-43
347	JNK			370	55														2007-08-29-09-18
348	JNK			217	60	135	2057.3												2007-08-29-09-39
349	JNK			150	62	132	2048.7												2007-08-29-10-09
350	JNK			140	27	129	2044.6												2007-08-29-10-33
351	JNK			109	33	126	2048.4												2007-08-29-10-54
352	CRM			131	35	123	1988.2	1.000683	1.000736	1989.6	4	2148.1	4.5	1.005773	1.005788	2160.5	1	70	2007-08-29-11-20
353	CRM			149	42	120	1991.5	0.999032	1.000789	1993.0	4	2147.9	4.0	1.005849	1.005855	2160.5	1	70	2007-08-29-11-41
354	SMP	309	1500	114	40	115	2157.7		1.000907	2159.7	1	2282.4	2.2		1.005973	2296.1	1		2007-08-29-12-18
355	SMP	309	1001	119	28	112	2165.2		1.000992	2167.3	1	2281.5	2.8		1.006059	2295.3	1		2007-08-29-12-45
356	SMP	309	501	109	35	109	2156.4		1.001072	2158.7	1	2281.2	2.8		1.006138	2295.2	1		2007-08-29-13-10
357	SMP	309	201	100	22	106	2150.6		1.001138	2153.1	1	2277.3	2.7		1.006205	2291.4	1		2007-08-29-13-31
358	SMP	309	101	102	41	103	2150.8		1.001211	2153.4	1	2261.6	2.0		1.006279	2275.8	1		2007-08-29-13-54
359	SMP	309	50	97	59	100	2141.5		1.001297	2144.2	1	2250.8	1.9		1.006364	2265.1	1		2007-08-29-14-21
360	SMP	306	3000	88	53	97	2152.0		1.001376	2155.0	1	2285.0	2.3		1.006444	2299.8	1		2007-08-29-14-46

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#	T	STN	DPT	BK	±	SBK	DIC	CRMfac	DICfac	DICcor	QF	TAlk	RMS	CRMfac	TAlkfac	TAlkcor	QF	Batch	Date & time
361	SMP	309	4325	95	64	94	2102.0		1.001453	2105.0	8	2209.2	3.0		1.006520	2223.6	8		2007-08-29-15-10
362	SMP	309	4325	135	41	92	2101.2		1.001529	2104.4	8	2206.8	2.3		1.006597	2221.3	8		2007-08-29-15-34
363	SMP	309	3998	129	78	92	2156.2		1.001729	2159.9	1	2287.9	2.6		1.006797	2303.5	1		2007-08-29-16-37
364	SMP	309	3000	126	37	92	2151.0		1.001805	2154.8	1	2281.3	2.6		1.006874	2296.9	1		2007-08-29-17-01
365	SMP	309	2750	153	54	93	2209.0		1.001875	2213.1	8	2283.0	2.7		1.006944	2298.9	1		2007-08-29-17-23
366	SMP	309	2750	180	32	93	2742.2		1.001951	2747.6	8	2280.5	1.9		1.007020	2296.5	1		2007-08-29-17-47
367	SMP	309	2500	200	57	93	2200.2		1.002087	2204.8	8	2283.0	2.6		1.007157	2299.4	1		2007-08-29-18-30
368	SMP	309	2001	188	60	93	2165.6		1.002157	2170.2	4	2279.6	2.3		1.007227	2296.1	1		2007-08-29-18-52
369	CRM			95	39	94	1983.7	1.002934	1.002243	1988.2	1	2144.6	4.9	1.007383	1.007313	2160.3	1	70	2007-08-29-19-19
370	CRM					94	9339.1	0.213033	1.002313	9360.7	8	2144.1	4.7	1.007638	1.007383	2159.9	1	70	2007-08-29-19-41
371	JNK			87	37														2007-08-30-11-53
372	JNK			69	29	69	2017.5												2007-08-30-12-15
373	JNK			66	34	69	2023.7												2007-08-30-12-37
374	JNK			79	26	69	2020.9												2007-08-30-12-58
375	CRM			71	27	69	1985.7	1.001942	1.002042	1989.7	1	2156.2	4.4	1.001979	1.002355	2161.3	1	70	2007-08-30-13-31
376	CRM			61	39	69	1984.3	1.002616	1.002064	1988.4	1	2154.1	4.4	1.002959	1.002349	2159.1	1	70	2007-08-30-13-53
377	SMP	310	4251	61	21	69	2150.3		1.002126	2154.9	1	2290.5	2.1		1.002340	2295.9	1		2007-08-30-14-24
378	SMP	310	3999	68	47	69	2149.3		1.002173	2154.0	1	2293.9	2.1		1.002334	2299.2	1		2007-08-30-14-47
379	SMP	310	3501	60	46	69	2148.6		1.002245	2153.4	1	2292.1	3.0		1.002324	2297.4	1		2007-08-30-15-23
380	SMP	310	3001	59	26	69	2149.4		1.002289	2154.4	1	2292.2	2.1		1.002318	2297.5	1		2007-08-30-15-45
381	SMP	310	2500	65	29	69	2149.4		1.002341	2154.4	1	2292.2	2.1		1.002311	2297.5	1		2007-08-30-16-11
382	SMP	310	2000	60	42	69	2151.3		1.002417	2156.5	1	2291.7	2.2		1.002300	2297.0	1		2007-08-30-16-49
383	SMP	310	1001	95	52	69	2165.5		1.002463	2170.8	1	2289.7	2.1		1.002294	2294.9	1		2007-08-30-17-12
384	SMP	310	500	64	19	69	2154.3		1.002512	2159.7	1	2292.1	2.1		1.002287	2297.4	1		2007-08-30-17-36
385	SMP	310	200	60	36	69	2149.7		1.002560	2155.2	1	2285.6	1.8		1.002280	2290.8	1		2007-08-30-18-00
386	SMP	310	100	66	37	69	2149.2		1.002610	2154.8	1	2269.4	2.0		1.002273	2274.6	1		2007-08-30-18-25
387	SMP	310	50	64	26	69	2131.3		1.002674	2137.0	1	2244.4	2.0		1.002264	2249.5	1		2007-08-30-18-57
388	CRM			67	41	69	1984.0	1.002805	1.002718	1989.4	1	2157.7	5.3	1.001275	1.002258	2162.6	1	70	2007-08-30-19-19
389	CRM			64	17	69	1983.0	1.003317	1.002731	1988.4	1	2154.3	4.5	1.002841	1.002252	2159.2	1	70	2007-08-30-19-42
390	SMP	316	1250	70	29	69	2162.3		1.002700	2168.2	1	2292.5	2.1		1.002245	2297.7	1		2007-08-30-20-05
391	SMP	316	1001	72	36	69	2162.5		1.002595	2168.1	1	2296.2	2.0		1.002224	2301.3	1		2007-08-30-21-21
392	SMP	316	1001	73	31	69	2160.5		1.002564	2166.0	1	2289.9	1.8		1.002218	2295.0	1		2007-08-30-21-43
393	SMP	316	750	64	41	69	2159.6		1.002534	2165.1	1	2291.8	2.1		1.002212	2296.9	1		2007-08-30-22-05
394	SMP	316	501	242	40	69	2173.8		1.002501	2179.3	8	2290.4	2.2		1.002205	2295.4	1		2007-08-30-22-29
395	SMP	316	501	140	37	69	2162.2		1.002468	2167.5	4	2287.2	2.2		1.002199	2292.2	1		2007-08-30-22-53
396	SMP	316	201	138	32	69	2160.4		1.002436	2165.7	4	2284.9	3.6		1.002192	2289.9	1		2007-08-30-23-16
397	SMP	316	100	110	14	69	2154.3		1.002406	2159.5	4	2265.9	1.7		1.002186	2270.9	1		2007-08-30-23-38
398	SMP	316	50	105	40	69	2136.4		1.002374	2141.5	1	2231.3	1.7		1.002180	2236.2	1		2007-08-31-00-01
399	CRM			134	37	69	1995.4	0.997038	1.002338	2000.1	8	2155.9	4.9	1.002124	1.002172	2160.6	1	70	2007-08-31-00-27
400	CRM			84	21	69	1985.4	1.002096	1.002305	1989.9	1	2155.8	4.0	1.002183	1.002166	2160.4	1	70	2007-08-31-00-51
401	JNK			108	28														2007-08-31-13-45
402	JNK			153	39	68	2033.5												2007-08-31-14-10
403	JNK			196	52	68	2034.8												2007-08-31-14-53
404	JNK			215	54	68	2271.0												2007-08-31-15-18
