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"222-S LABORATORY ANALYTICAL REPORT FOR TANK 241-C-106, GRAB SAMPLES 6C-96-1 THROUGH 6C-96-16 & 6C-96-17-FB."

Ruth A. Esch

Westinghouse Hanford Company, Richland, WA 99352
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ANALYTICAL SERVICES

222-S LABORATORY ANALYTICAL REPORT FOR TANK 241-C-106, GRAB SAMPLES 6C-96-1 THROUGH 6C-96-16 & 6C-96-17(FB)

PROJECT COORDINATOR: RUTH A. ESCH

**Prepared for the U.S. Department of Energy
Office of Environmental Restoration
and Waste Management**

by

**Westinghouse Hanford Company
Box 1970
Richland, Washington**

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This document consists of two sections.

Part I consists of pages 1 through 2462 plus 107.1 through 107.16, 681.1 1725.1, and pages ii, 2, 21, 32, 39, 53, 65, 75, 109, 126, 673, 1197, 1303 and 2426 were intentionally left blank.

Part II consists of pages 2-1 through 2-139.

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NARRATIVE

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**FINAL REPORT FOR TANK 241-C-106
GRAB SAMPLES 6C-96-1, THROUGH 6C-96-16 AND 6C-96-17 (FB)**

This report presents final analytical results for grab samples taken from tank 241-C-106 risers 1 and 7 between February 8, 1996 and March 1, 1996. Samples were received and subsampled at the 222-S Laboratory. Analyses were performed in accordance with the *Tank Sampling and Analysis Plan* (TSAP) for this tank (Schreiber, 1996), the *Safety Screening Data Quality Objective* (DQO) (Dukelow, et al. 1995), and the *Data Quality Objectives for Tank Farms Waste Compatibility Program* (Fowler, 1995).

In addition to the safety screening and waste compatibility analyses, a number of additional, non-routine tests were requested on sludge material from this tank. The results of these tests are included as Appendices.

Appearance and Sample Handling

Grab samples were taken from tank 241-C-106 during two separate sampling events. The first sampling was on 2/8/96; four samples were collected. The samples were received at the 222-S Laboratory on 2/8/96. Upon loading the samples into the hotcell for breakdown and subsampling, the four sample bottles were placed into a water bath to bring the samples to tank temperature. Due to a miscommunication of instructions the water bath heated to dryness resulting in the loss of the two supernate samples (6C-96-1 and 6C-96-2), and drying out of sludge sample 6C-96-3. The second sludge (6C-96-4) was overheated to ~200° C, but the jar remained intact with no apparent drying of the sample. A description of this occurrence may be found in the memo dated February 20, 1996, from R. A. Esch to J. L. Deichman included in the interim report (Part II of this document).

The tank was re-sampled on 2/24/96 (riser 1) and 3/1/96 (riser 7) to collect sufficient samples for the analyses. The samples were received at the 222-S Laboratory the same days that they were collected.

The information presented in Table 1 represents the appearance of the samples at the time that they were loaded into the hotcell at 222-S Laboratory. Changes in sample appearance that occurred after the samples were in the hotcell are described below.

Attachments 1 and 2 are provided as references for depicting the sample breakdown in the hotcell as well as relating the tank farm customer identification numbers with the 222-S Laboratory sample numbers. The subsamples generated in the laboratory for analysis are identified in these diagrams with their sources shown.

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Appearance

As stated above, after the first set of samples were overheated, samples 6C-96-1 and 6C-96-2 were lost because the sample jars broke. Although sample 6C-96-3 was overheated to dryness, a decision was made to homogenize the sample with a mortar and pestle and perform a limited number of analyses. Since sample 6C-96-4 appeared to be relatively unaffected by the overheating, a decision was made to proceed with the planned breakdown of this sample.

When samples 6C-96-15 and 6C-96-16 were loaded into the hotcell, they both had approximately 10% settled solids. The laboratory was asked to attempt to collect the crystalline material from sample 6C-96-15 to determine if oxalate was present. However, after standing at ambient hotcell temperature for about a week, most of the solids had dissolved, leaving only a trace of solids on the bottom of the sample bottles. No crystalline material remained in sample 6C-96-15. Since there were insufficient solids to collect for analysis, a decision was made to perform a limited set of analyses on the supernate of sample 6C96-15. Sample 6C-96-16 is being held for possible future analysis.

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Table 1: Appearance Information for Tank 241-C-106 Grab Samples

6C-96-1	1	2/8/96	2/8/96	404	-66	Trace	Clear yellow liquid; no organic layer; trace of yellow/brown solids and rust colored pieces of material
6C-96-2	1	2/8/96	2/8/96	404	-66	Trace	Clear yellow liquid; no organic layer; trace of rust colored flakes
6C-96-3	1	2/8/96	2/8/96	432	-38	100%	Brown/black solids with no apparent supernate or organic layer - dried sludge appeared to have a large quantity of crystalline material
6C-96-4	1	2/8/96	2/8/96	434	-36	100%	Brown/black solids with no apparent supernate or organic layer - sludge contained small pieces of hard white granular material
6C-96-5	1	2/23/96	2/24/96	420	-50	20%	Slightly cloudy yellow liquid; no organic layer; red/brown solids
6C-96-6	1	2/23/96	2/24/96	420	-50	80%	Slightly cloudy yellow liquid; no organic layer; red/brown solids
6C-96-7	1	2/23/96	2/24/96	434	-36	100%	Brown solids with no apparent supernate or organic layer - sludge contained large pieces of very hard solid material
6C-96-8	1	2/23/96	2/24/96	434	-36	100%	Brown solids with no apparent supernate or organic layer - no chunks of harder material were noted
6C-96-10	1	2/23/96	2/24/96	441	-29	100%	Brown solids with no apparent supernate or organic layer - sludge contained small granular pieces of material
6C-96-11	7	3/1/96	3/1/96	421	-53	82.3%	Cloudy yellow liquid; no organic layer; red/brown solids
6C-96-12	7	3/1/96	3/1/96	409	-65	1.2%	Clear yellow liquid; no organic layer; red/brown solids
6C-96-13	7	3/1/96	3/1/96	426	-48	~100%	Red/brown solids with a trace of supernate on top - no apparent organic layer
6C-96-14	7	3/1/96	3/1/96	426	-48	~100%	Red/brown solids with a trace of supernate on top - no apparent organic layer
6C-96-15	7	3/1/96	3/1/96	426	-48	14%	Clear yellow liquid; no organic layer; red/brown solids - solids appeared to have white crystalline material on the surface at the time the sample was loaded into the hotcell
6C-96-16	7	3/1/96	3/1/96	428	-46	9%	Slightly cloudy yellow liquid; no organic layer; red/brown solids - no visible crystalline material
6C-96-17 PB	1	2/23/96	2/24/96	264	206	None	Clear colorless liquid; no organic layer; no solids

Sample depth is measured from the top of the riser to the mouth of the sample bottle

Sample elevation is measured from tank bottom to mouth of the sample bottle

*
**

Breakdown

After the initial observation of the appearance of the samples a decision was made as to which samples would be analyzed and the sample type for several of the samples was changed due to the presence or absence of solids in the sample. Table 2 presents this information.

The supernate samples were ultra filtered in a centrifuge cone prior to subsampling for analysis. They are indicated as "Supernate" for the segment portion in the results summary table (Table 3).

The TSAP requested that the sludge samples be ultra filtered for maximum separation of solids and liquids. For comparison of this method to the standard practice of centrifugation and decantation of the supernate, a control sample of unfiltered solids was analyzed. These solid portions are identified as "Control Sample" for the segment portion. A small portion of sludge was centrifuged in tapered cones to obtain bulk density and dry particle density information. These segment portions are identified as "Centrifuged Solids". Any analyses performed on the "raw" uncentrifuged sludge are identified as "Sludge" for the segment portion.

Upon centrifugation of the first sludge sample, a separable organic layer was observed (identified on the table as "Potential Organic Layer"). Notification was made to East Tank Farms Shift Operations manager and to the program contact. A change was made to the TSAP to insert a step to precentrifuge the sludge to remove any separable organic material prior to filtration. The ultra filtered solids are identified as "Filtered Centrifuged Solids" as the segment portion. The liquid obtained from the filtered solids is identified as "Interstitial Liquid". Liquid removed from the precentrifugation step is identified as "Decanted Supernate".

Since the precentrifugation step separated most of the liquid from the sludge, there was insufficient filtered interstitial liquid remaining to perform all of the requested liquid analyses on this sample portion. For some of the sludges, there was enough decanted supernate from the precentrifugation step to perform some of the liquid analyses. For sample 6C-96-10, all of the decanted supernate was lost during the precentrifugation. In either case, analyses were assigned to the "Interstitial Liquid" and the "Decanted Supernate", according to the priority given from the Safety Program, to the extent that sample was available.

The potential organic layer (oil) that was separated after the centrifugation of samples 6C-96-7, 6C-96-10, 6C-96-11 and 6C-96-13 were analyzed for energetics by differential scanning calorimetry (DSC) and percent moisture by thermogravimetric analysis (TGA). The material from samples 6C-96-7 and 6C-96-13 was then shipped to the Pacific Northwest National Laboratory (PNNL) for further identification by gas chromatography/mass spectroscopy (GC/MS) and total organic carbon (TOC) analyses. The remaining two samples, 6C-96-10 and 6C-96-11, were analyzed for TOC and ^{238/239/240}Pu at 222-S Laboratory.

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Table 2: Breakdown Information for Tank 241-C-106 Grab Samples

Sample ID	Phase	Description
6C-96-1	Supernate	Sample lost by overheating, no analysis performed.
6C-96-2	Supernate	Sample lost by overheating, no analysis performed.
6C-96-3	Sludge	Sample dried due to overheating, special analysis performed.
6C-96-4	Sludge	Overheated, ultrafilter to separate solids and liquids, then subsample each phase.
6C-96-5	Supernate	Ultrafilter supernate in centrifuge at tank temperature, then subsample.
6C-96-6	Sludge	Archive for possible future analysis.
6C-96-7	Sludge	Ultrafilter to separate solids and liquids, then subsample each phase.
6C-96-8	Sludge	Remove separable supernate and subsample sludge for caustic demand, viscosity, particle size and compatibility mixing studies with AY-102.
6C-96-10	Sludge	Ultrafilter to separate solids and liquids, then subsample each phase.
6C-96-11	Sludge	Ultrafilter to separate solids and liquids, then subsample each phase.
6C-96-12	Supernate	Ultrafilter supernate in centrifuge at tank temperature, then subsample.
6C-96-13	Sludge	Ultrafilter to separate solids and liquids, then subsample each phase.
6C-96-14	Sludge	Remove separable supernate and subsample sludge for caustic demand, viscosity, particle size and compatibility mixing studies with AY-102.
6C-96-15	Supernate	Subsample supernate for metals (ICP) and anions (IC) analysis.
6C-96-16	Supernate	Archive for possible future analysis.
6C-96-17 FB	Field Blank	Subsample for liquid analyses.

The DSC and TGA results obtained for the oils gave very inconsistent results. It was believed that one cause of the inconsistency may have been the presence of supernate or sludge particles trapped in the oily material. Therefore, when the oil was separated from sample 6C-96-4 an attempt was made to "rinse" the oil to remove any sludge material. It was suggested by the Safety Program contact (H. Babad) that a solution of sodium nitrate (0.024 M solution) be used to perform the rinsing. The concentration of sodium nitrate to use for the solution was determined by taking the average nitrate concentration measured in the two supernate samples.

The sodium nitrate was added in a ratio of 17.26 g solution to 1 g of oily material. After the addition, foaming was observed that took approximately 30 minutes to "break up" leaving a clear red/brown (root beer colored) solution with a small amount of settled solids. The solution was centrifuged in an attempt to recover the oil. Only a very slight ring of material separated. The program contact was informed of the situation and a decision was made to only analyze the sample for $^{239/240}\text{Pu}$. The results corrected for the dilution factor of 17.26 are $7.35\text{e-}2 \mu\text{Ci/mL}$ for the sample and $7.27\text{e-}2 \mu\text{Ci/mL}$ for the duplicate.

Analytical Results Summary

The data summary table (Table 3) included in this report compiles all of the results for each subsample analyzed from the samples received. Through the visual inspection during sample breakdown it was noted that the subsamples appeared to be non-homogeneous (see sample description in Table 1). The numerous high relative percent differences (RPDs) between sample and duplicate results may be attributed to this non-homogeneity.

To verify this assumption one sample, the filtered centrifuged solids portion of sample 6C-96-10, was redigested for the fusion preparation for radionuclide analyses. In the original digest, RPDs for the analytes detected ranged from 88% -98%. Those for the reprep were much lower (0.66% - 10.1%). However, this increase in precision may just be coincidental. It should be noted that the sample results varied considerably between the two digests. Both sets of results (S96T000571 and reprep S96T002718) are reported in Table 3 to show the variability in the data as a result of sample non-homogeneity. No other samples were redigested for RPD failures.

Appendix 1 contains the chemist's report, *Processing and Sampling Results from Breakdown of Tank 241-C-106 Grab Samples*.

Appendix 2 contains the chemist's report, *Compatibility Study and Organic Extraction Results*. This report describes the waste compatibility study performed on mixtures of sludge from tank C-106 with supernate and sludge material from tank 241-AY-102.

The test plan for the extraction requested analyses to check for the presence of volatile compounds other than the extractant (methylene chloride) for informational purposes only. Semi-volatile organics, normal paraffin hydrocarbon and tributyl phosphate analyses were performed. The samples were spiked with a surrogate standard (hexadecane) with recoveries within method limits. The calibration check standards were within the method limits. Some of the results presented in Table 3 are proceeded with a qualifier. These are defined as: U = concentration was determined to be less than the quantitation limit; and J = estimated concentration of compound.

Appendix 3 contains the chemist's report, *Caustic Demand -- Tank C-106 Sludge*. This report describes the caustic demand study performed on raw sludge material from samples 6C-96-8 and 6C-96-14.

Internal memo number 75764-PCS96-050, "C-106 Viscosity and Particle Size Distribution Results" presents the results and discussion for the viscosity analysis for the supernate and the particle size distribution analysis for the sludge from samples 6C-96-8 and 6C-96-14. This report was included in the Interim report (part II of this document). The viscosity determination for the sludge from these two samples was not completed at the time of this report generation. The 222-S Laboratory is checking possible arrangements with PNNL laboratory to perform this analysis. However at this time no funding has been identified for this work.

Safety Screen Concerns

DSC - Differential Scanning Calorimetry

The DSC analyses were performed in duplicate on direct subsamples. The exothermic energy based on the dry weight of the subsample was calculated for all subsamples. The average of the thermogravimetric analysis (TGA) results for each subsample was used in the dry weight correction for that subsample. The standard recoveries for this analysis were within the required limits.

Five of the 39 subsamples submitted for analysis exceeded the notification limit of 480 J/g. Appropriate notifications were made. Two subsamples (S96T001527 and S96T002829) had no exotherm identified for the sample portion, but had a large exotherm (> 480 J/g) for the duplicate result. Both of these samples were rerun and the results were less than the notification limit in each case. Original and rerun results are reported in Table 3. The reruns are indicated with a "1" after the sample number. The other three samples were not reanalyzed.