405	JNK			208	58	68	2038.1												2007-08-31-15-53
406	JNK			196	30	68	2139.9												2007-08-31-16-33
407	JNK			633	231	68	5032.7												2007-08-31-16-55
408	JNK			117	36	68	2023.0												2007-08-31-19-12
409	JNK			116	32														2007-09-01-08-53
410	JNK			71	36	66	2022.6												2007-09-01-09-17
411	JNK			59	33	66	2025.0												2007-09-01-09-41
412	JNK			69	27	66	2022.2												2007-09-01-10-01
413	CRM			64	16	66	1984.7	1.002427	1.002594	1989.9	1	2157.1	5.2	1.001548	1.001661	2160.7	1	70	2007-09-01-10-24
414	CRM			63	29	66	1982.7	1.003432	1.002594	1987.9	1	2157.3	5.0	1.001466	1.001661	2160.9	1	70	2007-09-01-10-51
415	SMP	319	2651	74	23	66	2150.9		1.002594	2156.5	1	2293.6	2.2		1.001661	2297.4	1		2007-09-01-11-21
416	SMP	319	2650	63	37	66	2156.2		1.002594	2161.8	1	2291.6	2.0		1.001661	2295.4	1		2007-09-01-11-45
417	SMP	319	2600	71	20	66	2153.8		1.002594	2159.4	1	2292.8	2.7		1.001661	2296.6	1		2007-09-01-12-11
418	SMP	319	2600	66	36	66	2154.7		1.002594	2160.3	1	2292.9	2.0		1.001661	2296.7	1		2007-09-01-12-41
419	SMP	319	2000	71	33	66	2150.1		1.002594	2155.7	1	2291.8	2.6		1.001661	2295.6	1		2007-09-01-13-07
420	SMP	319	1501	67	26	66	2155.7		1.002594	2161.3	1	2291.3	2.3		1.001661	2295.1	1		2007-09-01-13-30

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#	T	STN	DPT	BK	±	SBK	DIC	CRMfac	DICfac	DICcor	QF	TAlk	RMS	CRMfac	TAlkfac	TAlkcor	QF	Batch	Date & time
421	SMP	319	1001	64	45	66	2162.0		1.002594	2167.6	1	2289.4	2.3		1.001661	2293.2	1		2007-09-01-13-52
422	SMP	319	500	66	25	66	2156.4		1.002594	2162.0	1	2289.6	1.8		1.001661	2293.4	1		2007-09-01-14-15
423	SMP	319	201	69	19	66	2150.7		1.002594	2156.3	1	2282.8	1.8		1.001661	2286.6	1		2007-09-01-15-09
424	SMP	319	50	66	23	66	2142.7		1.002594	2148.2	1	2237.7	2.2		1.001661	2241.4	1		2007-09-01-15-38
425	SMP	319	100	68	32	66	2150.6		1.002594	2156.2	1	2267.8	2.0		1.001661	2271.6	1		2007-09-01-16-01
426	CRM			62	21	66	1984.2	1.002669	1.002594	1989.4	1	2156.2	5.6	1.001961	1.001661	2159.8	1	70	2007-09-01-16-24
427	CRM			64	30	66	1983.1	1.003221	1.002594	1988.3	1	2157.0	5.4	1.001612	1.001661	2160.6	1	70	2007-09-01-16-49
428	JNK			94	70														2007-09-03-09-35
429	JNK			68	34	56	1946.2												2007-09-03-09-56
430	JNK			47	39	56	1949.2												2007-09-03-10-24
431	JNK			63	30	56	1944.6												2007-09-03-10-45
432	JNK			59	24	56	2021.2												2007-09-03-11-16
433	JNK			55	33	57	2022.7												2007-09-03-11-39
434	CRM			56	32	57	2053.2	1.001992	1.001992	2057.3	1	2249.1	4.7	1.001958	1.002148	2253.9	1	73	2007-09-03-12-11
435	CRM			61	27	57	2053.2	1.001975	1.002021	2057.4	1	2248.4	4.2	1.002284	1.002183	2253.3	1	73	2007-09-03-12-35
436	SMP	326	3900	53	48	57	2149.3		1.002063	2153.7	1	2291.9	4.1		1.002230	2297.0	1		2007-09-03-13-08
437	SMP	326	3800	66	33	57	2149.2		1.002092	2153.7	1	2294.1	2.5		1.002264	2299.3	1		2007-09-03-13-31
438	SMP	326	3500	55	23	57	2146.1		1.002168	2150.8	1	2297.6	2.6		1.002348	2303.0	1		2007-09-03-14-30
439	SMP	326	3500	62	37	57	2145.6		1.002198	2150.3	1	2292.1	2.0		1.002383	2297.5	1		2007-09-03-14-54
440	SMP	326	3001	55	40	57	2147.6		1.002228	2152.4	1	2295.7	2.8		1.002416	2301.2	1		2007-09-03-15-17
441	SMP	326	2500	59	45	57	2147.8		1.002263	2152.6	1	2293.6	2.7		1.002456	2299.3	1		2007-09-03-15-45
442	SMP	326	2000	57	24	57	2148.2		1.002299	2153.2	1	2293.8	2.4		1.002497	2299.6	1		2007-09-03-16-13
443	SMP	326	1500	58	31	57	2144.5		1.002334	2149.5	1	2290.9	2.4		1.002536	2296.7	1		2007-09-03-16-40
444	SMP	326	1001	55	30	57	2150.4		1.002371	2155.5	1	2289.8	2.3		1.002577	2295.7	1		2007-09-03-17-09
445	SMP	326	500	56	35	57	2146.2		1.002421	2151.4	1	2889.5	2.0		1.002633	2897.1	8		2007-09-03-17-48
446	SMP	326	500	60	32	57	2146.1		1.002452	2151.4	1	2286.0	2.2		1.002669	2292.1	1		2007-09-03-18-13
447	SMP	326	200	61	34	57	2151.7		1.002483	2157.0	1	2281.2	2.7		1.002704	2287.4	1		2007-09-03-18-37
448	SMP	326	100	57	22	57	2146.4		1.002516	2151.8	1	2224.6	2.4		1.002741	2230.7	1		2007-09-03-19-03
449	SMP	326	100	55	26	57	2159.1		1.002548	2164.6	1	2267.0	2.2		1.002777	2273.3	1		2007-09-03-19-28
450	CRM			54	24	58	2052.8	1.002204	1.002582	2058.1	1	2246.8	3.5	1.002979	1.002815	2253.1	1	73	2007-09-03-19-54
451	CRM			53	33	58	2050.2	1.003447	1.002639	2055.6	1	2247.1	3.4	1.002845	1.002857	2253.5	1	73	2007-09-03-20-15
452	SMP	328	3900	55	36	58	2147.3		1.002728	2153.2	1	2293.0	2.8		1.002920	2299.7	1		2007-09-03-20-37
453	SMP	328	3000	55	38	58	2147.4		1.002825	2153.4	1	2293.8	2.5		1.002988	2300.6	1		2007-09-03-21-01
454	SMP	328	2501	54	43	58	2146.4		1.002970	2152.8	1	2293.9	2.1		1.003090	2301.0	1		2007-09-03-21-37
455	SMP	328	1501	46	36	58	2143.8		1.003058	2150.4	1	2289.7	1.9		1.003153	2296.9	1		2007-09-03-21-59
456	SMP	328	1001	55	31	58	2147.8		1.003143	2154.5	1	2286.7	2.1		1.003212	2294.0	1		2007-09-03-22-20
457	SMP	328	501	54	32	58	2144.6		1.003228	2151.5	1	2287.1	1.6		1.003272	2294.6	1		2007-09-03-22-41
458	SMP	328	501	54	34	58	2147.8		1.003321	2155.0	1	2287.4	2.0		1.003337	2295.0	1		2007-09-03-23-04
459	SMP	328	201	44	35	58	2148.1		1.003405	2155.4	1	2278.0	2.1		1.003397	2285.7	1		2007-09-03-23-25
460	SMP	328	50	49	21	58	2112.7		1.003514	2120.2	1	2191.9	2.2		1.003474	2199.5	1		2007-09-03-23-52
461	CRM			33	30	58	2050.0	1.003546	1.003595	2057.4	1	2245.9	4.3	1.003370	1.003531	2253.9	1	73	2007-09-04-00-12
462	CRM			48	33	58	2048.3	1.004379	1.003688	2055.9	1	2244.4	4.0	1.004076	1.003596	2252.4	1	73	2007-09-04-00-35
463	JNK			64	37														2007-09-06-08-47
464	JNK			110	27	85	1940.9												2007-09-06-09-17
465	JNK			78	35	83	1938.9												2007-09-06-09-53
466	JNK			129	54	82	1939.5												2007-09-06-10-13
467	CRM			87	36	81	2055.1	1.001094	1.001686	2058.5	1	2247.9	3.9	1.002495	1.002474	2253.5	1	73	2007-09-06-10-41
468	CRM			81	41	80	2053.1	1.002042	1.001728	2056.7	1	2247.9	3.4	1.002496	1.002454	2253.4	1	73	2007-09-06-11-06
469	SMP	333	3201	86	32	78	2148.5		1.001816	2152.4	1	2295.5	2.6		1.002387	2301.0	1		2007-09-06-11-45
470	SMP	333	3000	75	32	77	2148.5		1.001875	2152.6	1	2293.6	2.7		1.002342	2299.0	1		2007-09-06-12-11
471	SMP	333	2501	86	23	76	2152.2		1.001929	2156.4	1	2292.9	2.2		1.002301	2298.2	1		2007-09-06-12-35
472	SMP	333	2000	71	32	75	2149.2		1.001976	2153.4	1	2290.5	2.4		1.002264	2295.7	1		2007-09-06-12-56
473	SMP	333	1501	75	41	74	2147.1		1.002042	2151.5	1	2294.3	1.9		1.002214	2299.3	1		2007-09-06-13-25
474	SMP	333	1000	75	52	74	2154.5		1.002098	2159.0	1	2289.4	2.0		1.002171	2294.4	1		2007-09-06-13-50
475	SMP	333	501	74	26	74	2151.2		1.002148	2155.8	1	2286.0	1.9		1.002133	2290.9	1		2007-09-06-14-12
476	SMP	333	200	75	46	74	2154.5		1.002220	2159.3	1	2280.1	1.7		1.002078	2284.9	1		2007-09-06-14-44
477	SMP	333	100	78	49	73	2163.3		1.002272	2168.2	1	2265.0	2.6		1.002039	2269.6	1		2007-09-06-15-07
478	SMP	333	49	74	32	73	2076.5		1.002331	2081.3	1	2157.3	1.8		1.001994	2161.6	1		2007-09-06-15-33
479	SMP	338	1476	75	27	73	2148.1		1.002394	2153.3	1	2292.4	2.8		1.001946	2296.9	1		2007-09-06-16-01
480	SMP	338	1250	73	50	73	2146.3		1.002451	2151.6	1	2291.0	2.5		1.001902	2295.3	1		2007-09-06-16-26

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#	T	STN	DPT	BK	±	SBK	DIC	CRMfac	DICfac	DICcor	QF	TAlk	RMS	CRMfac	TAlkfac	TAlkcor	QF	Batch	Date & time
481	SMP	338	1250	77	27	73	2146.6		1.002503	2152.0	1	2290.0	3.0		1.001863	2294.3	1		2007-09-06-16-49
482	SMP	338	501	74	29	73	2147.6		1.002555	2153.1	1	2286.2	2.4		1.001823	2290.4	1		2007-09-06-17-12
483	SMP	338	200	71	22	73	2156.2		1.002620	2161.8	1	2275.6	2.4		1.001773	2279.6	1		2007-09-06-17-41
484	SMP	338	101	75	23	73	2154.8		1.002706	2160.7	1	2271.5	2.0		1.001708	2275.4	1		2007-09-06-18-19
485	SMP	338	50	73	16	73	2009.7		1.002779	2015.3	1	2119.5	1.7		1.001652	2123.0	1		2007-09-06-18-51
486	CRM			69	24	73	2051.3	1.002949	1.002826	2057.0	1	2249.8	6.7	1.001625	1.001616	2253.5	1	73	2007-09-06-19-12
487	CRM			64	31	73	2051.5	1.002848	1.002876	2057.4	1	2250.2	6.9	1.001450	1.001623	2253.9	1	73	2007-09-06-19-34
488	JNK			87	47														2007-09-08-08-14
489	JNK			109	26	94	1933.7												2007-09-08-11-11
490	JNK			104	20	94	1945.9												2007-09-08-11-35
491	JNK			86	43	94	1939.1												2007-09-08-11-56
492	JNK			88	38	94	1939.5												2007-09-08-12-18
493	JNK			97	30	94	1938.0												2007-09-08-12-43
494	CRM			95	16	94	2053.3	1.001958	1.001885	2057.2	1	2243.7	4.0	1.004375	1.004264	2253.2	1	73	2007-09-08-13-06
495	CRM			105	30	94	2053.3	1.001960	1.001889	2057.2	1	2243.8	3.9	1.004335	1.004269	2253.4	1	73	2007-09-08-13-34
496	SMP	342	2200	82	21	94	2149.9		1.001838	2153.8	1	2291.8	2.3		1.004274	2301.6	1		2007-09-08-14-06
497	SMP	342	2000	86	27	94	2151.8		1.001802	2155.7	1	2290.4	2.6		1.004279	2300.2	1		2007-09-08-14-29
498	SMP	342	1500	80	20	94	2144.5		1.001769	2148.3	1	2288.2	2.3		1.004282	2298.0	1		2007-09-08-14-50
499	SMP	342	1000	75	41	94	2142.8		1.001734	2146.6	1	2286.1	2.6		1.004286	2295.9	1		2007-09-08-15-12
500	SMP	342	501	97	36	94	2147.2		1.001696	2150.9	1	2282.9	2.3		1.004291	2292.7	1		2007-09-08-15-36
501	SMP	342	200	97	44	94	2155.8		1.001662	2159.3	1	2267.8	1.9		1.004295	2277.6	1		2007-09-08-15-58
502	SMP	342	101	90	37	94	2206.1		1.001618	2209.6	1	2226.0	2.1		1.004300	2235.5	1		2007-09-08-16-26
503	SMP	342	51	87	22	94	2000.8		1.001583	2003.9	1	2121.1	1.7		1.004304	2130.3	1		2007-09-08-16-48
504	CRM			101	21	94	2054.8	1.001202	1.001525	2058.0	1	2248.8	4.3	1.002107	1.004310	2258.5	1	73	2007-09-08-17-25
505	CRM			91	21	94	2054.1	1.001549	1.001461	2057.1	1	2246.6	4.3	1.003058	1.004318	2256.3	1	73	2007-09-08-18-05
506	JNK			100	28														2007-09-11-09-36
507	JNK			109	28	97	1942.0												2007-09-11-10-16
508	JNK			99	24	96	1945.3												2007-09-11-10-48
509	JNK			102	52	95	1939.1												2007-09-11-11-13
510	JNK			92	24	94	1941.5												2007-09-11-11-36
511	JNK			84	38	93	1935.4												2007-09-11-11-58
512	CRM			102	40	92	2053.8	1.001690	1.003397	2060.8	1	2246.9	4.9	1.002958	1.003536	2254.8	1	73	2007-09-11-12-26
513	CRM			91	21	91	2050.3	1.003411	1.003397	2057.3	1	2244.6	5.2	1.003972	1.003536	2252.5	1	73	2007-09-11-12-48
514	SMP	349	1951	108	32	91	2153.4		1.003397	2160.7	1	2292.8	3.2		1.003536	2300.9	1		2007-09-11-13-17
515	SMP	349	1501	106	16	90	2147.1		1.003397	2154.4	1	2290.1	2.7		1.003536	2298.2	1		2007-09-11-13-40
516	SMP	349	1001	106	33	90	2155.4		1.003397	2162.7	1	2288.4	2.4		1.003536	2296.4	1		2007-09-11-14-04
517	SMP	349	501	103	30	90	2152.0		1.003397	2159.3	1	2286.5	2.5		1.003536	2294.6	1		2007-09-11-14-27
518	SMP	349	201	104	29	89	2154.7		1.003397	2162.0	1	2276.0	2.3		1.003536	2284.0	1		2007-09-11-14-52
519	SMP	349	101	79	21	89	2160.7		1.003397	2168.0	1	2260.0	2.2		1.003536	2268.0	1		2007-09-11-15-13
520	SMP	349	50	78	27	88	2104.7		1.003397	2111.8	1	2181.9	2.5		1.003536	2189.7	1		2007-09-11-15-35
521	CRM			80	23	88	2050.4	1.003374	1.003397	2057.3	1	2245.7	5.0	1.003458	1.003536	2253.7	1	73	2007-09-11-15-56
522	CRM			94	12	87	2050.8	1.003190	1.003397	2057.7	1	2246.0	4.9	1.003330	1.003536	2254.0	1	73	2007-09-11-16-19
523	SMP	352	3900	88	16	87	2148.0		1.003397	2155.2	1	2293.1	2.8		1.003536	2301.3	1		2007-09-11-16-42