High RPDs ($>20\%$) were reported on 11 of the 39 subsamples. The high RPDs may be attributed to sample non-homogeneity. As noted above, only two samples were reanalyzed.

TGA - Thermogravimetric Analysis

The TGA analyses were performed in duplicate on direct subsamples. In most cases, the total weight loss that occurred below 200°C was reported as the % moisture of the sample. Weight loss steps that occurred above this temperature were not reported.

For 5 of the 39 subsamples submitted for analysis there was a second weight loss step that occurred at, or slightly above, 100°C that was not included in the % moisture result. For these samples, the chemist indicated that the weight loss was not from water. Four of these were interstitial liquids that were filtered from the sludges, and the fifth subsample was raw sludge material. Based on the observed appearances of the samples during breakdown, this weight loss could be from the presence of the organic oil material that appeared upon centrifugation of the raw sludge. It is possible that there may have been traces of this material that remained in the sludge after the "pre-centrifugation" step and was filtered out of the sludge with the interstitial liquid. For all but one of these samples there is a sharp endothermic peak on the DSC endotherm at this temperature that would correlate with the presence of organic material.

High RPDs ($>20\%$) were reported on 5 of the 39 subsamples. The high RPDs were attributed to sample non-homogeneity and no reruns were performed. Two revisions of the procedure were used for this analysis. Analytical results would not differ because of this change.

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Bulk Density

The bulk density values ranged from 1.45 to 1.76 g/mL with an average of 1.59 g/mL for the five centrifuged. The total alpha notification limit was re-calculated, as per the TSAP requirement, based on the highest bulk density result. Data for bulk density can be found in the hotcell notebook, WHC-N-912-1.

AT - Total Alpha

Total alpha activity (AT) was determined on direct subsamples for the supernates and on a fusion digest for the solid subsamples. The fusion preparation is indicated with an "F" in the aliquot class column (#A) in Table 3. There was insufficient material for AT analysis of the interstitial liquids filtered from the sludge samples.

The highest result of 3.67 $\mu\text{Ci/g}$ is nearly a factor of ten below the notification limit of 34.9 $\mu\text{Ci/g}$. This notification limit was recalculated based on the highest bulk density result of 1.76 g/mL. The standard recoveries for this analysis were all within the required limits. There were high RPDs (> 20%) for three sludge samples and the field blank. One of the sludge samples was redigested and reanalyzed. The RPD on the reprep sample was less than 4%. As described earlier, only the one sludge sample was redigested for RPD failures. The high RPD of the field blank is attributed to low alpha activity, and no rerun was requested.

Compatibility Program Concerns

DSC - Differential Scanning Calorimetry - Energetics Decision Rule

For waste compatibility energetics decision concerns, the exotherm/endothrm ratio of the liquid samples is evaluated. This ratio must be less than one (1). This requirement is satisfied for all samples. The actual exotherm and endotherm results and the calculated ratios for those liquids that exhibited exotherms are presented in Table 4. The calculation of this ratio is not applicable for samples that did not exhibit exotherms. The data for endotherms and temperatures was obtained from the raw data. Only the endothermic energy attributed to water loss (near 100 °C) is used on the calculation. Two revisions of the procedure were used for this analysis. Analytical results would not differ because of this change.

Specific Gravity (Sp.G.) - Flammable Gas Accumulation Decision Rule

The Sp.G. of the waste is currently used for determination of the potential to cause an accumulation of flammable gases. The flammable gas decision rule requires that the weighted mean Sp.G. not exceed 1.41.

Seven subsamples were analyzed for specific gravity. The results ranged from 1.14 to 1.25.

Plutonium ($^{239/240}\text{Pu}$) - Criticality Decision Rule

$^{239/240}\text{Pu}$ concentration was measured for two supernate samples, three interstitial liquids and one decanted supernate to evaluate criticality safety for waste transfers. Insufficient sample material was available for this analysis on all interstitial liquid subsamples. The results for the supernate and decanted supernate subsamples, except the duplicate on supernate subsample S96T001024, were below the criticality prevention limit of $0.80\ \mu\text{Ci/mL}$ stated in the compatibility DQO. The one duplicate result was $0.81\ \mu\text{Ci/mL}$. For the interstitial liquids, the results were in the range of $0.812\ \mu\text{Ci/mL}$ to $0.867\ \mu\text{Ci/mL}$. There are no requirements for notification for this limit. The standard recoveries and RPDs for the liquid analyses were all within the required limits.

^{241}Am - Americium - Criticality Decision Rule

^{241}Am analysis was performed on two (2) of the supernate samples. Insufficient sample material was available to perform this analysis on the interstitial liquid subsamples. The results for samples S96T000855 and S96T001024 were less than the detection limit. For sample S96T000539 the results were only slightly above the detection limit of $1.20\text{e-}02\ \mu\text{Ci/mL}$ and therefore, had high RPDs. No rerun was requested. The standard recoveries for the liquid analyses were within the required limits.

Inorganic Analyses

pH

The pH analysis was performed on supernate, filtered centrifuged sludge, and the field blank samples. The average result for the field blank was 8.26. The sample results ranged from 10.09 to 12.52. The standard recoveries and RPDs were all within the required limits.

Ion Chromatography (IC)

The IC analysis was performed on direct subsamples of liquid samples, as indicated by a blank in the aliquot class column in Table 3. The solid subsamples were prepared by performing a water digest. This is indicated with a "W" in the aliquot class column in Table 3.

The standard recoveries for this analysis were within the required limits. High RPDs ($> 20\%$) were reported on eight (8) of the 14 subsamples submitted for analysis. These high RPDs were attributed to sample inhomogeneity. The sludge samples were observed to contain pieces of material that appeared to be salt crystals. One triplicate analysis was performed on sample S96T000854 and results matched those of the duplicate. Additional reruns would not significantly improve the results due to the difficulty in obtaining representative samples of the crystalline material.

Table 4

Additional DSC Results for Tank 241-C-106
Waste Compatibility Study

Risers 1 and 7

Sample ID		Exothermic Energy (Joules/g)	Temp (° C)	Endothermic Energy (Joules/g)	Temp (° C)	Energy Ratio *
S96T001553						
6C-96-13	Samp	208.1	393.8	970.5	103.3	0.21
Organic Layer	Dup	167.9	429.7	665.4	90.4	0.25
S96T001566						
6C-96-13	Samp	118.9	371.2	1574.7	109.3	0.08
Interstitial. Liq.	Dup	96.8	373.2	1575.4	105.3	0.06
S96T001567						
6C-96-10	Samp	215.1	399.3	1401.2	109.3	0.15
Organic Layer	Dup	142.4	397.5	1395.2	107.3	0.10
S96T001681						
6C-96-11	Samp	5.5	373.0	1451.6	107.3	0.00
Interstitial. Liq.	Dup	5.5	366.9	1506.2	105.3	0.00
S96T002829						
6C-96-14	Samp	0.0	n/a	993.7	101.3	0.00
Slurry w/AY-10	Dup	580.2	283.8	1049.4	101.3	0.55
S96T002829						
6C-96-14 rerun	Samp	0.0	n/a	1338.3	97.3	0.00
Slurry w/AY-10	Dup	77.8	388.5	799.5	93.3	0.10

Energy Ratio = Exothermic Energy / Endothermic Energy

* - This ratio must be < 1 for Compatibility Energetics

n/a - Temperature not applicable when no exotherm observed

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Occasional preparation blanks for nitrate and chloride showed results above the detection level. The levels of these analytes in the preparation blank are inconsequential when compared to the result for the sample. This contamination does not impact sample data quality.

Inductively Coupled Plasma Spectrophotometry (ICP)

The liquid subsamples were prepared for analysis by an acid adjustment of the direct subsample. This is indicated by a "D" in the aliquot class (A#) column in Table 3. Solid subsamples prepared for analysis by performing an acid digest are indicated by an "A", and fusion preparation is indicated by "F".

Only the QC for the required analytes (Al and U) were reviewed for this report. Other "opportunistic" analytes are included but were not reviewed for adherence to QC parameters. RPDs which exceed 20% are the result of sample inhomogeneity and reruns would not significantly improve the results. Table 5 shows a comparison of the result of the sample with that of the serial dilution for those required analytes that had a spike recovery outside the 75% - 125% range as set by the *Quality Assurance Plan for the 222-S Laboratories* (LabQAP). Serial dilutions are performed by diluting a sample by five. The results from the serial dilution may be found in the raw data and are signified by an "_L" at the end of the sample number. For acceptable performance the percent difference between the serial dilution and the undiluted results must be $\leq 10\%$. The results indicate that the accuracy of the analyses was acceptable. The standard recoveries for this analysis were within the required limits.

Occasional preparation blanks for aluminum showed results above the detection level. The levels of these in the preparation blank are inconsequential when compared to the result for the sample. This contamination does not impact sample data quality.

NH₃ - Ammonia

Ammonia was requested as an additional analysis and was performed on two (2) of the supernate samples and the field blank. All results were less than the detection. The standard recovery for this analysis was within the required limits.

TOC - Total Organic Carbon

TOC by persulfate analysis was performed on eight (8) solid subsamples, nine (9) liquid subsamples, and the field blank. The standard recoveries were within the required limits for all analyses. A high RPD occurred on sample S96T00854. No rerun was requested. Low spike recovery (82% and 77% respectively) was observed on samples S96T001551 and S96T001560. No rerun was requested. Low concentrations of TOC were noted in some preparation blanks, however the level is inconsequential when compared to the result of the sample. This contamination does not impact sample data quality. Two revisions of the procedure were used for this analysis. Analytical results would not differ because of this change.

Table 5

ICP Serial Dilution Results for Tank 241-C-106
Waste Compatibility Study

Risers 1 and 7

Sample ID	Analyte	Sample Result (µg/mL) Undiluted	Serial Dilution Result (µg/mL)	Percent Difference
S96T000538				
6C-96-5	U	1.87E+03	1.98E+03	6.0
Supernate				
S96T000556				
6C-96-7	Al	5.17E+04	5.27E+04	2.0
Filt'd Cent Sld				
S96T000572				
6C-96-10	Al	5.18E+04	5.16E+04	0.4
Filt'd Cent Sld				
S96T001023				
6C-96-12	U	1.48E+03	1.49E+03	0.5
Supernate				
S96T001542				
6C-96-4	Al	6.20E+04	6.49E+04	4.8
Filt'd Cent Sld				
S96T001690				
6C-96-11	Al	3.81E+04	4.13E+04	8.3
Cent Sld				

$$\text{Percent Difference} = [(ABS(\text{Sample} - \text{Serial Dilution})) / \text{Sample}] \times 100$$

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TOC by coulometry analysis was performed on seven (7) liquid subsamples and the field blank. None of the results exceeded the notification limit of 30,000 $\mu\text{gC/mL}$ (dry weight basis). The standard recovery, spike recovery and RPDs for this analysis were within the required limits.

TIC - Total Inorganic Carbon

TIC analysis was performed on two of the supernate samples and the field blank. Additional analyses were not possible due to insufficient sample material. The standard recovery, spike recovery and RPDs for this analysis were within the required limits.

TIC analysis was performed on four (4) of the filtered centrifuged solid subsamples and one (1) of the unfiltered centrifuged solid subsamples. Additional analyses were not possible due to insufficient sample material. The standard recovery, spike recovery and RPDs for this analysis were within the required limits. Two revisions of the procedure were used for this analysis. Analytical results would not differ because of this change.

Radionuclide Analyses

Through the visual inspection during sample breakdown it was noted that the subsamples appeared to be non-homogeneous. The high RPDs between sample and duplicate radionuclide results may be attributed to this non-homogeneity.

⁹⁰Sr - Strontium 90

⁹⁰Sr analysis was performed on two (2) of the supernate samples. The standard recoveries and RPDs for this analysis were within the required limits. Several preparation blanks showed results for strontium-90 slightly above the detection level. The levels in the preparation blanks are inconsequential when compared to the results for the samples. This does not result in an impact on sample data quality.

High RPDs were observed on two (2) interstitial liquid samples (S96T00563 and S96T001566). No reruns were requested.

GEA - Gamma Energy Analysis

GEA analysis was performed on 11 solid subsamples, nine (9) liquid subsamples, and the field blank.

Only cobalt-60 and cesium-137 and the associated QC were considered in this report. Additional analyses were not possible due to insufficient sample material. The standard recovery and spike recovery for this analysis were within the required limits. High RPDs occurred for Cs-137 on samples S96T000545 and S96T000571. No reruns were requested because of insufficient

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sample material. Two revisions of the procedure were used for this analysis. Analytical results would not differ because of this change.

Actual detection limits for GEA analytes are not currently available. The latest GEA software does not currently report a minimum detectable activity (MDA). If an analyte is reported as "less than", the value reported is the detection limit.

Plutonium ($^{239/240}\text{Pu}$)

$^{239/240}\text{Pu}$ concentration was measured for five (5) filtered centrifuged, one (1) centrifuged solid, and five (5) control subsamples. The results ranged from $<0.0217 \mu\text{Ci/g}$ to $1.65 \mu\text{Ci/g}$. The standard recoveries and RPDs were all within the required limits. Control subsample S96T001036 had a high RPD. No rerun was requested.

^{241}Am - Americium

^{241}Am analysis was performed on five (5) filtered centrifuged, one (1) centrifuged, and five (5) control subsamples. High RPDs showed on filtered centrifuged subsamples S96T000571, S96T001531, and control subsample S96T001541. The standard recoveries and preparation blank analyses were within the required limits. No reruns were requested. Two revisions of the procedure were used for this analysis. Analytical results would not differ because of this change.

^{99}Tc - Technetium 99

^{99}Tc analysis by liquid scintillation was performed on two (2) of the supernate samples and six (6) sludge samples. The Tc-99 analysis was performed on direct subsamples of liquid samples, as indicated by a blank in the aliquot class column in Table 3. Solid subsamples were prepared for analysis by performing a fusion preparation and are indicated by "F".

The standard recovery and blanks for this analysis were within the required limits. High RPDs were reported on samples S96T001024, S96T001563, and S96T001689. No reruns were requested because of insufficient sample material. Two revisions of the procedure were used for this analysis. Analytical results would not differ because of this change. The spreadsheet calculations used are all labeled LA-438-101, Rev D-2, even for those worklists that show revision B-3 was used. There are no calculation differences between the two procedure revisions.

Procedures

Table 6 lists the analytical procedures used for performing the safety screening analyses. Abbreviations for analyses are defined in the table notes.