524	SMP	352	3500	110	34	86	2151.5		1.003397	2158.8	1	2293.7	3.0		1.003536	2301.8	1		2007-09-11-17-09
525	SMP	352	3250	89	44	86	2147.8		1.003397	2155.1	1	2291.0	2.5		1.003536	2299.1	1		2007-09-11-17-30
526	SMP	352	2500	108	26	85	2151.6		1.003397	2158.9	1	2292.5	2.7		1.003536	2300.6	1		2007-09-11-17-57
527	SMP	352	2001	78	30	85	2147.2		1.003397	2154.5	1	2289.1	3.8		1.003536	2297.2	1		2007-09-11-18-20
528	SMP	352	1250	93	21	85	2147.4		1.003397	2154.7	1	2288.2	2.9		1.003536	2296.3	1		2007-09-11-18-45
529	SMP	352	1001	97	32	84	2149.5		1.003397	2156.8	1	2287.9	2.9		1.003536	2296.0	1		2007-09-11-19-09
530	SMP	352	500	84	30	84	2148.9		1.003397	2156.2	1	2284.4	3.1		1.003536	2292.5	1		2007-09-11-19-30
531	SMP	352	150	101	23	83	2156.4		1.003397	2163.7	1	2272.6	4.6		1.003536	2280.7	1		2007-09-11-20-13
532	SMP	352	100	83	15	82	2158.5		1.003397	2165.9	1	2265.4	3.3		1.003536	2273.4	1		2007-09-11-20-38
533	SMP	352	50	72	27	82	2153.0		1.003397	2160.3	1	2232.1	2.0		1.003536	2240.0	1		2007-09-11-21-00
534	CRM			68	26	82	2050.1	1.003532	1.003397	2057.0	1	2245.9	5.7	1.003402	1.003536	2253.8	1	73	2007-09-11-21-20
535	CRM			77	16	81	2050.2	1.003445	1.003397	2057.2	1	2245.3	5.8	1.003662	1.003536	2253.2	1	73	2007-09-11-21-46
536	JNK			82	67														2007-09-14-09-02
537	JNK			80	17	72	1944.3												2007-09-14-09-28
538	JNK			71	24	68	1994.7												2007-09-14-09-53
539	JNK			71	46	63	1989.3												2007-09-14-10-16
540	JNK			51	26	57	1993.6												2007-09-14-10-48

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#	T	STN	DPT	BK	±	SBK	DIC	CRMfac	DICfac	DICcor	QF	TAlk	RMS	CRMfac	TAlkfac	TAlkcor	QF	Batch	Date & time
541	JNK			62	34	55	1990.6												2007-09-14-11-11
542	CRM			54	30	55	2053.6	1.001810	1.003146	2060.0	1	2245.1	5.3	1.003759	1.004071	2254.2	1	73	2007-09-14-11-37
543	CRM			54	52	55	2050.6	1.003262	1.003146	2057.1	1	2243.4	4.9	1.004491	1.004069	2252.6	1	73	2007-09-14-11-59
544	SMP	363	3850	57	40	55	2148.5		1.003146	2155.2	1	2291.3	3.0		1.004067	2300.7	1		2007-09-14-12-31
545	SMP	363	3500	52	45	54	2146.2		1.003146	2153.0	1	2288.0	2.1		1.004063	2297.3	1		2007-09-14-13-41
546	SMP	363	3000	59	54	54	2152.5		1.003146	2159.3	1	2292.2	2.4		1.004061	2301.5	1		2007-09-14-14-04
547	SMP	363	2500	55	43	54	2152.5		1.003146	2159.2	1	2290.2	2.6		1.004060	2299.5	1		2007-09-14-14-26
548	SMP	363	2001	53	42	54	2155.1		1.003146	2161.9	1	2288.8	2.1		1.004058	2298.1	1		2007-09-14-14-47
549	SMP	363	1501	61	43	54	2160.1		1.003146	2166.9	1	2288.7	2.5		1.004057	2298.0	1		2007-09-14-15-10
550	SMP	363	1001	62	47	54	2169.9		1.003146	2176.7	1	2290.0	2.0		1.004056	2299.3	1		2007-09-14-15-31
551	SMP	363	502	52	44	54	2157.9		1.003146	2164.7	1	2288.4	2.1		1.004054	2297.7	1		2007-09-14-15-52
552	SMP	363	201	60	59	54	2154.0		1.003146	2160.8	1	2283.7	2.3		1.004053	2293.0	1		2007-09-14-16-20
553	SMP	363	100	55	43	54	2140.6		1.003146	2147.4	1	2255.6	2.0		1.004051	2264.7	1		2007-09-14-16-47
554	SMP	363	50	50	31	54	2144.0		1.003146	2150.8	1	2242.7	2.0		1.004049	2251.8	1		2007-09-14-17-20
555	SMP	363	10	48	21	54	2023.9		1.003146	2030.2	1	2155.0	2.0		1.004047	2163.7	1		2007-09-14-17-48
556	SMP	363	10	62	48	54	1998.9		1.003146	2005.1	1	2122.9	1.9		1.004045	2131.5	1		2007-09-14-18-19
557	CRM			43	44	54	2051.4	1.002897	1.003146	2057.8	1	2245.2	4.7	1.003682	1.004044	2254.3	1	73	2007-09-14-18-39
558	CRM			44	39	53	2050.3	1.003391	1.003146	2056.8	1	2244.5	4.8	1.004007	1.004042	2253.6	1	73	2007-09-14-19-01
559	JNK			84	37														2007-09-18-08-23
560	JNK			78	21	68	1995.9												2007-09-18-08-50
561	JNK			67	38	68	1999.7												2007-09-18-09-11
562	JNK			60	29	68	1996.9												2007-09-18-09-32
563	CRM			65	48	68	2055.9	1.000696	1.000692	2057.3	1	2245.5	4.3	1.003574	1.003126	2252.5	1	73	2007-09-18-09-56
564	CRM			69	41	68	2056.7	1.000303	1.000754	2058.2	1	2247.1	4.8	1.002840	1.003126	2254.1	1	73	2007-09-18-10-22
565	CRM			66	35	68	2053.8	1.001696	1.000806	2055.5	1	2245.8	4.8	1.003432	1.003126	2252.8	1	73	2007-09-18-10-44
566	SMP	371	4050	80	30	68	2153.6		1.000872	2155.5	1	2292.4	2.7		1.003126	2299.5	1		2007-09-18-11-09
567	SMP	371	3500	82	31	68	2155.7		1.000940	2157.7	1	2294.0	2.2		1.003126	2301.1	1		2007-09-18-11-32
568	SMP	371	3301	73	39	68	2152.1		1.001004	2154.3	1	2292.5	2.8		1.003126	2299.7	1		2007-09-18-11-54
569	SMP	371	2999	74	17	68	2150.6		1.001098	2153.0	1	2293.4	2.1		1.003126	2300.5	1		2007-09-18-12-26
570	SMP	371	2251	74	40	68	2156.5		1.001163	2159.0	1	2291.5	3.1		1.003126	2298.7	1		2007-09-18-12-48
571	SMP	371	1500	80	27	68	2159.2		1.001228	2161.9	1	2290.4	2.4		1.003126	2297.5	1		2007-09-18-13-10
572	SMP	371	1001	68	24	68	2166.2		1.001313	2169.1	1	2290.5	2.6		1.003126	2297.6	1		2007-09-18-13-39
573	SMP	371	501	70	23	68	2156.5		1.001377	2159.5	1	2289.3	2.4		1.003126	2296.5	1		2007-09-18-14-01
574	SMP	371	301	70	41	68	2153.2		1.001466	2156.3	1	2287.6	3.1		1.003126	2294.7	1		2007-09-18-14-31
575	SMP	371	100	67	46	68	2154.2		1.001533	2157.5	1	2270.5	2.4		1.003126	2277.6	1		2007-09-18-14-54
576	SMP	371	50	73	38	68	2143.5		1.001601	2146.9	1	2271.8	2.2		1.003126	2278.9	1		2007-09-18-15-17
577	SMP	371	26	73	25	68	2133.9		1.001718	2137.5	1	3320.0	2.7		1.003126	3330.4	8		2007-09-18-15-57
578	SMP	371	26	66	37	68	2130.6		1.001774	2134.4	1	2264.8	1.4		1.003126	2271.8	1		2007-09-18-16-16
579	CRM			70	17	68	2054.0	1.001622	1.001841	2057.8	1	2247.0	4.6	1.002890	1.003126	2254.0	1	73	2007-09-18-16-39
580	CRM			68	41	68	2051.8	1.002679	1.001962	2055.8	1	2249.1	4.2	1.001939	1.003126	2256.2	1	73	2007-09-18-17-20
581	SMP	326	3900	64	25	68	2148.0		1.002016	2152.3	1	2295.7	2.4		1.003126	2302.8	1		2007-09-18-17-45
582	SMP	326	3700	60	36	68	2149.5		1.002053	2153.9	1	2292.7	2.6		1.003126	2299.9	1		2007-09-18-18-07
583	SMP	326	3251	68	21	68	2154.6		1.002114	2159.2	1	2296.7	2.1		1.003126	2303.9	1		2007-09-18-18-44
584	SMP	326	2750	67	17	68	2151.6		1.002161	2156.2	1	2296.5	2.6		1.003126	2303.7	1		2007-09-18-19-12
585	SMP	372	2501	70	29	68	2152.7		1.002217	2157.5	1	2294.9	2.1		1.003126	2302.1	1		2007-09-18-19-46
586	SMP	372	2001	64	24	68	2153.6		1.002293	2158.5	1	2295.7	2.3		1.003126	2302.9	1		2007-09-18-20-32
587	SMP	372	1502	60	38	68	2156.1		1.002340	2161.1	1	2293.6	2.5		1.003126	2300.8	1		2007-09-18-21-00
588	SMP	372	1003	60	27	68	2162.2		1.002398	2167.4	1	2294.0	2.6		1.003126	2301.2	1		2007-09-18-21-35
589	SMP	372	502	46	40	68	2153.8		1.002435	2159.0	1	2291.1	2.9		1.003126	2298.2	1		2007-09-18-21-57
590	SMP	372	201	54	36	68	2150.2		1.002473	2155.5	1	2287.2	2.6		1.003126	2294.4	1		2007-09-18-22-20
591	SMP	372	24	46	37	68	2075.9		1.002511	2081.2	1	2215.4	2.0		1.003126	2222.3	1		2007-09-18-22-43
592	CRM			51	33	68	2053.9	1.001655	1.002547	2059.1	1	2247.0	4.4	1.002876	1.003126	2254.1	1	73	2007-09-18-23-05
593	CRM			43	42	68	2049.0	1.004039	1.002582	2054.3	1	2246.0	4.1	1.003358	1.003126	2253.0	1	73	2007-09-18-23-26
594	JNK			56	25														2007-09-19-10-59
595	JNK			86	40	81	1999.2												2007-09-19-11-33
596	JNK			79	29	81	1997.7												2007-09-19-12-11
597	JNK			75	37	81	1989.5												2007-09-19-12-32
598	JNK			67	40	81	1996.9												2007-09-19-12-59
599	JNK			77	39	81	1997.2												2007-09-19-13-54
600	JNK			89	27	81	1998.4												2007-09-19-14-48

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#	T	STN	DPT	BK	±	SBK	DIC	CRMfac	DICfac	DICcor	QF	TAlk	RMS	CRMfac	TAlkfac	TAlkcor	QF	Batch	Date & time
601	JNK			91	33	81	1993.6												2007-09-19-16-11
602	JNK			243	39														2007-09-20-12-01
603	JNK			259	63	77	2010.6												2007-09-20-12-22
604	JNK			243	73	77	1995.5												2007-09-20-12-44
605	JNK			216	79	77	1995.2												2007-09-20-13-07
606	CRM			127	54	77	2025.4	1.003670	1.003249	2032.0	1	2249.0	4.9	1.002435	1.002621	2254.9	1	71	2007-09-20-13-39
607	CRM			84	39	77	2026.6	1.003062	1.003212	2033.1	1	2248.7	4.8	1.002593	1.002627	2254.6	1	71	2007-09-20-14-01
608	SMP	379	4325	74	39	77	2147.9		1.003141	2154.7	1	2291.6	2.2		1.002633	2297.6	1		2007-09-20-14-24
609	SMP	379	4000	55	35	77	2147.4		1.003067	2154.0	1	2292.6	2.2		1.002639	2298.6	1		2007-09-20-14-48
610	SMP	379	3500	41	25	77	2146.3		1.002997	2152.7	4	2292.4	2.2		1.002645	2298.5	1		2007-09-20-15-11
611	SMP	379	3000	54	30	77	2146.2		1.002929	2152.5	1	2291.1	2.4		1.002651	2297.1	1		2007-09-20-15-33
612	SMP	379	2501	78	18	77	2152.1		1.002853	2158.3	1	2291.4	2.2		1.002658	2297.5	1		2007-09-20-15-58
613	SMP	379	2002	97	26	77	2155.7		1.002782	2161.7	1	2291.6	2.3		1.002664	2297.7	1		2007-09-20-16-21
614	SMP	379	1501	96	32	77	2157.3		1.002712	2163.2	1	2289.6	1.8		1.002670	2295.7	1		2007-09-20-16-44
615	SMP	379	1001	80	58	77	2163.5		1.002641	2169.2	1	2290.4	2.1		1.002676	2296.5	1		2007-09-20-17-07
616	SMP	379	502	68	33	77	2155.1		1.002570	2160.6	1	2290.3	1.9		1.002682	2296.4	1		2007-09-20-17-30
617	SMP	379	100	69	9	77	2149.7		1.002506	2155.1	1	2268.7	2.1		1.002687	2274.8	1		2007-09-20-17-51
618	SMP	379	50	105	29	77	2147.8		1.002423	2153.0	1	2255.5	1.8		1.002694	2261.6	1		2007-09-20-18-18
619	SMP	379	24	113	31	77	2120.2		1.002334	2125.1	4	2238.6	1.6		1.002702	2244.7	1		2007-09-20-18-47
620	CRM			75	18	77	2028.5	1.002157	1.002267	2033.1	1	2248.5	4.5	1.002689	1.002708	2254.5	1	71	2007-09-20-19-09
621	CRM			81	35	77	2027.9	1.002450	1.002427	2032.8	1	2248.9	4.1	1.002486	1.002713	2255.0	1	71	2007-09-20-19-31
622	SMP	382	5201	82	17	77	2150.0		1.002738	2155.9	1	2292.4	2.0		1.002743	2298.6	1		2007-09-20-19-55
623	SMP	382	5000	85	21	77	2149.2		1.003037	2155.8	1	2294.1	1.9		1.002782	2300.5	1		2007-09-20-20-18
624	SMP	382	4500	82	25	77	2150.4		1.003387	2157.6	1	2295.8	2.2		1.002827	2302.3	1		2007-09-20-20-45
625	SMP	382	4001	69	29	77	2148.5		1.003673	2156.4	1	2292.9	2.2		1.002864	2299.5	1		2007-09-20-21-07
626	SMP	382	3000	74	26	77	2147.8		1.003984	2156.3	1	2293.9	1.9		1.002904	2300.6	1		2007-09-20-21-31
627	CRM			61	24	77	2024.2	1.004262	1.004283	2032.9	1	2247.5	5.0	1.003115	1.002943	2254.1	1	71	2007-09-20-21-54
628	CRM			57	36	77	2022.9	1.004907	1.004460	2031.9	1	2247.6	4.8	1.003057	1.002980	2254.3	1	71	2007-09-20-22-16
629	JNK			68	44														2007-09-21-10-24
630	JNK			80	57	75	1993.1												2007-09-21-11-12
631	JNK			72	53	75	1993.2												2007-09-21-11-34
632	JNK			108	36	75	1990.6												2007-09-21-12-59
633	JNK			116	58	75	1997.9												2007-09-21-13-23
634	JNK			81	45	75	1990.7												2007-09-21-13-44
635	JNK			103	35	75	1996.8												2007-09-21-14-23
636	CRM			89	60	75	2032.4	1.000203	1.000887	2034.2	1	2255.8	4.6	0.999412	1.003393	2263.5	8	71	2007-09-21-14-47
637	CRM			80	38	75	2029.6	1.001581	1.000949	2031.6	1	2245.5	4.9	1.004019	1.003391	2253.1	1	71	2007-09-21-15-09
638	SMP	382	2001	78	41	75	2152.9		1.001060	2155.2	1	2290.8	2.3		1.003390	2298.6	1		2007-09-21-15-37
639	SMP	382	2500	78	34	75	2151.7		1.001150	2154.1	1	2290.2	2.2		1.003389	2298.0	1		2007-09-21-16-00
640	SMP	382	1501	88	24	75	2157.3		1.001245	2160.0	1	2289.4	2.2		1.003388	2297.1	1		2007-09-21-16-24
641	SMP	382	500	79	32	75	2157.9		1.001340	2160.8	1	2289.5	2.1		1.003386	2297.3	1		2007-09-21-16-48