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Table 6: Analytical Procedures

DSC	Liquid/Solid	N/A	LA-514-113 Rev. B-1 & LA-514-113 Rev. C-1 LA-514-114 Rev. C-1
TGA	Liquid/Solid	N/A	LA-514-114 Rev. C-1 LA-560-112 Rev. B-1
Sp.G.	Liquid	N/A	LA-510-112 Rev. C-3
% Water	Liquid Solid	N/A	LA-564-101 Rev. F-1
pH	Liquid Solid	N/A	LA-212-106 Rev. A-0 LA-212-105 Rev. A-0
NH ₃	Liquid	N/A	LA-631-001 Rev. B-2
OH (Caustic Demand)	Sludge	N/A	Herting Lab Instruction*
IC: Cl ⁻ , F ⁻ , PO ₄ ³⁻ , SO ₄ ²⁻ , NO ₃ ⁻ , NO ₂ ⁻	Liquid Solid	N/A + LA-504-101 Rev. E-0	LA-533-105 Rev. D-1
ICP: Al, U	Liquid Solid	N/A ++ LA-505-159 Rev. D-0	LA-505-151 Rev. D-3 LA-505-161 Rev B-0
TOC	Liquid (furnace) Liquid/Solid (persulfate)	N/A	LA-344-105 Rev. C-0 LA-342-100 Rev. C-0 & LA-342-100 Rev. D-0

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Table 6: Analytical Procedures

TIC	Liquid (furnace) Solid (persulfate)	N/A	LA-622-102 Rev. C-0 LA-342-100 Rev. C-0 & LA-342-100 Rev. D-0
AT	Liquid Solid	N/A +++ LA-549-141 Rev. F-0	LA-508-101 Rev. D-2
GEA: ⁶⁰ Co, ¹³⁷ Cs	Liquid Solid	N/A +++ LA-549-141 Rev. F-0	LA-548-121 Rev. D-1 & LA-548-121 Rev. E-0
⁹⁰ Sr	Liquid Solid	N/A +++ LA-549-141 Rev. F-0	LA-220-101 Rev. D-1
²⁴¹ Am	Liquid Solid	N/A +++ LA-549-141 Rev. F-0	LA-953-103 Rev. A-5 & LA-953-103 Rev. B-0
^{239/240} Pu	Liquid Solid	N/A +++ LA-549-141 Rev. F-0	LA-943-128 Rev. A-1
⁹⁹ Tc	Liquid Solid	N/A +++ LA-549-141 Rev. F-0	LA-438-101 Rev. D-2
Bulk Density	Solid	N/A	Test Plan (Crawford, 1996)
NPH/TBP	Extracted Oil	Methylene Chloride Extraction	LA-523-437 Rev. B-0
SVOA	Extracted Oil	Methylene Chloride Extraction	LA-523-406 Rev. A-0

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Notes:

* Herting Laboratory Instructions titled "Tank C-106 Caustic Demand" included in Appendix 3

+ Water digest procedure

++ Acid digest procedure

+++ Fusion digest procedure

Abbreviations:

N/A = not applicable (these are direct samples)

DSC = differential scanning calorimetry

TGA = thermogravimetric analysis

Sp.G. = specific gravity

% Water = percent water by gravimetric analysis

NH₃ = ammonia (by ion selective electrode (ISE))

OH = hydroxide

IC = ion chromatography

ICP = inductively coupled plasma

TOC = total organic carbon

TIC = total inorganic carbon

AT = total alpha

GEA = gamma energy analysis

¹³⁷Cs = cesium 137

⁹⁰Sr = strontium 90

²⁴¹Am = americium 241

^{239/240}Pu = plutonium 239/240

⁹⁹Tc = technetium 99

NPH/TBP = normal paraffin hydrocarbons/tributyl phosphate

SVOA = semi-volatile organic analysis

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ATTACHMENT 1

C-106 GRAB SAMPLE BREAKDOWN

WHC-SD-WM-DP-183, REV. 0

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Attachment 1 (1 of 9)

C-106 GRAB SAMPLE BREAKDOWN

Riser 1

432 in.
6C-96-3
S96T000530

This sample was inadvertently overheated, the sample jar broke, and the solids dried out.

Homogenize dried solid by grinding

Attachment 1 (2 of 9) C-106 GRAB SAMPLE BREAKDOWN

Riser 1

Attachment 1 (3 of 9)

C-106 GRAB SAMPLE BREAKDOWN

Riser 1

Attachment 1 (4 of 9) C-106 GRAB SAMPLE BREAKDOWN

Riser 1

Attachment 1 (6 of 9)

C-106 GRAB SAMPLE BREAKDOWN

Riser 7

426 in.

6C-96-13

S96T001026

Determine %Settled
Solids, then remove liquid
above settled solids

S96T001552

Collect possible
organic layer for
identification

S96T001553
Organic Specimen
IR w/ RAMAN - at PHIL
DSC, TGA, w/ ZDS-S

Decant supernate

S96T002025
pH, GEA Ca/IC anions & oxalate
TOC (Numeo), PA 239740

Centrifuge in
tapered cones to
obtain bulk density,
dry density, and
Vol. %Solids

S96T001030
DSC (dry sludge)/TGA
Bulk Dens.(wet sludge)
Particle Dens. (dry solid)
Vol. %Solids
Grav. %H2O

S96T001032
Sp.G

Control Sludge
Sample: unfiltered

S96T001034
DSC & TGA

Fusion
Digest
S96T001036
Radionuclides

Ultra-filter to
constant weight in
heated, capped
Centrifuge cone

Composite and homogenize solids
and liquids before subsampling

S96T001555
Archive

S96T001556
DSC
TGA
TOC (peroxide)
ICP: Al, Ni, Mn
GEA Ca
8-40

S96T001557
Acid Digest
S96T001564
ICP: All Metals

S96T001558
Fusion Digest
S96T001563
Radionuclides

S96T001559
Water Digest
Rapires
S96T003181
IC: nitrite & oxalide

S96T001560
TOC (peroxide)
TIC (peroxide)

S96T001561
Grav. %H2O

S96T001562
pH

Attachment 1 (7 of 9)

C-106 GRAB SAMPLE BREAKDOWN

For Caustic Demand, Particle Size, Viscosity, and Compatibility Mixing Studies on Sludge Samples

Attachment 1 (8 of 9) C-106 GRAB SAMPLE BREAKDOWN Riser 7

Determine %Settled Solids,
then carefully remove liquid
above settled solids

Attachment 1 (9 of 9)

C-106 GRAB SAMPLE BREAKDOWN

WHC-SD-WM-DP-183, REV. 0

Riser 1

420 in.
6C-96-5
S96T000836

DSC
TGA
Grav %H2O
TOC (lignace & paraffine)
TIC (lignace)
ICP: Al Metals
IC: anions & oxalate
pH
Sp.G
NHS

GEA Ca-137
Pu-239/240
Si-30
Am-241
Tc-99
AT

Active

Riser 7

409 in.
6C-96-12
S96T001022

DSC
TGA
Grav %H2O
TOC (lignace & paraffine)
TIC (lignace)
ICP: Al Metals
IC: anions & oxalate
pH
Sp.G
NHS

GEA Ca-137
Pu-239/240
Si-30
Am-241
Tc-99
AT

Active

Riser 1

240 in.
Field Blank
6C-96-17
S96T000855

GEA Ca-137
Pu-239/240
Si-30
Am-241
Tc-99
AT
DSC
TGA
Grav %H2O
TOC (lignace & paraffine)
TIC (lignace)
ICP: Al Metals
IC: anions & oxalate
pH
Sp.G
NHS
Active remaining material

WHC-SD-WM-DP-183, REV. 0

ATTACHMENT 2

AY-102/C-106 COMPATIBILITY STUDIES

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Attachment 2 (1 of 5)

AY-102/C-106 COMPATIBILITY STUDIES

Attachment 2 (2 of 5) AY-102/C-106+AY-102 COMPATIBILITY STUDIES

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Attachment 2 (3 of 5)

AY-102/C-106 COMPATIBILITY STUDIES

Attachment 2 (4 of 5) AY-102/C-106+AY-102

COMPATIBILITY STUDIES

S96T002833
pH, SpG

Record Total Volume
Record Total Weight
Determine Bulk Density
Check for Foaming
Determine Settling Rate

Subsample Slurry
S96T002829
DSC, TGA, pH

Decant Supernate
Subsample Settled Solids

S96T002830
pH, SpG

S96T002831
TGA, Bulk Density

10 G
S96T002832
Ship to PNNL for
viscosity, shear
strength

130 G
S96T002834
Ship to PNNL for
viscosity, shear
strength

1200 G
S96T002835
Ship to PNNL for
viscosity, shear
strength

Centrifuge remaining
sludge
at three speeds
Record volume of solids
after each centrifugation

Attachment 2 (5 of 5)

C-106 ORGANIC EXTRACTION

Riser 1

434 in.

6C-96-8
S96T000843 +
S96T000575

Riser 7

426 in.

6C-96-14
S96T001549

Wash uncentrifuged sludge 3 times with methylene chloride, stirring for 10 minutes each time. Record observations. Decant solvent after each washing.

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APPENDIX 1

INTERNAL MEMO # 75764-PCS-96-052

WHC-SD-WM-DP-183, REV. 0

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From: Process Chemistry and Statistics 75764-PCS96-052
Phone: 373-1972 T6-09
Date: June 19, 1996
Subject: PROCESSING AND SAMPLING RESULTS FROM BREAKDOWN OF TANK 241-C-106
GRAB SAMPLES

To: R. A. Esch T6-06
cc: J. R. Jewett T6-09
BAC File/LB

- References:
1. B. A. Crawford, "Preparation of Tank 241-C-106 Samples and Testing for Compatibility with Tank 241-AY-102 Supernate," WHC-SD-WM-TSAP-080, rev. 0 and rev. 1, Westinghouse Hanford Company, Richland, WA.
 2. R. D. Schreiber, "Tank 241-C-106 Grab Sampling and Analysis Plan," WHC-SD-WM-TSAP-080, rev. 0 and rev. 1, Westinghouse Hanford Company, Richland, WA.

The attached tables summarize the data that were collected in controlled laboratory notebook WHC-N-912-1 to support the sample breakdown of grab samples obtained from tank 241-C-106. Copies of pages 18 through 121 of this notebook are attached to this report for reference. All work was performed according to testplan (Reference 1) and the Sampling and analysis plan (Reference 2). This notebook contains visual descriptions, sample breakdown and physical properties data that were gathered in processing these grab samples. The field blank sample 6C-96-17 was not included in the sample preparation and handling performed. Twelve samples taken from riser 1 and riser 7 at various depths were analyzed.

Table 3 lists the measurements to determine bulk density, water content by gravimetry and volume of solids. Bulk density was measured on wet sludge before centrifuging and is reported as the sum of the mass of material divided by the volumes of the sludge aliquots. Volume % solids measurements were taken as the volume of centrifuged solids divided by the volume of bulk material. Gravimetric % water was determined from drying sludge in the heated centrifuge in tapered cones over a period of days and in some cases weeks.

Water content results were quite variable, and subsequent differential scanning calorimetry (DSC) and thermogravimetric analysis (TGA) results indicate that not all of the water had been removed from the sludges over the days taken to dry them. Therefore, the values provided for dry particle density (table 4) are given as raw and corrected values.

In the corrected values the additional water measured in the dried sludges is added to the Pw value in the formula provided below. Generally the raw and corrected values show very little difference on comparison. This seems

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to indicate that the variability in the water content of the sludges has very little contribution to the dry particle density. In other words, the largest contribution to wet sludge density as compared to dry particle density is attributed to interstitial liquids.

Specifically, the raw values reported are given by the following formula where the numerator represents the total mass of bulk sludge with the mass of interstitial liquids and water removed and the denominator represents the total volume of bulk sludge with volume of interstitial liquid and water removed.

$$\frac{W_1 \left(1 - \frac{Pw}{100}\right) - W_2}{\frac{(V_2 - Pw)}{100} V_1}$$

Where W_1 = total weight of bulk sludge
 W_2 = weight of interstitial liquid
 Pw = weight % water removed in hot cell
 V_1 = total volume bulk sludge
 V_2 = volume % solids

As mentioned previously, the process notebook notes have been copied and sent to you for additional detail. If you have any further questions please feel free to call me at 373-1972.

B. A. Crawford, Principal Scientist
Process Chemistry and Statistics

dls

Attachment: Tables 1-4

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Table 1 - Visual Description and Volume % Settled Solids

Customer Sample ID	Visual Description	Vol, % Settled Solids	Notebook p.
6C-96-3	Sludge maintained form of container after heating to 200°C. Color is dark mocha brown. Sludge is dry. On close inspection appears to be like red clay clumped into large chunks. There is no evidence of charring. Chunks appear to be about 1 inch in diameter. Top chunk was darker brown while inner material was red-brown. A second chunk was flecked with yellow-white material. Majority of chunks are about 1/8 inch in diameter and are various colors of gray, light brown and white. Material is dry and crumbly like bentonite and is highly inhomogeneous.	NA	18
6C-96-4	Brown black solids, no apparent supernate	100%	18
6C-96-5	Slightly cloudy yellow liquid.	24.1%	40
6C-96-6	Slightly yellow liquid with reddish-brown solids. Solids are fine. After heating, supernate was dark orange and had yellow crust adhering to the inside of the sample jar. (Sample had been heated over at a minimum 24 hours to 200°C)	NA	40
6C-96-7	Brown sludge of thick soupy consistency. Contained several large pieces of very hard solid.	100%	53,63
6C-96-8	Brown sludge of thick soupy consistency. No chunks noted.	100%	53
6C-96-10	Brownish-red sludge. No supernate identified.	100%	53
6C-96-11	Cloudy yellow supernate with settled red-brown solids.	82.3%	46
6C-96-12	Trace of solids mostly supernate. Solids were fine and red-brown in color. Supernate was clear and yellow.	1.2%	46
6C-96-13	Brownish-red sludge with supernate.	100%	53
6C-96-14	Brownish red sludge.	100%	53
6C-96-15	Supernate with solids in bottom that seemed to dissolve on storing to the point where only trace amount of solid were remaining.	NA	69

Table 2 - Sample Breakdown by LABCORE Number					
LABCORE ID	Origin	Gross sample(g)	Tare (g)	Net sample (g)	Notebook page
S96T000530	6C-96-3 parent	---	---	---	98
S96T000531	6C-96-10 parent	---	---	---	53
S96T000532	6C-96-4 parent	---	---	---	99
S96T000534	6C-96-7 supernate	96.47	85.43	11.04	54
S96T000535	6C-96-10 supernate	95.53	86.07	9.46	55
S96T000536	6C-96-8 supernate	103.16	85.59	17.57	57
S96T000538	6C-96-8 supernate	43.29	18.39	24.90	45
S96T000539	6C-96-6 supernate	43.25	18.89	24.36	45
S96T000541	6C-96-5 archive supernate	152.73	85.82	66.91	44
S96T000542	6C-96-7 dry sludge	20.72	20.37	0.35	81
S96T000543	6C-96-7 control	---	---	1.45	68
S96T000544	6C-96-7 interstitial liquid	29.98	17.88	12.10	77
S96T000545	6C-96-10 filtered sludge	21.88	20.96	0.92	78
S96T000547	6C-96-10 filtered sludge	104.66	85.62	19.04	79

Table 2 - Sample Breakdown by LABCORE Number					
S96T000548	6C-96-7 filtered sludge	22.76	20.49	2.27	84
S96T000549	6C-96-7 filtered sludge	22.25	20.46	1.79	84
S96T000550	6C-96-7 filtered sludge	23.02	20.36	2.66	84
S96T000551	6C-96-7 filtered sludge	24.41	22.46	1.95	84
S96T000552	6C-96-7 filtered sludge	24.47	22.42	2.05	84
S96T000553	6C-96-7 filtered sludge	24.25	22.32	1.93	84
S96T000554	6C-96-7 filtered sludge	23.88	22.29	1.59	84
S96T000558	6C-96-10 dried sludge	23.51	22.55	0.96	82
S96T000559	6C-96-10 interstitia liquid	19.51	9.68	9.83	56
S96T000560	6C-96-10 centrifuged sludge	22.73	20.39	2.34	81
S96T000562	6C-96-7 filtered sludge	86.38	85.76	0.62	84
S96T000563	6C-96-7 filtered supernate	21.88	20.96	0.92	80,78
S96T000564	6C-96-10 filtered sludge	---	---	---	79