642	SMP	382	101	94	32	75	2151.9		1.001427	2155.0	1	2270.5	2.0		1.003385	2278.2	1		2007-09-21-17-10
643	SMP	382	50	81	25	75	2146.6		1.001525	2149.9	1	2258.8	2.1		1.003384	2266.5	1		2007-09-21-17-35
644	SMP	385	3426	81	68	75	2151.5		1.001604	2154.9	1	2292.0	2.7		1.003383	2299.8	1		2007-09-21-17-55
645	SMP	385	3251	95	54	75	2152.2		1.001734	2156.0	1	2294.3	1.9		1.003381	2302.0	1		2007-09-21-18-28
646	SMP	385	3001	73	40	75	2149.9		1.001817	2153.8	1	2293.3	2.5		1.003380	2301.0	1		2007-09-21-18-49
647	CRM			86	56	75	2029.6	1.001576	1.001928	2033.6	1	2248.1	4.5	1.002826	1.003379	2255.7	1	71	2007-09-21-19-17
648	CRM			75	33	75	2027.1	1.002850	1.001941	2031.0	1	2246.4	4.4	1.003626	1.003378	2253.9	1	71	2007-09-21-19-41
649	SMP	385	2500	82	31	75	2152.3		1.001941	2156.5	1	2291.9	2.3		1.003376	2299.7	1		2007-09-21-20-11
650	SMP	385	2000	81	30	75	2155.0		1.001941	2159.2	1	2290.3	2.1		1.003375	2298.1	1		2007-09-21-20-34
651	SMP	385	1501	69	58	75	2156.2		1.001941	2160.4	1	2289.0	2.2		1.003374	2296.7	1		2007-09-21-20-55
652	SMP	385	1000	69	39	75	2160.0		1.001941	2164.2	1	2289.6	2.4		1.003373	2297.3	1		2007-09-21-21-19
653	SMP	385	750	87	21	75	2157.6		1.001941	2161.8	1	2288.6	1.8		1.003371	2296.3	1		2007-09-21-21-51
654	SMP	385	500	73	40	75	2154.8		1.001941	2159.0	1	2288.3	2.1		1.003370	2296.0	1		2007-09-21-22-11
655	JNK			59	61	75	1991.1												2007-09-21-22-46
656	JNK			64	68	75	1988.7												2007-09-21-23-09
657	CRM			64	49	75	2028.7	1.002043	1.001941	2032.6	1	2247.4	5.3	1.003157	1.003366	2255.0	1	71	2007-09-21-23-33
658	CRM			73	52	75	2029.2	1.001791	1.001941	2033.1	1	2245.9	4.8	1.003829	1.003365	2253.5	1	71	2007-09-21-23-55
659	JNK			60	25														2007-09-22-11-11
660	JNK			52	18	100	1989.4												2007-09-22-11-32

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#	T	STN	DPT	BK	±	SBK	DIC	CRMfac	DICfac	DICcor	QF	TAlk	RMS	CRMfac	TAlkfac	TAlkcor	QF	Batch	Date & time
661	JNK			56	37	100	1991.9												2007-09-22-11-53
662	JNK			81	45	100	1985.5												2007-09-22-12-16
663	JNK			106	38	100	1986.0												2007-09-22-12-43
664	JNK			139	40	100	1978.6												2007-09-22-13-11
665	JNK			105	31	100	1977.1												2007-09-22-13-34
666	CRM			101	38	100	1985.1	1.002241	1.002243	1989.5	1	2153.2	5.2	1.003392	1.003980	2161.7	1	70	2007-09-22-13-58
667	CRM			105	19	100	1985.0	1.002278	1.002262	1989.5	1	2150.7	5.2	1.004546	1.003983	2159.2	1	70	2007-09-22-14-20
668	SMP	385	201	127	19	100	2151.1		1.002288	2156.0	4	2287.0	1.8		1.003987	2296.1	1		2007-09-22-14-46
669	SMP	385	101	105	38	100	2145.2		1.002307	2150.1	1	2267.7	2.1		1.003990	2276.7	1		2007-09-22-15-06
670	SMP	385	50	94	16	100	2118.1		1.002330	2123.0	1	2257.4	1.7		1.003993	2266.4	1		2007-09-22-15-29
671	SMP	400	1093	97	37	100	2173.1		1.002352	2178.2	1	2300.1	2.0		1.003997	2309.3	8		2007-09-22-15-51
672	SMP	400	999	142	47	100	2172.6		1.002381	2177.7	1	2289.7	1.9		1.004001	2298.9	1		2007-09-22-16-21
673	SMP	400	509	102	29	100	2161.6		1.002403	2166.8	1	2286.3	2.5		1.004005	2295.5	1		2007-09-22-16-43
674	SMP	400	202	94	23	100	2150.6		1.002423	2155.8	1	2285.8	2.1		1.004008	2295.0	1		2007-09-22-17-03
675	SMP	400	101	102	18	100	2163.9		1.002445	2169.2	1	2279.0	2.1		1.004011	2288.1	1		2007-09-22-17-25
676	SMP	400	51	80	36	100	2162.9		1.002467	2168.2	1	2271.3	2.3		1.004014	2280.4	1		2007-09-22-17-48
677	SMP	400	27	109	25	100	2155.3		1.002499	2160.7	1	2261.7	2.5		1.004019	2270.8	1		2007-09-22-18-20
678	CRM			105	22	100	1984.7	1.002415	1.002521	1989.7	1	2151.6	5.4	1.004103	1.004022	2160.3	1	70	2007-09-22-18-42
679	CRM			84	23	100	1981.4	1.004099	1.002542	1986.4	1	2151.9	5.3	1.003986	1.004025	2160.5	1	70	2007-09-22-19-03
680	JNK			112	49														2007-09-23-12-31
681	JNK			109	24	92	1923.9												2007-09-23-12-53
682	JNK			93	26	92	1927.2												2007-09-23-13-20
683	JNK			90	46	92	1923.6												2007-09-23-13-41
684	JNK			86	28	92	1924.3												2007-09-23-14-02
685	CRM			83	25	92	2006.7	1.002662	1.002539	2011.8	1	2216.0	5.9	1.003031	1.002931	2222.5	1	53	2007-09-23-14-33
686	CRM			94	24	92	2007.4	1.002286	1.002551	2012.6	1	2213.9	5.5	1.003960	1.002903	2220.3	1	53	2007-09-23-14-58
687	SMP	389	2502	117	35	92	2154.8		1.002611	2160.4	1	2290.2	2.5		1.002876	2296.8	1		2007-09-23-15-23
688	SMP	389	2000	109	19	92	2153.8		1.002665	2159.5	1	2287.6	1.9		1.002852	2294.2	1		2007-09-23-15-45
689	SMP	389	1499	141	35	91	2164.5		1.002774	2170.5	4	2291.4	2.4		1.002802	2297.8	1		2007-09-23-16-30
690	SMP	389	1000	101	36	91	2170.0		1.002837	2176.2	1	2289.6	2.2		1.002773	2295.9	1		2007-09-23-16-56
691	SMP	389	500		978	91	1434.7		1.002888	1438.9	8	2288.0	1.9		1.002750	2294.3	1		2007-09-23-17-17
692	SMP	389	100			91	1967.4		1.002941	1973.2	4	2268.1	1.8		1.002726	2274.3	1		2007-09-23-17-39
693	SMP	389	51	71	36	91	2124.6		1.003014	2131.0	1	2260.6	2.0		1.002693	2266.7	1		2007-09-23-18-09
694	SMP	389	500	148	43	91	2163.2		1.003118	2170.0	4	2291.6	1.7		1.002645	2297.6	1		2007-09-23-18-52
695	SMP	407	56	99	27	91	2169.6		1.003169	2176.5	1	2257.2	2.0		1.002622	2263.2	1		2007-09-23-19-13
696	SMP	407	30	87	24	91	2137.7		1.003220	2144.5	1	2252.3	2.3		1.002599	2258.2	1		2007-09-23-19-34
697	SMP	407	10	91	26	91	1994.8		1.003268	2001.4	1	2121.4	1.8		1.002577	2126.8	1		2007-09-23-19-54
698	CRM			76	40	91	2005.0	1.003519	1.003322	2011.6	1	2217.5	6.4	1.002334	1.002553	2223.2	1	53	2007-09-23-20-16
699	CRM			77	29	90	2005.2	1.003419	1.003347	2011.9	1	2217.2	6.7	1.002462	1.002528	2222.8	1	53	2007-09-23-20-38
700	JNK			86	21	90	1931.4												2007-09-23-21-14
701	SMP	407	10	90	20	90	1992.0		1.003347	1998.7	1	2119.4	1.5		1.002463	2124.6	1		2007-09-23-21-37
702	JNK			72	35														2007-09-25-07-51
703	JNK			122	26	98	1933.4												2007-09-25-08-23
704	JNK			98	21	98	1935.3												2007-09-25-08-46
705	JNK			84	39	98	1931.5												2007-09-25-09-06
706	CRM			95	22	98	2010.7	1.000675	1.001236	2013.2	1	2215.6	7.0	1.003194	1.003074	2222.4	1	53	2007-09-25-09-28
707	CRM			85	25	98	2008.6	1.001684	1.001307	2011.3	1	2214.2	6.7	1.003812	1.003064	2221.0	1	53	2007-09-25-09-50
708	SMP	411	35	112	18	98	2192.2		1.001409	2195.3	1	2265.1	2.1		1.003050	2272.0	1		2007-09-25-10-19
709	SMP	411	25	125	26	98	2198.3		1.001507	2201.6	4	2265.3	2.3		1.003037	2272.2	1		2007-09-25-10-47
710	SMP	411	25	143	28	98	2040.7		1.001610	2044.0	4	2130.1	2.9		1.003023	2136.6	1		2007-09-25-11-16
711	SMP	411	10	97	45	98	1977.2		1.001705	1980.6	1	2075.3	1.7		1.003010	2081.5	1		2007-09-25-11-43
712	SMP	271	301	142	30	98	2161.9		1.001832	2165.9	4	2288.9	3.0		1.002993	2295.7	1		2007-09-25-12-19
713	SMP	271	200	115	39	98	2151.5		1.001913	2155.6	1	2290.6	2.9		1.002982	2297.4	1		2007-09-25-12-42
714	SMP	271	150	100	37	97	2149.7		1.001990	2154.0	1	2286.2	2.6		1.002972	2293.0	1		2007-09-25-13-04
715	SMP	271	101	97	61	97	2144.3		1.002064	2148.7	1	2286.2	2.5		1.002962	2293.0	1		2007-09-25-13-25
716	SMP	271	50	93	30	97	2083.0		1.002145	2087.5	1	2244.8	2.8		1.002951	2251.4	1		2007-09-25-13-48
717	SMP	271	25	92	20	97	2083.5		1.002230	2088.1	1	2245.5	2.5		1.002939	2252.1	1		2007-09-25-14-12
718	JNK			129	34	97	1903.9												2007-09-25-14-46
719	CRM			94	32	97	2006.9	1.002540	1.002423	2011.8	1	2215.4	5.7	1.003273	1.002913	2221.9	1	53	2007-09-25-15-07
720	CRM			84	37	97	2007.4	1.002320	1.002474	2012.3	1	2217.1	5.8	1.002535	1.002901	2223.5	1	53	2007-09-25-15-34

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#	T	STN	DPT	BK	±	SBK	DIC	CRMfac	DICfac	DICcor	QF	TAlk	RMS	CRMfac	TAlkfac	TAlkcor	QF	Batch	Date & time
721	SMP	268	1500	94	37	97	2157.3		1.002508	2162.7	1	2290.1	2.9		1.002889	2296.7	1		2007-09-25-15-58
722	SMP	268	1251	79	30	97	2158.0		1.002540	2163.5	1	2287.2	2.8		1.002879	2293.8	1		2007-09-25-16-20
723	SMP	268	1001	83	23	97	2155.6		1.002574	2161.1	1	2287.8	2.8		1.002867	2294.4	1		2007-09-25-16-44
724	SMP	268	751	108	39	97	2155.9		1.002615	2161.5	1	2289.0	2.9		1.002854	2295.5	1		2007-09-25-17-13
725	SMP	268	501	95	25	97	2154.0		1.002649	2159.7	1	2286.9	2.5		1.002842	2293.4	1		2007-09-25-17-37
726	SMP	268	201	85	22	97	2142.3		1.002679	2148.1	1	2287.5	2.7		1.002832	2294.0	1		2007-09-25-17-58
727	SMP	268	100	77	30	97	2137.4		1.002712	2143.2	1	2283.3	2.2		1.002821	2289.7	1		2007-09-25-18-21
728	SMP	268	50	69	34	97	2129.6		1.002741	2135.4	1	2270.1	2.5		1.002812	2276.5	1		2007-09-25-18-41
729	SMP	268	25	69	24	97	2080.7		1.002771	2086.4	4	2237.9	2.5		1.002802	2244.2	1		2007-09-25-19-02
730	SMP	268	4	71	30	97	1963.0		1.002801	1968.5	1	2168.3	2.2		1.002792	2174.3	1		2007-09-25-19-23
731	CRM			57	37	97	2004.4	1.003825	1.002838	2010.1	4	2216.0	7.0	1.003003	1.002780	2222.2	1	53	2007-09-25-19-49
732	CRM			84	16	97	2007.1	1.002472	1.002871	2012.8	1	2216.4	7.2	1.002828	1.002769	2222.5	1	53	2007-09-25-20-12
733	JNK			171	44														2007-09-27-08-25
734	JNK			166	40	156	1920.6												2007-09-27-09-00
735	JNK			152	44	146	1890.8												2007-09-27-09-34
736	JNK			133	39	130	1893.6												2007-09-27-09-59
737	CRM			116	32	112	2001.4	1.005293	1.004473	2010.4	1	2219.9	7.8	1.001239	1.000847	2221.8	1	53	2007-09-27-10-26
738	CRM			101	40	97	2003.6	1.004206	1.004258	2012.1	1	2220.6	8.0	1.000937	1.000830	2222.4	1	53	2007-09-27-10-49
739	SMP	258	3980	92	25	97	2143.6		1.004102	2152.4	1	2299.1	4.2		1.000764	2300.9	1		2007-09-27-11-21
740	SMP	258	3592	87	26	97	2144.2		1.003964	2152.7	1	2296.0	4.3		1.000704	2297.6	1		2007-09-27-11-50
741	SMP	258	3392	89	20	97	2146.5		1.003849	2154.8	1	2293.9	3.9		1.000654	2295.4	1		2007-09-27-12-14
742	SMP	258	2992	95	17	97	2146.6		1.003735	2154.6	1	2293.9	3.9		1.000605	2295.3	1		2007-09-27-12-38
743	SMP	258	2594	104	23	97	2148.4		1.003625	2156.2	1	2292.9	3.5		1.000557	2294.2	1		2007-09-27-13-01
744	SMP	258	2394	132	21	97	2151.7		1.003420	2159.1	4	2295.3	3.2		1.000468	2296.3	1		2007-09-27-13-44
745	SMP	258	1995	106	24	97	2151.3		1.003281	2158.3	1	2293.0	3.2		1.000408	2293.9	1		2007-09-27-14-13
746	SMP	258	1597	111	28	97	2152.6		1.003148	2159.3	1	2290.3	3.1		1.000350	2291.1	1		2007-09-27-14-41
747	SMP	258	1197	117	19	97	2154.7		1.003047	2161.3	4	2290.6	2.8		1.000307	2291.3	1		2007-09-27-15-02
748	SMP	258	997	102	24	97	2153.1		1.002880	2159.3	1	2291.5	2.1		1.000234	2292.1	1		2007-09-27-15-37
749	SMP	258	600	106	17	97	2152.2		1.002752	2158.1	1	2293.6	3.0		1.000178	2294.0	1		2007-09-27-16-04
750	SMP	258	200	144	25	97	2148.5		1.002613	2154.1	4	2292.8	2.3		1.000118	2293.0	1		2007-09-27-16-33
751	SMP	258	100	113	23	97	2117.0		1.002398	2122.0	1	2262.7	2.7		1.000025	2262.8	1		2007-09-27-17-18
752	SMP	258	40	106	41	97	2090.2		1.002270	2094.9	1	2254.1	2.8		0.999969	2254.0	1		2007-09-27-17-45
753	SMP	258	18	109	26	97	2073.5		1.002150	2077.9	1	2244.1	2.5		0.999918	2243.9	1		2007-09-27-18-10
754	CRM			91	20	97	2007.8	1.002104	1.002031	2011.9	1	2225.0	7.9	0.998960	0.999866	2224.7	1	53	2007-09-27-18-35
755	CRM			96	20	97	2008.6	1.001730	1.001936	2012.4	1	2224.0	7.5	0.999405	0.999818	2223.6	1	53	2007-09-27-18-58
756	JNK			95	62														2007-09-28-06-41
757	JNK			77	31	73	1904.2												2007-09-28-07-04
758	JNK			76	41	73	1909.5												2007-09-28-07-29
759	JNK			70	16	73	1908.8												2007-09-28-07-51