Table 2 - Sample Breakdown by LABCORE Number					
S96T000565	6C-96-10 filtered sludge	24.45	22.32	2.13	79
S96T000566	6C-96-10 filtered sludge	24.57	22.51	2.06	79
S96T000567	6C-96-10 filtered sludge	24.08	22.19	1.89	79
S96T000568	6C-96-10 filtered sludge	22.43	20.27	2.16	79
S96T000569	6C-96-10 filtered sludge	24.41	22.41	2.00	80
S96T000570	6C-96-10 filtered sludge	22.49	20.54	1.95	80
S96T000575	6C-96-8 archive	178.35	85.63	92.72	58
S96T000576	6C-96-8 caustic demand	166.94	86.21	80.73	58
S96T000836	6C-96-5 parent	---	---	---	42
S96T000837	6C-96-7 parent	---	---	---	53, 76
S96T000840	6C-96-6 parent	310.22			42
S96T000843	6C-96-8 parent	---	---	---	57, 97
S96T000854	6C-96-8 compat. test	31.22	15.59	15.63	98
S96T001021	6C-96-11 parent	---	---	---	46
S96T001022	6C-96-12 parent	177.72	---	---	46

Table 2 - Sample Breakdown by LABCORE Number					
S96T001023	6C-96-12 filtered supernate	20.82	18.17	2.65	48
S96T001024	6C-96-12 filtered supernate	21.13	18.91	2.22	48
S96T001025	6C-96-12 archive	157.87	85.78	72.09	47
S96T001026	6C-96-13 parent	---	---	---	53
S96T001027	6C-96-15 parent	---	---	---	69
S96T001030	6C-96-13 dried sludge	23.53	22.71	0.82	93
S96T001032	6C-96-13 filtered interstitia l liquid	15.80	15.54	0.26	91
S96T001034	6C-96-13 control	24.26	22.81	1.45	90
S96T001526	6C-96-3 dried raw sludge	23.21	22.55	0.66	101
S96T001527	6C-96-4 dried sludge	23.22	22.56	0.66	106
S96T001528	6C-96-4 interstitia l liquid	39.09	15.61	23.48	101
S96T001530	6C-96-4 control	22.33	20.31	2.02	101
S96T001532	6C-96-4 archive	117.43	85.18	32.25	103
S96T001533	6C-96-4 filtered sludge	24.56	22.66	1.90	103

Table 2 - Sample Breakdown by LABCORE Number					
S96T001535	6C-96-4 filtered sludge	24.25	22.26	1.99	104
S96T001536	6C-96-4 filtered sludge	23.79	22.19	1.60	104
S96T001537	6C-96-4 filtered sludge	23.52	22.29	1.23	104
S96T001538	6C-96-4 filtered sludge	24.31	22.53	1.78	104
S96T001539	6C-96-4 filtered sludge	24.48	22.39	2.09	104
S96T001540	6C-96-4 filtered sludge	24.50	22.39	2.11	104
S96T001544	6C-96-4 filtered interstitia l liquid	30.43	15.62	14.81	102,103
S96T001545	6C-96-4 interstitia l organic	problems encountere d with solids washing			
S96T001546	6C-96-15 supernate	38.07	15.59	22.48	97
S96T001547	6C-96-14 supernate	105.65	78.31	27.34	97
S96T001548	6C-96-7 interstitia l organic	15.01	14.01	1.00	73
S96T001549	6C-96-14 archive	179.13	78.19	100.94	98
S96T001550	6C-96-14 caustic demand	135.76	78.14	57.62	98

Table 2 - Sample Breakdown by LABCORE Number					
S96T001551	6C-96-14 compat. test	30.30	15.52	14.78	98
S96T001552	6C-96-13 archive	113.20	85.43	27.77	93
S96T001553	6C-96-13 interstitia l organic	---	---	---	85
S96T001555	6C-96-13 archive	99.99	85.08	14.91	91
S96T001556	6C-96-13 filtered sludge	24.29	22.70	1.59	92
S96T001557	6C-96-13 filtered sludge	24.27	22.54	1.73	92
S96T001558	6C-96-13 filtered sludge	24.05	22.20	1.85	91
S96T001559	6C-96-13 filtered sludge	24.33	23.02	1.31	91
S96T001560	6C-96-13 filtered sludge	24.08	22.26	1.82	92
S96T001561	6C-96-13 filtered sludge	23.96	21.92	2.04	92
S96T001562	6C-96-13 filtered sludge	22.53	20.57	1.96	92
S96T001566	6C-96-13 filtered interstitial liquid	18.38	15.55	2.83	90
S96T001567	6C-96-10 organic	8.28	7.71	0.57	82

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Table 2 - Sample Breakdown by LABCORE Number					
S96T001674	6C-96-11 dried sludge	22.47	22.33	0.14	95
S96T001675	6C-96-11 interstitial liquid	16.56	15.65	0.91	93
S96T001676	6C-96-11 control	24.66	22.24	2.42	93
S96T001677	6C-96-11 supernate	123.48	85.02	38.46	93
S96T001679	6C-96-11 interstitial organic	14.80	13.59	1.21	89
S96T001680	6C-96-11 archive	101.56	85.32	16.24	93
S96T001681	6C-96-11 filtered interstitial liquid	19.13	15.61	3.52	93
S96T001682	6C-96-11 filtered sludge	23.10	21.89	1.21	93
S96T001683	6C-96-11 filtered sludge	24.64	22.73	1.91	94
S96T001684	6C-96-11 filtered sludge	23.50	22.02	1.48	94
S96T001685	6C-96-11 filtered sludge	23.42	22.02	1.40	94
S96T001686	6C-96-11 filtered sludge	23.67	22.04	1.63	94
S96T001687	6C-96-11 filtered sludge	24.72	22.19	2.53	94

Table 2 - Sample Breakdown by LABCORE Number					
S96T001688	6C-96-11 filtered sludge	25.16	22.28	2.88	94
S96T002021	6C-96-8 raw sludge	19.84	15.22	4.62	96
S96T002022	6C-96-8 raw sludge	20.26	15.24	5.02	96
S96T002024	6C-96-11 interstitia l aqueous	30.55	13.71	16.84	95
S96T002025	6C-96-13 interstitia l aqueous	33.43	14.03	19.40	95
S96T002042	6C-96-8 raw sludge	20.26	15.24	5.02	95
S96T002350	6C-96-14 raw sludge	26.44	25.54	0.90	106
S96T002351	6C-96-14 raw sludge	27.49	26.44	1.05	107

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Table 3 - Physical Properties of Tank 241-C-106 Samples

Sample ID	LABCORE ID	W(1) Net mass (g)	V(1) Volume (ml)	Density (g/ml)	W(3) ¹ % water grav.	W(3) ² % water TGA	V(2) vol. % Solids
6C-96-5	S96T000538	24.36	20.0	1.22	N/A	81.12	N/A
6C-96-12	S96T001023	21.48	17.5	1.23	N/A	79.03	N/A
6C-96-7	S96T000542	109.64	64	1.71	24.98	8.04	69.5
6C-96-10	S96T000558	68.75	39	1.76	22.86	11.71	85.2
6C-96-11	S96T001674	146.79	101.0	1.45	27.53	9.63	59.5
6C-96-13	S96T001030	74.64	49.0	1.52	---	9.24	67.3
6C-96-4	S96T001527	127.90	85.25	1.50	25.80	3.63	59.3

^{1,2}Corrected values for particle density include the sum of hot cell water content and TGA result. Raw determinations were based on hot cell water loss alone.

Table 4 - Dry Particle Density

Sample ID	Raw Dry Particle Density	Corrected Dry Particle Density
6C-96-11	1.83	1.93
6C-96-13	*	1.93
6C-96-10	1.70	1.69
6C-96-7	1.84	1.87
6C-96-4	1.97	2.01

* Only one value reported, based on % water content from the control sample.

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APPENDIX 2

INTERNAL MEMO # 75764-PCS-96-075

WHC-SD-WM-DP-183, REV. 0

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Westinghouse
Hanford Company

Internal
Memo

From: Process Chemistry and Statistics 75764-PCS96-075
Phone: 373-1972 T6-09
Date: July 23, 1996
Subject: COMPATIBILITY STUDY AND ORGANIC EXTRACTION RESULTS

To: H. Babad S7-14
R. A. Esch T6-06
R. D. Schreiber R2-12

cc: ^{for} J. R. Jewett CMD T6-09
BAC File/LB

Several tests were requested to check for compatibility of tank 241-C-106 material with the supernate and tank sludge from tank 241-AY-102. The work was performed in support of sluicing activities which involve the use of tank 241-AY-102 supernate to transport tank 241-C-106 sludge to the final storage tank. The results of these tests follow.

Pretest tank 241-AY-102 sludges for Organic and 241-C-106 sludge for Organic Separation

An aliquot of tank 241-AY-102 sludge, identified as 102-AY-9, was collected from riser 15H at 675 inches prior to addition of caustic to the tank. The sludge was centrifuged at 1215 G for 10 minutes at approximately 55° C. After centrifuging, there was an interstitial liquid volume of 3.0 ml in 6.5 ml of bulk sludge material. There was no organic evident which may have separated from the sludge.

Under similar conditions as those stated above, tank 241-C-106 material was centrifuged at 10 G to mimic pumping conditions. There was no noticeable separation of organic from the sludge sample or interstitial liquid at these lower centrifuge speeds.

Supernate Characteristics

In addition to supernate from the sludge sample 102-AY-9, six other supernate samples were checked for foaming. The sample was vortexed with no foaming evident. By shaking the supernate, foaming occurred with subsequent break up in less than 5 seconds. This supernate was not used for the compatibility mixing as it was later learned that the sample was taken from tank 241-AY-102 prior to addition of caustic to the tank. Therefore, six other samples: 2AY-96-1, 2AY-96-2, 2AY-96-3, 2AY-96-4, 2AY-96-5, and 2AY-96-6 which were collected from the tank after the caustic addition (i.e., more representative of current conditions) were used. Each of the supernates was agitated with variable results.

H. Babad
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In all cases where foaming did occur, the dissipation of foam was nearly immediate. Samples 2AY-96-1, 2AY-96-2 and 2AY-96-6 foamed with foam dissipation in less than 20 seconds. Samples 2AY-96-3, 2AY-96-4 and 2AY-96-5 either foamed with immediate dissipation or there was no sign of foaming. Since a large amount of supernate was required for the tests, three samples (2AY-96-5, 2AY-96-2 and 2AY-96-6) were used to perform the compatibility studies. In each case, key characteristics (ie. pH and specific gravity (SpG)) of the supernate were checked before and after mixing with the sludge.

In addition to checking supernate from tank 241-AY-102, supernate samples from tank 241-C-106 were checked for foaming. Supernate samples from the parent samples which correspond to the sludges being tested were observed after agitating. Sample S96T000536 (parent sample 6C-96-8) and sample S96T001547 (parent sample 6C-96-14) showed foaming with immediate breakup of the foam (within 5 seconds).

Tank 241-C-106 Sludge mixed with neat 241-AY-102 Supernate

Sludge from tank 241-C-106 parent samples 6C-96-8 and 6C-96-14 were mixed individually with supernate from tank 241-AY-102 (parent sample 2AY-96-5) (see table 1 for details).

Table 1 - Sludge mixed with 241-AY-102 (2AY-96-5)

Sludge ID	grad. Cylinder	wt. of supernate	wt. of sludge added	wt. % sludge
6C-96-8 (S96T000575)	A	53.31	9.98	11.4
6C-96-14 (S96T001550)	E	37.98	3.93	6.5 (10.3 wet sludge basis)

The weight % sludge value for total slurry was approximated for 10 weight % sludge. The exact concentration of sludge in the mixture was calculated as follows:

$$Wt. \% \text{ sludge} = \frac{W_1 - W_2}{W_3 + W_1} * 100$$

where W_1 = mass of wet sludge

W_2 = mass of water in sludge = total sludge weight x % water content x .01

W_3 = mass of supernate

The weight of sludge to total slurry was requested as 10 weight % and was intended to be calculated on a dry weight basis. The 6C-96-8 sample was 11.4 weight percent after calculating. However, the concentration of 6C-96-14 sample was much lower at 6.5 weight percent once calculated. This discrepancy was due to incorrectly accounting for the interstitial liquid content of the sample. The weight % sludge content in the mixture based on wet sludge, however, is 10.3 weight %.

Settling Behavior of C-106 sludges with AY-102 Supernates

Before settling, samples of 6C-96-8 and 6C-96-14 in 241-AY-102 supernate were light yellow and clear. The sludge was red-brown with fine sand-like particles.

Upon mixing, all solids were suspended in the supernate. Separation of solids from the supernate occurred within 10 minutes for both samples of pure sludge from samples 6C-96-8 and 6C-96-14. The sludge from 6C-96-14 appeared to be settling out faster than the 6C-96-8 sample. Supernate appeared to be clear of suspended solids after 165 minutes (2 hours and 45 minutes).

The resultant pH difference and physical properties from the mixture obtained from the combination of tank 241-AY-102 supernate and pure tank 241-C-106 sludge are summarized in table 2. Sample 6C-96-8 shows an increase in pH in the suspended slurry and a small decrease in the resultant supernate. Sample 6C-96-14 shows a pH decrease in the slurry with a larger increase in the resultant supernate. The most profound difference is observed in the pH increase in the supernate which was mixed with 6C-96-14 sludge. An increase in specific gravity is observed in both samples after mixing the supernate with the 241-C-106 tank sludge. This SpG increase is observed in the supernate, as well as the resultant sludge.

Perhaps of even more importance, there was no exotherm noted for the combined solution. This indicates that the energetics of the mixture are not reactive. Interestingly, the water content of the sludges is fairly high after settling. The sample from 6C-96-14 appears to be particularly high with respect to the 6C-96-8 sample. However, both samples, 6C-96-8 and 6C-96-14 also show increases in solid mass and volume after settling (see table 6).

Table 2 - Characteristics of Sludge Components Before and After addition of Supernate

Sample 6C-96-8: 241-C-106 Sludge with 241-AY-102 Supernate						
Fraction of Mixture	pH	SpG (g/ml)	% water by TGA	DSC (Joules)	Bulk Density (g/ml)	Vol. % settled solids
original supernate (S96T002765)	11.16	0.980	---	---	1.06	---
slurry (S96T002766)	11.22	---	96.24	0	---	17.85
resultant supernate (S96T002768)	11.10	1.005	---	---	---	---
resultant sludge (S96T002769)	---	1.27 (sludge)	73.78	---	1.23	---
Sample 6C-96-14: 241-C-106 Sludge with 241-AY-102 Supernate						
original supernate (S96T002765)	11.16	0.980	---	---	1.03	---
slurry (S96T002825)	11.12	---	95.78	0	---	7.69
resulting supernate (S96T002826)	11.50	0.988	---	---	---	---
resulting sludge (S96T002827)	---	1.52 (sludge)	95.08	---	1.32	---

Mixed Sludge from 241-C-106 and 241-AY-102

Sludge from parent sample 102-AY-9 was added to each of two graduated cylinders as described in table 3. With the exception of mixing the sludges in 4 parts C-106 sludge to 1 part AY-102 sludge proportions, the sludges were combined with supernate from tank 241-AY-102 in similar fashion as the previous sludges.

Upon mixing the mixed sludge with AY-102 supernate, there was no foaming, frothing, or bubble formation. The sludge remained brown and mixed quite well in the supernate.

Table 3 - Mixed sludge composition

Sample ID	Grad. Cylinder	AY-102 sludge added (g)	C-106 sludge added (g)	portion AY-102: C-106	AY-102 Supernate added	Wt. % sludge (dry weight basis)
6C-96-8 (S96T000575)	B	1.77	7.13	1:4.03	61.70	9.8
6C-96-14 (S96T001549)	D	1.79	7.32	1:4.09	54.47	10.2

Samples were vortexed until they were thoroughly mixed, then allowed to settle. Solids began to separate from the supernate within the first 10 minutes. After 205 minutes (3 hours and 25 minutes) had elapsed, the supernate was still cloudy and clearing. Since the pure sludge samples cleared in <2 hours and 45 minutes, the mixed sludge samples settled over longer time than the pure C-106 sludges. At the next reading (1200 minutes(20 hours)), the supernate was clear and yellow. A more exact time for appearance of clear supernate was not available. The 6C-96-14 mixed sludge dropped out of solution faster than the 6C-96-8 mixed sludge. This behavior is similar to that observed with the previous study. This seems to indicate some difference in settling behavior may occur with tank location in addition to sludge content when sluicing occurs. The 6C-96-14 sample settled 52 ml of suspended sludge within the first 10 minutes (which corresponds to a linear settling velocity of 0.84 cm/min.), with an initial settling rate of 5.2 ml/min which is more rapid than the previous run of 6C-96-14 material alone. The mixed sludge 6C-96-8 sample behaved similarly to the analogous C-106 sludge sample in all respects. The 6C-96-14 mixed sludge sample may be more rapid in settling due to the larger concentration of large particles than the other samples. While there was no particle size analysis performed to verify this, it was noted that the C-106 sample sludge contained a larger amount of chunks of material than previous samples. The settling rate is reported in table 4 by time elapsed from initiation of settling.

Table 4 - Settling Rate by Time elapsed from Mixing

Sample ID	Time Elapsed	Settling Rate	Linear Settling Velocity
6C-96-8	0 - 10 minutes	2.0 ml/ min	3.2e-1 cm/ min.
	10 - 20 minutes	1.8 ml/ min.	2.9e-1 cm/ min.

Sample ID	Time Elapsed	Settling Rate in	Linear-Settling Velocity
	20 - 30 minutes	0.3 ml/ min.	4.8e-2 cm/ min.
	30-105 minutes	0.067 ml/ min.	1.1e-1 cm/ min.
6C-96-8 with AY-102 sludge	0 - 10 minutes	1.9 ml/ min.	3.1e-1 cm/ min.
	10 - 20 minutes	2.0 ml/ min.	3.2e-1 cm/ min.
	20 - 30 minutes	0.70 ml/ min.	1.1e-1 cm/ min.
	30 - 40 minutes	0.25 ml/ min.	4.1e-2 cm/ min.
	40 - 60 minutes	0.15 ml/ min.	2.4e-2 cm/ min.
	60 - 205 minutes	0.043 ml/ min.	6.7e-3 cm/ min.
6C-96-14	0 - 10 minutes	2.0 ml/ min.	3.2e-1 cm/ min.
	10 - 20 minutes	1.2 ml/ min.	1.9e-1 cm/ min.
	20 - 30 minutes	0.15 ml/ min.	2.4e-2 cm/ min.
	30 - 105 minutes	0.027 ml/ min.	4.4e-3 cm/ min.
6C-96-14 with AY-102 sludge	0 - 10 minutes	5.2 ml/ min.	8.4e-1 cm/ min.
	10 - 20 minutes	1.0 ml/ min.	1.6e-1 cm/ min.
	20 - 30 minutes	0.05 ml/ min.	8.1e-3 cm/ min.
	30 - 40 minutes	*	*
	40 - 60 minutes	0.05 ml/ min.	8.6e-3 cm/ min.

*No difference between volume observations.

Rate constants based on a logarithmic decay of settling over time were calculated according to first order kinetics dependent on volume in ml. (See figures 1 and 2 which follow). The rate constants for 6C-96-8, 6C-96-8 with AY-102 sludge, 6C-96-14 and 6C-96-14 with AY-102 sludge are: $7.73 \times 10^{-3} \text{ min}^{-1}$, $9.22 \times 10^{-3} \text{ min}^{-1}$, $1.00 \times 10^{-2} \text{ min}^{-1}$, and $1.03 \times 10^{-2} \text{ min}^{-1}$, respectively, for 215 minutes. While relating this data back to information more suitable for observation of settling in relation to the tanks, these constants are not as useful as noting the

behavior described in the graphs in Figures 1 and 2 (attached).

Table 5 provides a comparison of supernate and sludge before and after mixing. The pH decreases when the supernate is mixed with the sludge. This pH decrease appears to be larger than that observed for 241-C-106 tank sludge alone and undoubtedly is due to the presence of 241-AY-102 sludge. The sludge used for the C-106/ AY-102 mixture includes sludge from tank 241-AY-102 which was taken before caustic was added to the tank.

Table 5 - Characteristics of Mixed Sludge Components Before and After addition of Supernate

Sample 6C-96-8 with 102-AY-9: Sludge with 241-AY-102 Supernate						
Fraction of Mixture	pH	SpG (g/ml)	% water by TGA	DSC (Joules)	Bulk Density (g/ml)	Vol. % settled solids
Original Supernate (S96T002833)	12.52	0.976	---	---	1.05	---
Slurry (S96T002770)	11.71	---	96.86	0	---	14.7
Resultant Supernate (S96T002771)	11.81	1.002	---	---	---	---
Resultant Sludge (S96T002772)	---	1.40 (sludge)	79.49	---	1.29	---
Sample 6C-96-14 with 102-AY-9: sludge with 241-AY-102 Supernate						
Original Supernate (S96T002833)	12.52	0.976	---	---	1.07	---
Slurry (S96T002829)	11.80	---	95.67	0	---	12.1
Resulting Supernate (S96T002830)	11.91	0.996	---	---	---	---
Resulting Sludge (S96T002831)	---	1.42 (sludge)	83.85	---	1.26	---

The amount of solids by volume appears to increase once the mixtures have settled. This is illustrated in table 6 where in all cases both the mass and volume of the sludges after settling are significantly greater than the mass and volume of the sludge in the starting material.

Table 6 - Solids before and after Settling

Characteristic	6C-96-8	6C-96-14	6C-96-8 with AY-102	6C-96-14 with AY-102
initial mass (g)	9.98	3.93	8.9	9.11
initial volume (ml)	9.0	3.0	10.0	7.5
final mass (g)	22.84	14.46	60.24	32.66
final volume (ml)	18	9.5	43.0	23

Sedimentation studies

Sedimentation studies were performed via centrifugation at various speeds to mimic hydrostatic forces within the tank and its relation to sludge layering. Data was relayed to PNNL. Results will be provided from PNNL separately.

Organic Extraction

There was limited sample in parent containers and associated archive containers for 6C-96-8 and 6C-96-14. Therefore, organic extraction was performed on each sample as opposed to duplicates on one sample. The sample was weighed into beakers and gently stirred once methylene chloride was added. There was no apparent foaming or bubbling upon addition of methylene chloride or stirring of the resulting mixture. Once the mixture was stirred for at least 10 minutes, the methylene chloride extract was collected in a 60 ml capped jar (see table 7 for details).

Table 7 - Organic Sludge washing

Sample ID	Wet sludge mass	methylene chloride added 1st wash	methylene chloride added 2nd wash	methylene chloride added 3rd wash	Dry sludge remaining after wash	g oil/g wet sludge
6C-96-8	9.70 g	20.11 g	14.94 g	16.36 g	5.28 g	0.066
6C-96-14	12.26 g	11.59 g	14.59 g	22.06 g	7.19 g	0.020

Two samples were removed from the extractant mixture for gas chromatography - mass spectrometry (GC/MS) analysis. These samples (Labcore number S96T003134), a sample and duplicate weighed 6.04 g and 7.72 g, respectively. The remaining sample was then subjected to evaporation by nitrogen sparge to less than 40 ml of total volume. The solvent was not completely removed within the time frame to release the samples from the hot cell for shipping to PNNL. Evaporation of remaining solvent was performed at PNNL and the amount of oil in the sludge was determined to be 0.058 g oil/g sludge for the 6C-96-8 sample and 0.018 g oil/g sludge for the 6C-96-14 sample. The lower oil concentration of the 6C-96-14 sample may have resulted from sample loss in processing, as the sample container was tipped during the first wash and sludge was lost but rinsed with solvent before proceeding with the remaining sample. The sludge mass was adjusted for the loss.

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Process Chemistry and Statistics

bac

Attachments

WHC-SD-WM-DP-183, REV. 0

Figure 1 - C-106 Sludge and AY-102 Supernate

Figure 2 - Mixed C-106/AY-102 and AY-102 Supernate

WMC-SD-WM-DP-183, REV. 0

APPENDIX 3

INTERNAL MEMO # 75764-PCS-96-071

WHC-SD-WM-DP-183, REV. 0

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From: Process Chemistry and Statistics
Phone: 373-2532 T6-09
Date: July 15, 1996
Subject: CAUSTIC DEMAND -- TANK C-106 SLUDGE

75764-PCS96-071

To: R. A. Esch *RAE* 7/16/96 T6-06

cc: H. Babad S7-14
T. M. Blaak S5-13
K. G. Carothers R1-51
B. A. Crawford T6-09
J. R. Jewett T6-09
J. M. Jones S5-13
D. A. Reynolds R2-11
DLH File/LB

Reference: Internal memo, B. A. Crawford to R. A. Esch, "Processing and Sampling Results from Breakdown of Tank 241-C-106 Grab Samples," June 19, 1996.

Caustic demand testing has been performed on two sludge samples from tank 241-C-106 (C-106). Results show that the buffering capacity of the sludge is not exhausted until approximately 1.0 to 1.3 moles of NaOH per liter of sludge has been added. (See Figure 1.) The buffering capacity is due to the presence of large amounts of sodium bicarbonate and amphoteric aluminum hydroxide. The difference in buffering capacity between the two sludge samples can be attributed to different levels of aluminum hydroxide.

In most previous caustic demand studies, the purpose was to determine how much saturated (19.5 M) NaOH solution would need to be added to a waste tank to bring the waste solution up to a specified free hydroxide concentration. In this case, there are no plans to add caustic to tank C-106. The purpose in this case was to predict how the C-106 sludge would behave when it is sluiced out of the tank and mixed with waste in a double shell tank. The results make it clear that the C-106 sludge will absorb significant amounts of hydroxide from a double shell tank waste that receives the sludge, resulting in dissolution of much, if not all, of the aluminum hydroxide.

Laboratory data are recorded in notebook number WHC-N-384-4, pages 40-46.

Experimental

Tank C-106 sample S96T000576 (see Reference 1 for a description of the sample history) was mixed with a spatula, and aliquots were transferred into five tared centrifuge cones labeled 1-5. Dilute (2.78 M) NaOH solution was added to each cone, which was mixed by vortexing immediately after the NaOH addition. Weights of sludge and added NaOH solution are shown in Table 1.

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All five cones were then tumbled end-over-end for 24 hours to mix the samples and allow time for reactions to take place.

The five cones were centrifuged for two hours. The centrifuged samples all contained - from bottom to top - a centrifuged solids layer, a clear liquid layer, and a dark brown "oil" layer. The "oil" was very easily dispersed into the liquid layer by slight agitation, so it was not possible to cleanly separate the liquid layer alone for analysis. The liquid from each cone - along with an uncontrolled amount of the "oil" layer - was transferred to a sample vial for analysis of free hydroxide (OH^-), total inorganic carbon (TIC), and metals by inductively coupled plasma spectroscopy (ICP). No attempt was made to characterize the "oil" layer in any way.

Table 1. Weight/Volume Data for C-106 Sludge Sample S96T000576

	1	2	3	4	5
Weight of Sludge (g)	8.46	8.13	6.80	6.88	6.93
Wt of NaOH Added (g)	0.50	1.80	2.14	3.59	7.31
Vol of NaOH Added ¹ (mL)	0.45	1.62	1.93	3.23	6.58
Total vol in cone (mL)	6.5	7.3	7.0	8.3	11.9
Vol 'fuged solids (mL)	3.8	3.8	3.3	3.3	3.2
Original Sample Vol (mL)	6.1	5.7	5.1	5.1	5.3
Vol actual solids ¹ (mL)	1.8	1.8	1.6	1.6	1.6
Total liquid vol ¹ (mL)	4.7	5.5	5.4	6.7	10.3
Wt 'fuged solids (g)	5.90	5.91	4.97	4.85	4.61
Sample ID S96R000...	387	386	388	389	390
Found $[\text{OH}^-]$ Trial 1 (M)	< det	0.078	0.109	0.175	0.747
Found $[\text{OH}^-]$ Trial 2 (M)	< det	0.070	0.106	0.166	0.747
Calculated ¹ $[\text{OH}^-]$ (M)	0.26	0.81	0.99	1.35	1.78

¹ Calculated values.

A sample of the NaOH stock solution was also submitted for free hydroxide analysis as sample S96R000391. Analytical results of duplicate analyses were 2.76 M and 2.80 M, for an average of 2.78 M free hydroxide.

Tank C-106 sludge sample S96T001550 was treated in similar fashion to sample S96T000576. Weights and volumes are shown in Table 2.

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Table 2. Weight/Volume Data for C-106 Sludge Sample S96T001550

	1	2	3	4	5
Weight of Sludge (g)	6.74	6.16	5.95	5.57	7.12
Wt of NaOH Added (g)	0.49	1.31	1.95	3.83	7.30
Vol of NaOH Added (mL)	0.44	1.18	1.75	3.45	6.57
Total vol in cone (mL)	5.1	5.8	6.2	7.6	11.8
Vol 'fuged solids (mL)	2.9	2.5	2.4	2.4	2.8
Original Sample Vol (mL)	4.7	4.6	4.4	4.2	5.2
Vol actual solids ¹ (mL)	1.2	1.2	1.1	1.2	1.3
Total liquid vol ¹ (mL)	3.9	4.6	5.1	6.4	10.5
Wt 'fuged solids (g)	4.85	3.79	3.71	3.53	4.34
Sample ID S96R000...	381	382	383	384	385
Found [OH ⁻] Trial 1 (M)	< det	0.099	0.201	0.788	1.082
Found [OH ⁻] Trial 2 (M)	< det	0.099	0.201	0.800	1.141
Calculated ¹ [OH ⁻] (M)	0.32	0.71	0.96	1.49	1.74

¹ Calculated values.

Calculations

The calculated hydroxide values represent what the free hydroxide concentrations would be if the only effect of mixing with the sludge sample were simple dilution of the added NaOH. To calculate the dilution factor, the volume of liquid in the cone before the NaOH addition had to be estimated. The volume of NaOH added was calculated by dividing the weight, which was measured, by the density of the solution (1.11136 g/mL) provided by the Standards Laboratory.