760	JNK			64	21	75	2111.0												2007-09-28-08-21
761	CRM			80	16	79	2010.6	1.000703	1.000831	2012.3	1	2219.1	8.2	1.001598	1.001586	2222.7	1	53	2007-09-28-08-49
762	CRM			76	22	83	2009.3	1.001379	1.000837	2010.9	1	2218.9	8.0	1.001682	1.001562	2222.4	1	53	2007-09-28-09-17
763	SMP	266	2950	80	36	87	2150.6		1.000837	2152.4	1	2294.9	4.3		1.001537	2298.4	1		2007-09-28-09-46
764	SMP	266	2749	86	31	91	2149.6		1.000837	2151.4	1	2293.1	4.5		1.001514	2296.5	1		2007-09-28-10-12
765	SMP	266	2500	95	28	95	2154.3		1.000837	2156.1	1	2290.8	4.2		1.001489	2294.2	1		2007-09-28-10-41
766	SMP	266	2250	109	23	99	2156.3		1.000837	2158.1	1	2290.8	4.4		1.001469	2294.2	1		2007-09-28-11-05
767	SMP	266	2001	108	13	102	2157.7		1.000837	2159.5	1	2288.7	4.0		1.001444	2292.0	1		2007-09-28-11-33
768	SMP	266	1751	104	26	102	2158.9		1.000837	2160.7	1	2289.8	4.1		1.001422	2293.0	1		2007-09-28-11-59
769	SMP	266	1501	109	30	102	2158.7		1.000837	2160.6	1	2304.1	3.6		1.001399	2307.4	8		2007-09-28-12-26
770	SMP	266	1250	121	36	102	2159.7		1.000837	2161.5	1	2288.5	4.1		1.001379	2291.7	1		2007-09-28-12-49
771	SMP	266	1000	94	28	102	2154.6		1.000837	2156.4	1	2288.6	3.8		1.001356	2291.7	1		2007-09-28-13-16
772	CRM			105	29	102	2009.6	1.001192	1.000837	2011.3	1	2220.4	7.6	1.001030	1.001332	2223.3	1	53	2007-09-28-13-44
773	CRM			115	47	102	2012.1	0.999966	1.000872	2013.9	1	2218.6	7.7	1.001825	1.001311	2221.5	1	53	2007-09-28-14-08
774	SMP	266	501	105	37	102	2153.2		1.000907	2155.1	1	2289.5	3.6		1.001281	2292.4	1		2007-09-28-14-31
775	SMP	266	300	102	38	102	2147.1		1.000940	2149.1	1	2290.4	4.1		1.001252	2293.2	1		2007-09-28-14-53
776	SMP	266	200	91	19	102	2141.9		1.000973	2144.0	1	2291.6	3.5		1.001223	2294.4	1		2007-09-28-15-15
777	SMP	266	100	98	37	102	2140.6		1.001030	2142.8	1	2289.5	3.3		1.001174	2292.2	1		2007-09-28-15-52
778	SMP	266	50	111	27	102	2134.4		1.001063	2136.7	1	2278.0	3.3		1.001145	2280.6	1		2007-09-28-16-14
779	SMP	266	23	97	26	102	2066.8		1.001101	2069.1	1	2237.7	2.9		1.001112	2240.2	1		2007-09-28-16-39
780	SMP	258	3980	82	38	102	2147.5		1.001148	2149.9	1	2294.2	4.2		1.001071	2296.7	1		2007-09-28-17-10

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#	T	STN	DPT	BK	±	SBK	DIC	CRMfac	DICfac	DICcor	QF	TAlk	RMS	CRMfac	TAlkfac	TAlkcor	QF	Batch	Date & time
781	SMP	257	3891	102	12	102	2148.7		1.001189	2151.2	1	2294.7	4.1		1.001036	2297.1	1		2007-09-28-17-37
782	SMP	257	3385	136	48	102	2152.0		1.001253	2154.6	1	2296.1	4.1		1.000980	2298.3	1		2007-09-28-18-19
783	SMP	257	3000	112	22	102	2153.2		1.001289	2156.0	1	2291.7	4.2		1.000949	2293.8	1		2007-09-28-18-43
784	SMP	257	2500	93	18	102	2147.4		1.001323	2150.3	1	2292.8	3.9		1.000920	2294.9	1		2007-09-28-19-05
785	CRM			90	33	102	2008.8	1.001622	1.001358	2011.5	1	2221.2	7.3	1.000667	1.000889	2223.2	1	53	2007-09-28-19-28
786	CRM			89	30	102	2008.0	1.002027	1.001395	2010.8	1	2221.5	7.0	1.000542	1.000856	2223.4	1	53	2007-09-28-19-53
787	JNK			174	52														2007-10-01-07-42
788	JNK			136	26	134	2120.0												2007-10-01-08-05
789	JNK			132	38	131	2118.3												2007-10-01-08-30
790	JNK			122	26	128	2113.7												2007-10-01-08-51
791	CRM			107	49	124	2008.7	1.001657	1.001841	2012.4	4	2223.2	5.4	0.999762	1.000500	2224.3	1	53	2007-10-01-09-20
792	CRM			116	41	121	2008.0	1.002030	1.001965	2011.9	4	2220.0	5.0	1.001187	1.000477	2221.1	1	53	2007-10-01-09-43
793	SMP	257	2000	123	43	117	2149.7		1.002146	2154.3	1	2293.2	2.4		1.000360	2294.0	1		2007-10-01-10-10
794	SMP	257	1500	109	67	114	2149.7		1.002307	2154.6	1	2294.9	2.4		1.000257	2295.5	1		2007-10-01-10-34
795	SMP	257	1000	123	31	111	2150.5		1.002468	2155.8	1	2292.6	2.2		1.000153	2292.9	1		2007-10-01-10-58
796	SMP	257	801	107	56	107	2150.2		1.002663	2155.9	1	2294.9	2.4		1.000028	2295.0	1		2007-10-01-11-27
797	SMP	257	701	99	39	103	2147.7		1.002817	2153.8	1	2294.6	2.2		0.999929	2294.4	1		2007-10-01-11-50
798	SMP	257	600	102	37	100	2146.7		1.003005	2153.2	1	2292.5	2.1		0.999808	2292.1	1		2007-10-01-12-18
799	SMP	257	500	94	16	96	2145.5		1.003159	2152.3	1	2294.8	2.9		0.999709	2294.2	1		2007-10-01-12-41
800	SMP	257	401	94	35	93	2144.0		1.003307	2151.1	1	2294.8	2.1		0.999614	2293.9	1		2007-10-01-13-03
801	SMP	257	300	96	25	90	2142.1		1.003475	2149.6	1	2298.9	3.0		0.999507	2297.8	1		2007-10-01-13-28
802	SMP	257	200	87	49	87	2140.5		1.003629	2148.3	1	2294.7	2.3		0.999408	2293.4	1		2007-10-01-13-51
803	SMP	257	150	83	38	86	2136.8		1.003763	2144.9	1	2295.3	3.6		0.999321	2293.8	1		2007-10-01-14-11
804	SMP	257	125	90	36	86	2134.6		1.003918	2142.9	1	2286.6	3.3		0.999222	2284.8	1		2007-10-01-14-34
805	SMP	257	99	84	38	86	2127.3		1.004058	2135.9	1	2273.7	2.3		0.999132	2271.8	1		2007-10-01-14-55
806	CRM			89	45	86	2003.8	1.004088	1.004199	2012.3	1	2225.5	5.0	0.998742	0.999041	2223.3	1	53	2007-10-01-15-16
807	CRM			82	18	86	2003.3	1.004359	1.004251	2011.8	1	2226.7	4.8	0.998176	0.999025	2224.6	1	53	2007-10-01-15-41
808	SMP	257	76	97	61	86	2084.6		1.004251	2093.5	1	2261.1	2.7		0.999025	2258.9	1		2007-10-01-16-18
809	SMP	257	50	97	25	86	2068.7		1.004251	2077.5	1	2246.1	3.0		0.999025	2243.9	1		2007-10-01-16-40
810	SMP	257	25	85	37	86	2069.6		1.004251	2078.4	1	2246.4	2.7		0.999025	2244.2	1		2007-10-01-17-03
811	SMP	257	10	86	29	86	2056.6		1.004251	2065.3	1	2232.3	2.6		0.999025	2230.1	1		2007-10-01-17-25
812	CRM			91	22	86	2003.9	1.004057	1.004251	2012.4	1	2224.4	4.7	0.999228	0.999025	2222.2	1	53	2007-10-01-17-48
813	CRM			81	44	86	2002.8	1.004589	1.004251	2011.4	1	2223.5	4.5	0.999614	0.999025	2221.4	1	53	2007-10-01-18-11