The total volume in each cone and the volume of centrifuged solids were determined by reading the graduations on the cone after the NaOH was added and the samples were mixed and centrifuged. The original sample volume was assumed to be the total volume minus the volume of NaOH solution added.

The "volume of actual solids" is an estimate based on some typical percent water values, provided by Ruth Esch, for similar tank C-106 centrifuged solids and supernatant liquid samples. The percent water values used were 33% water for the centrifuged solids and 77% water for the supernatant (or interstitial) liquid. The density of the supernatant liquid, 1.24 g/mL, was also provided by Ruth Esch. To convert volume of centrifuged solids to volume of actual solids, the following formula was applied, using Cone 1 from Table 2 as an example:

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$$4.85 \text{ g c sol} * \frac{0.33 \text{ g H}_2\text{O}}{\text{g c sol}} * \frac{\text{g ISL}}{0.77 \text{ g H}_2\text{O}} * \frac{\text{mL ISL}}{1.24 \text{ g ISL}} = 1.7 \text{ mL ISL}$$

$$2.9 \text{ mL c sol} - 1.7 \text{ mL ISL} = 1.2 \text{ mL actual solids}$$

where c sol = centrifuged solids and ISL = interstitial liquid.

The total liquid volume in the cone was estimated by subtracting the actual solids volume from the total volume. The calculated free hydroxide value was then determined by multiplying the NaOH concentration (2.78 M) by the volume of NaOH solution added, and dividing by the total liquid volume.

Results

The free hydroxide analytical results are shown in Tables 1 and 2. The analyzed values are lower than the calculated values because some of the added NaOH undergoes reactions with the sludge. The buffering capacity of the sludge -- i.e., the amount of NaOH that reacts with the sludge -- can be determined from a graph of the data as shown in Figure 1.

For a plot of [NaOH] Found vs. [NaOH] Calculated, the ideal slope of a line through the points would be 1.0 if there were no interaction between the added NaOH and the sludge. That is, for every mole of hydroxide added, one mole of hydroxide would be found in the analysis. When the sludge reacts with the added NaOH, the result is less than one mole of hydroxide found for every mole added, and a slope of less than 1.0.

Both samples in Figure 1 show an initial slope of much less than 1.0, and a slope close to 1.0 after the buffering capacity of the sludge has been exhausted. For sludge sample S96T001550, the buffering capacity was exhausted when the [NaOH] Calculated was approximately 1.0 M. Sample S96T000576 reached the end of the buffering capacity at approximately 1.3 M calculated hydroxide. The difference between the two samples is largely due to the different amount of aluminum hydroxide that dissolved, as shown by the ICP results (Tables 3 and 4).

The data in Tables 3 and 4 help to show what happens to the sludge as NaOH is added. The top portion of each table shows the "raw" analytical results as reported in Labcore. The bottom portion of each table shows the molarity of each analyte corrected for the NaOH dilution. To convert from the raw data in µg/mL to the dilution-corrected values in molarity, the following conversion was used (cf. A1, Cone 5, Table 3):

$$\frac{7,790 \text{ } \mu\text{g Al}}{\text{mL Tot Liq}} \times \frac{\text{mmol Al}}{27,000 \text{ } \mu\text{g Al}} \times \frac{10.3 \text{ mL Tot Liq}}{(10.3 - 6.58) \text{ mL Orig Liq}} = 0.80 \text{ M Al}$$

where Tot Liq = total liquid, 6.58 = volume of NaOH added, and Orig Liq = volume of liquid in original sample before NaOH was added.

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Figure 1. Tank C-106 Sludge Caustic Demand

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For the dilution-corrected Na values, a further correction was made to account for the Na in the added NaOH. The number of mmoles of added Na was subtracted from the total mmoles of Na before dividing by the original liquid volume.

Table 3. ICP and TIC Results for C-106 Sludge Sample S96T000576

	1	2	3	4	5
	"raw" data, $\mu\text{g/mL}$				
Al	100	2,270	4,740	7,070	7,790
Cr	< 4	8	17	32	39
K	476	498	513	310	285
Na	86,900	79,300	81,000	78,700	73,200
P	242	485	524	561	470
S	1,810	1,390	1,250	1,000	682
TIC	19,300	18,500	17,400	16,400	12,100
	dilution corrected, Molarity				
Al	0.004	0.12	0.27	0.51	0.80
Cr	--	0.0002	0.0005	0.0012	0.0021
K	0.013	0.018	0.020	0.015	0.020
Na	3.88	3.72	3.93	4.02	3.89
P	0.009	0.022	0.026	0.035	0.042
S	0.062	0.061	0.061	0.061	0.059
TIC	1.78	2.18	2.25	2.65	2.79

Table 4. ICP and TIC Results for C-106 Sludge Sample S96T001550

	1	2	3	4	5
	"raw" data, $\mu\text{g/mL}$				
Al	ran out of sample	2,730	4,570	4,240	3,530
Cr		27	43	42	33
K		518	473	326	269
Na		94,400	91,300	84,900	81,400
P		406	478	371	300
S		1,770	1,520	1,110	882
TIC		19,500	17,900	14,000	10,900
	dilution corrected, Molarity				
Al		0.14	0.26	0.34	0.35
Cr		0.0007	0.0013	0.0017	0.0017
K		0.018	0.018	0.018	0.018
Na		4.56	4.59	4.74	4.80
P		0.018	0.024	0.026	0.026
S		0.074	0.073	0.075	0.074
TIC		2.18	2.28	2.52	2.43

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If nothing happened when the NaOH was added, the dilution-corrected concentrations should be constant from left to right across each table. This is pretty much the case for sulfur and potassium, which appear to be unaffected by the added NaOH.

Chromium and phosphorus show steady increases with increasing NaOH, but the concentrations are so small as to have no noticeable effect on the observed free hydroxide concentrations. The chromium probably increases due to reaction of amphoteric chromic hydroxide:

The phosphate probably increases because the solubility of Na_3PO_4 increases with decreasing ionic strength of the liquid.

Aluminum increases because of the same amphoteric reaction as for chromium, changing the insoluble aluminum hydroxide to soluble aluminate ion. In the case of aluminum, the concentration is high enough to show a substantial effect on the observed free hydroxide. The difference in Al concentrations between the two sludge samples is of the same magnitude as the difference in their buffering capacities.

The TIC probably increases because the solubility of Na_2CO_3 increases with decreasing ionic strength of the liquid. This dissolution is unrelated to any reaction with NaOH. However, at the pH of the original sludge samples (approximately 10.1), a large fraction of the TIC is present as bicarbonate ion rather than carbonate ion. As the NaOH is added, the bicarbonate gets converted to carbonate:

Both the aluminum hydroxide reaction and the bicarbonate reaction contribute significantly to the buffering capacity of the sludge. When the C-106 sludge is mixed with waste in a double shell tank, the hydroxide concentration of the resulting waste mixture will be substantially less than the concentration calculated by simple dilution.

Please call me on 373-2532 if you have any questions about these findings.

D. L. Herting, Senior Principal Scientist
Process Chemistry and Statistics

dls

WHC-SD-WM-DP-183, REV. 0

SAMPLE DATA SUMMARY

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Table 3: Data Summary Report
C-106 GRAB

RISE: 1
SEGMENT #: 6C-96-3

SEGMENT PORTION: Sludge (from Liquid Grab Sample)

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicates	Average	RPD % Spk Rec %	Det Limit	Count	Err%
3961001526		DSC Exotherm Dry	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
3961001526		DSC Exotherm on Perkin Elmer	Joules/g	99.12	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
3961001526		% Water by TGA using Mettler	%	99.11	n/a	3.540	2.820	3.180	22.6	n/a	n/a	n/a
3961003178		TOC by Persulfate/Coulometry	ug/g	93.20	1.600	6.05e+04	5.03e+04	5.54e+04	18.4	n/a	n/a	n/a
3961003178		Fluoride-IC-Dionex 40001/4500	ug/g	106.4	<1.30e-02	2.14e+02	267.0	300.9	5.98	109.1	142.6	n/a
3961003178		Chloride-IC-Dionex 40001/4500	ug/g	98.23	<1.70e-02	1.32e+04	1.43e+04	1.37e+04	8.00	87.64	897.5	n/a
3961003178		Nitrite-IC - Dionex 40001/4500	ug/g	93.91	<1.07e-01	2.96e+03	3.80e+03	3.38e+03	24.9	93.97	1.17e+03	n/a
3961003178		Nitrate by IC-Dionex40001/4500	ug/g	104.1	5.770	1.66e+03	<1.40e3	n/a	n/a	94.69	997.5	n/a
3961003178		Phosphate-IC-Dionex40001/4500	ug/g	103.1	<1.19e-01	5.34e+03	5.23e+03	5.29e+03	2.08	97.78	1.14e+03	n/a
3961003178		Sulfate by IC-Dionex40001/4500	ug/g	106.5	<1.36e-01	3.08e+05	3.19e+05	3.13e+05	3.51	34.25	881.1	n/a
3961003178		Oxalate by IC - Dionex 40001	ug/g	107.5	<1.05e-01	3.08e+05	3.19e+05	3.13e+05	3.51	34.25	881.1	n/a

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Table 3: Data Summary Report
C-106 GRAB

RISE: 1
SEGMENT #: 6C-96-4

SEGMENT PORTION: Centrifuged Solids (Grab Sample)

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk	Rec %	Det Limit	Count	Err%
S961001527		Bulk Density of Sample	g/mL	N/A	N/A	1.500	N/A	N/A	N/A	N/A	N/A	5.00e-01	N/A	N/A
S961001527		DSC Exotherm using Mettler	Joules/g	111.4	N/A	0.00e+00	1.00e+03	500.0	200	N/A	N/A	N/A	N/A	N/A
S961001527		DSC Exotherm using Mettler	Joules/g	112.8	N/A	13.50	25.50	19.50	61.5	N/A	N/A	N/A	N/A	N/A
S961001527		DSC Exotherm Dry Calculated	Joules/g Dry	N/A	N/A	0.00e+00	1.04e+03	520.0	200	N/A	N/A	N/A	N/A	N/A
S961001527		DSC Exotherm Dry Calculated	Joules/g Dry	N/A	N/A	14.00	26.45	20.23	61.6	N/A	N/A	N/A	N/A	N/A
S961001527		% Water by TGA using Mettler	%	99.31	N/A	3.630	3.540	3.585	2.51	N/A	N/A	N/A	N/A	N/A
S961001527		Volume % Solids	%	N/A	N/A	59.30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S961001527		% Water by Gravimetric	%	98.99	N/A	5.900	5.600	5.750	5.22	N/A	N/A	1.00e-01	N/A	N/A

Control Sample: Control Sample

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk	Rec %	Det Limit	Count	Err%
S961001530		DSC Exotherm Dry Calculated	Joules/g Dry	N/A	N/A	0.00e+00	0.00e+00	0.00e+00	0.00	N/A	N/A	N/A	N/A	N/A
S961001530		DSC Exotherm on Perkin Elmer	Joules/g	101.6	N/A	0.00e+00	0.00e+00	0.00e+00	0.00	N/A	N/A	N/A	N/A	N/A
S961001530		% Water by TGA on Perkin Elmer	%	99.24	N/A	32.71	34.32	33.52	4.80	N/A	N/A	N/A	N/A	N/A
S961001531		F Technetium-99 Liq. Scint.	uCi/g	104.5	<1.42e-02	<1.43e-02	1.74e-02	N/A	N/A	N/A	N/A	1.40e-02	7.09e+00	N/A
S961001531		F Strontium-89/90 High Level	uCi/g	104.1	<1.20e-01	6.03e-02	589.0	596.0	2.35	N/A	N/A	2.83e-02	6.05e-01	N/A
S961001531		F Pu-239/240 by TRU-SPEC Resin	uCi/g	103.7	<1.55e-02	1.270	1.210	1.240	4.84	N/A	N/A	7.40e-02	1.37e+01	N/A
S961001531		F Cobalt-60 by GEA	uCi/g	101.4	<2.87e-01	<4.96e-01	<4.35e-1	N/A	N/A	N/A	N/A	4.90e-01	0	N/A
S961001531		F Cesium-137 by GEA	uCi/g	99.11	<8.64e-01	6.61e-02	645.0	643.0	5.68	N/A	N/A	6.10e-02	2.24e+00	N/A
S961001531		F Am-241 by Extraction	uCi/g	90.80	<1.73e-02	8.84e-01	1.100	9.97e-01	21.8	N/A	N/A	4.30e-02	9.54e+00	N/A
S961001531		F Alpha of Digested Solid	uCi/g	102.3	<4.91e-02	2.630	2.370	2.600	2.31	N/A	N/A	4.30e-02	9.54e+00	N/A

Decanted Supernate (Liquid Grab Sludge): Decanted Supernate (Liquid Grab Sludge)

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk	Rec %	Det Limit	Count	Err%
S961001528		Specific Gravity	SP.G.	97.14	N/A	1.230	1.246	1.238	1.29	N/A	N/A	1.00e-03	N/A	N/A
S961001528		% Water by Gravimetric	%	98.14	N/A	76.70	76.80	76.75	0.13	N/A	N/A	1.00e-01	N/A	N/A

Filtered Centrifuged Solids: Filtered Centrifuged Solids

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk	Rec %	Det Limit	Count	Err%
S961001537		DSC Exotherm Dry Calculated	Joules/g Dry	N/A	N/A	0.00e+00	0.00e+00	0.00e+00	0.00	N/A	N/A	N/A	N/A	N/A
S961001537		DSC Exotherm on Perkin Elmer	Joules/g	101.2	N/A	0.00e+00	0.00e+00	0.00e+00	0.00	N/A	N/A	N/A	N/A	N/A
S961001537		% Water by TGA on Perkin Elmer	%	99.24	N/A	22.14	25.07	24.11	16.3	N/A	N/A	N/A	N/A	N/A
S961001538		TIC by Acid/Coulometry	uCi/g	99.83	5.00e-01	2.54e+04	2.54e+04	2.54e+04	0.39	102.1	5.000	40.00	N/A	N/A
S961001538		TIC by Persulfate/Coulometry	uCi/g	92.36	1.600	1.48e+04	1.56e+04	1.52e+04	10.3	84.80	N/A	4.00e-02	N/A	N/A
S961001539		% Water by Gravimetric	%	99.31	N/A	27.10	23.10	25.10	0.29	N/A	N/A	1.00e-02	N/A	N/A
S961001540		pH on SST Samples	pH	99.88	N/A	10.21	10.18	10.20	N/A	N/A	N/A	1.50e-02	7.12e+00	N/A
S961001541		F Technetium-99 Liq. Scint.	uCi/g	104.5	<1.42e-02	<1.54e-02	1.75e-02	N/A	N/A	N/A	N/A	1.50e-02	7.12e+00	N/A
S961001541		F Strontium-89/90 High Level	uCi/g	104.1	<1.20e-01	6.63e-02	721.0	693.0	8.08	N/A	N/A	2.83e-01	6.36e-01	N/A
S961001541		F Pu-239/240 by TRU-SPEC Resin	uCi/g	103.7	<1.55e-02	1.420	1.400	1.450	4.14	N/A	N/A	8.10e-02	1.42e+00	N/A
S961001541		F Cobalt-60 by GEA	uCi/g	101.4	<2.87e-01	<5.48e-01	<5.72e-1	N/A	N/A	N/A	N/A	5.48e-01	N/A	N/A

Sample#	RA#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961001341	F	Cesium-137 by GE	uCi/g	99.11	<8.64e-01	6.16e+02	671.0	1.355	30.3	n/a	n/a	1.02
S961001341	F	Am-241 by Extraction	uCi/g	90.60	<1.75e-02	1.150	1.560	1.355	30.3	n/a	7.40e-02	1.69e+00
S961001341	F	Alpha of Digested Solid	uCi/g	102.3	<4.91e-02	3.120	3.310	3.215	5.91	94.43	4.80e-02	9.29e+00
S961001342	A	Silver - ICP-Acid Digest	ug/g	89.40	<1.00e-02	2.50e+03	1.51e+03	2.00e+03	49.4	n/a	6.140	n/a
S961001342	A	Aluminum - ICP-Acid Digest	ug/g	91.00	<1.77e-01	6.20e+04	5.44e+04	5.82e+04	13.1	n/a	30.70	n/a
S961001342	A	Arsenic - ICP-Acid Digest	ug/g	94.00	<1.20e-01	< 61.40	<5.91e1	n/a	n/a	84.70	61.40	n/a
S961001342	A	Boron - ICP-Acid Digest	ug/g	97.40	<5.88e-01	59.20	72.10	65.65	19.6	87.82	30.70	n/a
S961001342	A	Barium - ICP-Acid Digest	ug/g	94.00	<5.00e-02	3.79e+02	330.0	354.5	13.8	85.52	30.70	n/a
S961001342	A	Beryllium - ICP-Acid Digest	ug/g	103.5	<5.00e-03	< 61.40	<2.95e0	n/a	n/a	n/a	61.40	n/a
S961001342	A	Bismuth - ICP-Acid Digest	ug/g	89.60	<1.00e-01	< 61.40	<5.91e1	n/a	n/a	86.10	61.40	n/a
S961001342	A	Calcium - ICP-Acid Digest	ug/g	91.20	<1.00e-01	1.17e+03	1.18e+03	0.85	80.06	61.40	n/a	n/a
S961001342	A	Caesium - ICP-Acid Digest	ug/g	89.20	<5.00e-03	31.90	35.00	35.45	13.8	86.06	3.070	n/a
S961001342	A	Cerium - ICP-Acid Digest	ug/g	96.60	<1.00e-01	2.42e+02	233.0	237.5	3.79	91.20	61.40	n/a
S961001342	A	Coastal - ICP-Acid Digest	ug/g	91.60	<1.00e-02	12.50	<1.18e1	n/a	n/a	88.10	12.30	n/a
S961001342	A	Chromium - ICP-Acid Digest	ug/g	90.80	<1.00e-02	7.30e+02	660.0	695.0	10.1	84.52	61.40	n/a
S961001342	A	Copper - ICP-Acid Digest	ug/g	91.60	<1.00e-02	93.70	80.40	87.05	15.3	84.52	61.40	n/a
S961001342	A	Iron - ICP-Acid Digest	ug/g	91.60	<5.00e-02	8.31e+02	7.15e+04	7.73e+04	15.0	n/a	30.70	n/a
S961001342	A	Lithium - ICP-Acid Digest	ug/g	92.90	<5.00e-01	9.08e+02	744.0	743.5	33.0	77.82	30.70	n/a
S961001342	A	Lithium - ICP-Acid Digest	ug/g	92.90	<1.00e-02	< 61.40	<5.91e1	76.13	10.9	88.08	30.70	n/a
S961001342	A	Magnesium - ICP-Acid Digest	ug/g	86.00	<1.00e-02	3.21e+02	283.0	302.0	12.6	88.10	61.40	n/a
S961001342	A	Manganese - ICP-Acid Digest	ug/g	90.20	<1.00e-02	2.28e+03	2.00e+03	2.14e+03	13.6	78.58	61.40	n/a
S961001342	A	Molybdenum - ICP-Acid Digest	ug/g	90.80	<5.00e-03	< 30.70	<2.95e1	n/a	n/a	86.80	30.70	n/a
S961001342	A	Sodium - ICP-Acid Digest	ug/g	103.2	<8.79e-01	1.40e+05	1.39e+05	1.34e+05	8.18	88.80	61.40	n/a
S961001342	A	Nephthium - ICP-Acid Digest	ug/g	93.40	<1.00e-01	1.92e+02	176.0	184.0	8.70	87.23	61.40	n/a
S961001342	A	Nickel - ICP-Acid Digest	ug/g	92.00	<2.00e-02	7.70e+02	694.0	732.0	10.4	86.36	12.30	n/a
S961001342	A	Phosphorus - ICP-Acid Digest	ug/g	94.00	<2.00e-01	2.75e+03	2.50e+03	2.62e+03	9.52	97.92	123.0	n/a
S961001342	A	Lead - ICP-Acid Digest	ug/g	86.20	<1.00e-01	2.90e+03	2.54e+03	2.72e+03	13.2	74.32	61.40	n/a
S961001342	A	Sulfur - ICP-Acid Digest	ug/g	89.20	<1.00e-01	1.40e+03	1.14e+03	1.27e+03	20.5	74.82	61.40	n/a
S961001342	A	Antimony - ICP-Acid Digest	ug/g	88.00	<1.00e-01	< 36.90	<5.91e1	n/a	n/a	89.70	36.90	n/a
S961001342	A	Selenium - ICP-Acid Digest	ug/g	93.00	<1.00e-01	< 61.40	<5.91e1	n/a	n/a	89.70	36.90	n/a
S961001342	A	Silicon - ICP-Acid Digest	ug/g	129.4	<8.36e-01	3.81e+04	3.19e+04	3.00e+04	54.0	n/a	61.40	n/a
S961001342	A	Strontium - ICP-Acid Digest	ug/g	91.80	<1.00e-01	< 61.40	<5.91e1	n/a	n/a	87.90	61.40	n/a
S961001342	A	Strontium - ICP-Acid Digest	ug/g	92.20	<1.00e-02	25.60	22.90	24.25	11.1	86.16	61.40	n/a
S961001342	A	Titanium - ICP-Acid Digest	ug/g	86.00	<1.00e-02	1.39e+02	122.0	130.5	13.0	80.10	61.40	n/a
S961001342	A	Thallium - ICP-Acid Digest	ug/g	86.60	<1.00e-01	<1.23e+02	<1.18e2	n/a	n/a	82.10	123.0	n/a
S961001342	A	Uranium - ICP-Acid Digest	ug/g	90.50	<5.00e-01	8.56e+02	1.14e+03	998.0	28.5	80.09	307.0	n/a
S961001342	A	Vanadium - ICP-Acid Digest	ug/g	90.60	<1.00e-02	< 30.70	<2.95e1	n/a	n/a	86.50	30.70	n/a
S961001342	A	Zinc - ICP-Acid Digest	ug/g	87.00	<1.20e-02	60.60	49.80	55.20	19.6	84.44	61.40	n/a
S961001342	A	Zirconium - ICP-Acid Digest	ug/g	98.80	<1.00e-02	9.42e+02	1.38e+03	1.16e+03	37.7	76.00	61.40	n/a
S961003179	F	Fluoride-IC-Dioxin 40001/4500	ug/g	106.4	<1.30e-02	4.95e+02	142.0	318.3	111	n/a	36.77	n/a
S961003179	F	Chloride-IC-Dioxin 40001/4500	ug/g	98.23	<1.70e-02	6.36e+02	261.7	448.7	83.6	n/a	74.24	n/a
S961003179	F	Nitrite-IC - Dioxin 40001/4500	ug/g	93.91	<1.07e-01	1.19e+04	1.23e+04	1.21e+04	3.31	n/a	467.3	n/a
S961003179	F	Nitrate-IC-Dioxin 40001/4500	ug/g	104.1	<5.770	3.08e+03	4.31e+03	3.69e+03	33.3	n/a	610.9	n/a
S961003179	F	Phosphate-IC-Dioxin 40001/4500	ug/g	103.1	<1.19e-01	1.60e+03	1.98e+03	1.79e+03	21.2	n/a	519.2	n/a
S961003179	F	Sulfate by IC-Dioxin 40001/4500	ug/g	106.5	<1.36e-01	4.06e+03	3.96e+03	3.96e+03	5.31	n/a	593.5	n/a
S961003179	F	Oxalate by IC - Dioxin 40001	ug/g	107.5	<1.05e-01	1.17e+05	4.30e+04	8.02e+04	92.5	n/a	458.5	n/a

Interstitial Liquids: Interstitial Liquid

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spec %	Det Limit	Count	Err%
S961001544		DSC Ecoterm Dry	lousies/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a	n/a
S961001544		DSC Ecoterm on Perkin Elmer	lousies/g	99.12	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a	n/a
S961001544		pl Direct	pp	99.75	n/a	10.10	7.09	58.92	3.19	n/a	1.00e-02	n/a	n/a
S961001544		Y-Hen Dry IGA using Mettler	%	100.1	n/a	58.92	57.69	58.30	0.13	n/a	1.00e-02	n/a	n/a
S961001544		Y-Hen Dry IGA using Mettler	%	100.0	1.00e-01	2.33e+03	2.33e+03	2.32e+03	0.19	n/a	1.00e-02	n/a	n/a
S961001544		TOC by perkin Elmer Carbon by Coul.	ug/ml	92.36	1.600	1.87e+03	1.87e+03	1.86e+03	0.13	95.10	55.00	5.37e+02	n/a
S961001544		TOC by perkin Elmer Carbon by Coul.	ug/ml	97.36	1.20e-02	8.40e-01	7.82e-01	8.11e-01	22.0	93.20	4.010	1.70e+02	n/a
S961001544		STR-188/90 by Nalco	ug/ml	99.47	2.61e-02	8.67e-01	8.95e-01	8.83e-01	1.15	n/a	6.50e-02	2.18e+00	n/a
S961001544		PET-239/240 by TNU-SPEC Resin	ug/ml	99.47	2.61e-02	8.67e-01	8.95e-01	8.83e-01	1.15	n/a	6.50e-02	2.18e+00	n/a
S961001544		D Si-Term-ICP-Acid Dil.	ug/ml	97.80	<1.00e-02	<4.010	<4.010	<4.010	3.28	90.40	40.10	n/a	n/a
S961001544		D Al-Term-ICP-Acid Dil.	ug/ml	100.0	<5.00e-02	<20.10	<20.10	<20.10	n/a	95.30	40.10	n/a	n/a
S961001544		D As-Term-ICP-Acid Dil.	ug/ml	103.0	<1.00e-01	<40.10	<40.10	<40.10	n/a	104.2	40.10	n/a	n/a
S961001544		D Boron-ICP-Acid Dil.	ug/ml	103.2	<5.00e-02	<20.10	<20.10	<20.10	n/a	100.3	20.10	n/a	n/a
S961001544		D Barium-ICP-Acid Dil.	ug/ml	104.0	<5.00e-02	<20.10	<20.10	<20.10	n/a	102.0	20.10	n/a	n/a
S961001544		D Beryllium-ICP-Acid Dil.	ug/ml	104.0	<5.00e-02	<20.10	<20.10	<20.10	n/a	102.0	20.10	n/a	n/a
S961001544		D Cadmium-ICP-Acid Dil.	ug/ml	101.4	<1.00e-01	<40.10	<40.10	<40.10	n/a	107.5	40.10	n/a	n/a
S961001544		D Calcium-ICP-Acid Dil.	ug/ml	103.2	<1.00e-01	<40.10	<40.10	<40.10	n/a	102.0	20.10	n/a	n/a
S961001544		D Cerium-ICP-Acid Dil.	ug/ml	99.60	<5.00e-03	<20.10	<20.10	<20.10	n/a	94.00	20.10	n/a	n/a
S961001544		D Cobalt-ICP-Acid Dil.	ug/ml	105.0	<1.00e-01	<40.10	<40.10	<40.10	n/a	102.0	20.10	n/a	n/a
S961001544		D Chromium-ICP-Acid Dil.	ug/ml	100.0	<5.00e-02	<8.020	<8.020	<8.020	n/a	93.30	40.10	n/a	n/a
S961001544		D Copper-ICP-Acid Dil.	ug/ml	98.80	<1.00e-02	<4.010	<4.010	<4.010	n/a	102.3	20.10	n/a	n/a
S961001544		D Fe-Term-ICP-Acid Dil.	ug/ml	102.0	<5.00e-02	<20.10	<20.10	<20.10	n/a	89.90	20.10	n/a	n/a
S961001544		D Iodine-ICP-Acid Dil.	ug/ml	101.4	<5.00e-01	5.92e+02	566.0	579.0	4.69	n/a	100.5	20.10	n/a
S961001544		D Potassium-ICP-Acid Dil.	ug/ml	102.6	<5.00e-02	<20.10	<20.10	<20.10	n/a	98.50	40.10	n/a	n/a
S961001544		D Lanthanum-ICP-Acid Dil.	ug/ml	106.4	<1.00e-02	<40.10	<40.10	<40.10	n/a	91.30	40.10	n/a	n/a
S961001544		D Magnesium-ICP-Acid Dil.	ug/ml	97.00	<1.00e-02	<40.10	<40.10	<40.10	n/a	95.80	40.10	n/a	n/a
S961001544		D Manganese-ICP-Acid Dil.	ug/ml	99.40	<1.00e-02	<22.30	<22.30	<22.30	3.19	94.00	20.10	n/a	n/a
S961001544		D Molybdenum-ICP-Acid Dil.	ug/ml	100.2	<5.00e-01	1.10e+05	1.10e+05	1.10e+05	0.00	130.9	40.10	n/a	n/a
S961001544		D Nickel-ICP-Acid Dil.	ug/ml	105.0	<1.00e-01	<40.10	<40.10	<40.10	n/a	112.5	40.10	n/a	n/a
S961001544		D Niobium-ICP-Acid Dil.	ug/ml	108.4	<1.00e-01	<40.10	<40.10	<40.10	n/a	93.30	8.020	n/a	n/a
S961001544		D Phosphorus-ICP-Acid Dil.	ug/ml	102.0	<2.00e-01	3.52e+02	372.0	362.0	5.52	102.0	80.20	n/a	n/a
S961001544		D Lead-ICP-Acid Dil.	ug/ml	99.40	<1.00e-01	<40.10	<40.10	<40.10	n/a	96.50	40.10	n/a	n/a
S961001544		D Selenium-ICP-Acid Dil.	ug/ml	99.40	<1.00e-01	2.37e+03	2.28e+03	2.32e+03	3.87	70.50	40.10	n/a	n/a
S961001544		D Antimony-ICP-Acid Dil.	ug/ml	96.80	<6.00e-02	<24.10	<24.10	<24.10	n/a	91.80	24.10	n/a	n/a
S961001544		D Strontium-ICP-Acid Dil.	ug/ml	106.0	<1.00e-01	<40.10	<40.10	<40.10	n/a	113.7	40.10	n/a	n/a
S961001544		D Silicon-ICP-Acid Dil.	ug/ml	95.60	<5.00e-02	<20.10	<20.10	<20.10	n/a	94.00	20.10	n/a	n/a
S961001544		D Samarium-ICP-Acid Dil.	ug/ml	105.8	<1.00e-01	<40.10	<40.10	<40.10	n/a	101.3	40.10	n/a	n/a
S961001544		D Strontium-ICP-Acid Dil.	ug/ml	103.4	<1.00e-02	<40.10	<40.10	<40.10	n/a	107.5	40.10	n/a	n/a
S961001544		D Thallium-ICP-Acid Dil.	ug/ml	99.00	<1.00e-02	<40.10	<40.10	<40.10	n/a	95.50	40.10	n/a	n/a
S961001544		D Thallium-ICP-Acid Dil.	ug/ml	97.20	<2.00e-01	<80.20	<80.20	<80.20	n/a	89.80	80.20	n/a	n/a
S961001544		D Uranium-ICP-Acid Dil.	ug/ml	100.0	<5.00e-01	1.54e+03	1.64e+03	1.59e+03	6.29	108.4	200.0	n/a	n/a
S961001544		D Vanadium-ICP-Acid Dil.	ug/ml	102.0	<5.00e-02	<20.10	<20.10	<20.10	n/a	97.50	20.10	n/a	n/a
S961001544		D Zinc-ICP-Acid Dil.	ug/ml	100.0	<1.00e-02	5.250	5.980	5.615	13.0	92.70	40.10	n/a	n/a
S961001544		D Zirconium-ICP-Acid Dil.	ug/ml	101.4	<1.00e-02	3.72e+02	378.0	375.0	1.60	101.1	40.10	n/a	n/a
S961001544		Fluoride-IC-Dionex 40001/4500	ug/ml	98.81	<1.30e-02	1.97e+02	199.0	198.2	1.01	n/a	14.44	n/a	n/a
S961001544		Chloride-IC-Dionex 40001/4500	ug/ml	93.17	<1.70e-02	5.84e+02	588.0	586.1	0.68	n/a	18.89	n/a	n/a
S961001544		Nitrite-IC - Dionex 40001/4500	ug/ml	98.61	<1.07e-01	2.59e+04	2.62e+04	2.60e+04	1.15	n/a	118.9	n/a	n/a

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961001544		Nitrate-IC - Dionex 4000/4500	ug/mL	97.57	2.38e-01	9.43e-02	974.0	548.3	1.16	N/A	155.3	N/A
S961001544		Phosphate-IC-Dionex 4000/4500	ug/mL	100.7	<1.19e-01	2.83e-02	347.0	565.7	6.71	N/A	124.1	N/A
S961001544		Sulfate by IC-Dionex4000/4500	ug/mL	99.51	<1.36e-01	6.86e-03	6.86e-03	6.85e-03	0.44	N/A	151.9	N/A
S961001544		Oxalate by IC - Dionex 40001	ug/mL	100.2	<1.03e-01	2.19e-03	2.23e-03	2.22e-03	1.81	N/A	161.9	N/A
S961001544		Cobalt-60 by GEA	uCi/mL	98.34	<2.10e-02	<2.10e-02	<2.21e-02	N/A	N/A	N/A	3.40e-02	N/A
S961001544		Cesium-137 by GEA	uCi/mL	100.4	<5.06e-02	1.39e-02	157.0	158.0	1.27	N/A	N/A	0.350

Potential Organic Layer: Potential Organic Layer

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961001545		PU-239/240 by TRU-SPEC Resin	uCi/mL	96.33	<3.09e-03	4.26e-03	4.21e-03	4.24e-03	1.18	N/A	3.08e-04	2.23e+00

WHC-SD-WM-DP-183, REV. 0

RISE: 1
SEGMENT #: 6C-96-5

Table 3: Data Summary Report
C-106 GRAB

SEGMENT PORTION: Supernate

Sample#	g./#	Analyte	Unit	Standard %	Blank	Result	Duplicates	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961000538		DSC Exotherm using Mettler	Joules/g	96.66	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S961000538		DSC Exotherm Dry	Joules/g	96.66	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S961000538		Ammonia by ISE-Std Additions	ug/mL	96.84	3.100	< 5.000	< 5.000	0.00e+00	n/a	n/a	5.000	n/a
S961000538		pH Direct	pH	100.0	n/a	10.10	10.08	10.09	6.94	n/a	1.00e-02	n/a
S961000538		Specific Gravity	Sp. G.	98.88	n/a	1.155	1.155	1.155	0.00	n/a	1.00e-02	n/a
S961000538		% Water by IGA using Mettler	%	103.0	n/a	80.91	80.84	80.88	0.09	n/a	n/a	n/a
S961000538		Tot. Inorg. Carbon by Coul.	ug/mL	97.03	< 5.000	2.00e+04	2.02e+04	2.01e+04	0.00	81.90	105.0	n/a
S961000538		Tot. Organic Carbon by Coul.	ug/mL	97.03	< 5.000	3.32e+03	3.34e+03	3.33e+03	3.64	95.40	55.0	n/a
S961000538		%C by Persulfate/Coulometry	ug/mL	96.70	9.900	2.30e+03	2.18e+03	2.24e+03	3.36	95.40	40.00	n/a
S961000538		% Water by Gravimetric	%	102.0	n/a	81.40	81.40	81.40	0.00	n/a	1.00e-02	n/a
S961000538		D Silver-ICP-Acid Dil.	ug/mL	100.8	< 1.00e-01	1.20	< 1.00e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Aluminum-ICP-Acid Dil.	ug/mL	98.40	< 1.00e-01	20.00	< 2.00e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Arsenic-ICP-Acid Dil.	ug/mL	103.8	< 1.00e-01	4.00	< 4.00e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Boron-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-01	4.00	< 4.00e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Barium-ICP-Acid Dil.	ug/mL	102.6	< 1.00e-01	20.00	< 2.00e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Beryllium-ICP-Acid Dil.	ug/mL	104.0	< 1.00e-01	2.000	< 2.00e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Bismuth-ICP-Acid Dil.	ug/mL	101.8	< 1.00e-01	4.00	< 4.00e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Calcium-ICP-Acid Dil.	ug/mL	104.2	< 1.00e-01	4.00	< 4.00e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Cadmium-ICP-Acid Dil.	ug/mL	102.8	< 1.00e-01	2.000	< 2.00e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Cerium-ICP-Acid Dil.	ug/mL	105.6	< 1.00e-01	4.00	< 4.00e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Cobalt-ICP-Acid Dil.	ug/mL	103.4	< 1.00e-01	8.020	< 8.020e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Chromium-ICP-Acid Dil.	ug/mL	104.0	< 1.00e-01	4.00	< 4.00e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Copper-ICP-Acid Dil.	ug/mL	104.2	< 1.00e-01	4.00	< 4.00e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Iron-ICP-Acid Dil.	ug/mL	103.2	< 1.00e-01	20.00	< 2.00e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Potassium-ICP-Acid Dil.	ug/mL	103.2	< 1.00e-01	8.010e+02	< 8.010e+02	729.9	19.6	87.30	20.10	n/a
S961000538		D Lanthanum-ICP-Acid Dil.	ug/mL	103.6	< 1.00e-01	20.00	< 2.00e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Lithium-ICP-Acid Dil.	ug/mL	99.60	< 1.00e-01	4.00	< 4.00e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Magnesium-ICP-Acid Dil.	ug/mL	97.60	< 1.00e-01	4.00	< 4.00e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Manganese-ICP-Acid Dil.	ug/mL	100.6	< 1.00e-01	4.00	< 4.00e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Molybdenum-ICP-Acid Dil.	ug/mL	103.8	< 1.00e-01	20.00	< 2.00e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Sodium-ICP-Acid Dil.	ug/mL	98.20	< 1.00e-01	1.07e+05	< 1.07e+05	27.73	15.8	101.3	20.10	n/a
S961000538		D Neodymium-ICP-Acid Dil.	ug/mL	101.6	< 1.00e-01	18.40	< 18.40e-01	17.95	17.9	100.3	40.10	n/a
S961000538		D Nickel-ICP-Acid Dil.	ug/mL	102.2	< 1.00e-01	3.24e+02	< 3.24e+02	312.0	7.69	90.20	80.20	n/a
S961000538		D Phosphorus-ICP-Acid Dil.	ug/mL	102.0	< 1.00e-01	4.00	< 4.00e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Lead-ICP-Acid Dil.	ug/mL	98.80	< 1.00e-01	3.04e+03	< 3.04e+03	2.88e+03	12.1	n/a	40.10	n/a
S961000538		D Sulfur-ICP-Acid Dil.	ug/mL	96.20	< 1.00e-01	2.00	< 2.00e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Antimony-ICP-Acid Dil.	ug/mL	98.40	< 1.00e-01	4.00	< 4.00e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Selenium-ICP-Acid Dil.	ug/mL	99.00	< 1.00e-01	26.20	< 26.20e-01	24.60	13.0	98.30	20.10	n/a
S961000538		D Silicon-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-01	4.00	< 4.00e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Strontium-ICP-Acid Dil.	ug/mL	101.8	< 1.00e-01	4.00	< 4.00e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Thallium-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-01	4.00	< 4.00e-01	10.45	14.5	80.10	4.010	n/a
S961000538		D Thallium-ICP-Acid Dil.	ug/mL	99.00	< 1.00e-01	80.20	< 80.20e-01	79.60	97.60	80.20	80.20	n/a

Sample#	R/A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
3961000538	D	Uranium-ICP-Acid DIL.	ug/mL	100.0	< 5.00e-03	1.87e+03	1.77e+03	1.82e+03	5.49	55.65	200.0	N/A
3961000538	D	Vanadium-ICP-Acid DIL.	ug/mL	101.4	< 5.00e-03	< 20.00	< 20.00	4.57e	102.3	102.3	20.10	N/A
3961000538	D	Zinc-ICP-Acid DIL.	ug/mL	101.4	< 5.00e-03	5.090	4.050	4.570	22.8	101.8	4.010	N/A
3961000538	D	Zirconium-ICP-Acid DIL.	ug/mL	102.0	< 5.00e-03	4.45e+02	4.04e	4.24e	9.66	82.70	4.010	N/A
3961000538	D	Zirconium-ICP-Acid DIL.	ug/mL	102.0	< 5.00e-03	3.17e+02	3.47e	3.32e	9.04	96.61	132.6	N/A
3961000538	D	Chloride-IC-Plonex 40001/4500	ug/mL	102.5	< 5.00e-03	2.48e+02	4.28e	337.0	53.3	102.0	173.4	N/A
3961000538	D	Chloride-IC-Plonex 40001/4500	ug/mL	102.5	< 5.00e-03	2.91e+04	2.89e+04	2.89e+04	1.38	106.3	1.09e+03	N/A
3961000538	D	Nitrate-IC-Plonex 40001/4500	ug/mL	102.1	< 5.00e-03	2.04e+03	1.58e+03	1.81e+03	25.4	103.1	1.43e+03	N/A
3961000538	D	Phosphate-IC-Plonex 40001/4500	ug/mL	103.1	< 5.00e-03	< 1.21e3	< 1.21e3	n/a	n/a	103.1	1.21e+03	N/A
3961000538	D	Sulfate by IC-Plonex40001/4500	ug/mL	99.53	< 5.00e-03	7.44e+03	7.86e+03	7.64e+03	5.22	101.0	1.39e+03	N/A
3961000538	D	Oxalate by IC-Plonex 40001	ug/mL	105.3	< 5.00e-03	3.65e+03	3.70e+03	3.68e+03	1.36	108.4	1.07e+03	N/A
3961000539		Technetium 99 L. Sinter	ug/mL	101.8	< 5.00e-03	8.52e+02	9.23e+02	8.87e+02	8.00	n/a	4.00e+03	N/A
3961000539		Strontium 89/90 N. Sinter	ug/mL	95.12	< 5.00e-03	3.69e+01	3.62e+01	3.65e+01	1.92	n/a	2.00e+03	N/A
3961000539		Pu-239/240 by INU-SPEC Resin	ug/mL	88.28	< 5.00e-03	7.40e+01	6.92e+01	7.16e+01	6.70	n/a	3.10e+02	N/A
3961000539		Pu-239/240 by GEA	ug/mL	99.23	< 5.00e-03	< 5.71e-03	< 5.71e-03	< 5.71e-03	n/a	n/a	6.00e+03	N/A
3961000539		Cobalt 60 by GEA	ug/mL	101.5	< 5.00e-03	1.08e+02	107.0	107.5	0.93	n/a	n/a	0.210
3961000539		Cesium 137 by GEA	ug/mL	80.13	< 5.00e-03	1.50e+02	1.21e+02	1.35e+02	21.4	n/a	1.20e+02	4.45E+00
3961000539		Mn-254 by Extraction	ug/mL	102.6	< 5.00e-03	1.150	1.140	1.145	0.87	108.9	1.00e+02	5.03E+00
3961000539		Alpha In Liquid Samples	ug/mL	102.6	< 5.00e-03	1.150	1.140	1.145	0.87	108.9	1.00e+02	5.03E+00

WHC-SD-WM-DP-183, REV. 0

29-Jul-1996 11:10:17
A-0002-3

Table 3: Data Summary Report
C-105 GRAB

RISE: 1
SEGMENT #: 6C-96-7

SEGMENT PORTION: Centrifuged Solids (Grab Sample)

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk	Rec %	Det Limit	Count	Err%
S961000542		Bulk Density of Sample	g/mL	n/a	n/a	1.710	n/a	n/a	n/a	n/a	n/a	5.00e-01	n/a	n/a
S961000542		DSC Exotherm using Mettler	Joules/g	113.5	n/a	1.12e+02	89.10	100.5	22.8	n/a	n/a	n/a	n/a	n/a
S961000542		DSC Exotherm DRY Calculated	Joules/g	n/a	n/a	1.22e+02	97.14	109.6	22.8	n/a	n/a	n/a	n/a	n/a
S961000542		% Water by TGA on Perkin Elmer	%	98.68	n/a	8.040	8.510	8.275	5.68	n/a	n/a	n/a	n/a	n/a
S961000542		Volume % Solids	%	n/a	n/a	69.50	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
S961000542		% Water by Gravimetric	%	98.14	n/a	9.800	10.00	9.900	0.22	n/a	n/a	1.00e-02	n/a	n/a

Control Sample: Control Sample

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk	Rec %	Det Limit	Count	Err%
S961000543		DSC Exotherm DRY Calculated	Joules/g DRY	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a	n/a	n/a
S961000543		DSC Exotherm on Perkin Elmer	Joules/g	95.82	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a	n/a	n/a
S961000543		% Water by TGA on Perkin Elmer	%	99.41	n/a	29.76	32.47	31.12	8.71	n/a	n/a	n/a	n/a	n/a
S961000546		Technetium-99 Lq. Scint.	uCi/g	99.47	<3.58e-02	5.51e-02	4.48e-02	5.00e-02	20.6	n/a	n/a	5.00e-02	5.19e-01	n/a
S961000546		Strontium-89/90 High Level	uCi/g	92.68	6.20e-02	3.52e+02	342.0	337.0	2.97	n/a	n/a	2.00e-02	2.03e+00	n/a
S961000546		Pu-239/240 by TRU-SPEC Resin	uCi/g	92.13	<3.43e-02	1.520	1.390	1.455	8.93	n/a	n/a	1.13e-01	2.03e+00	n/a
S961000546		F Cobalt-60 by GEA	uCi/g	96.66	<1.52e-01	<2.33e-01	<2.27e-01	n/a	n/a	n/a	n/a	2.33e-01	0.580	n/a
S961000546		F Cesium-137 by GEA	uCi/g	96.08	<2.04e-01	4.03e+02	417.0	409.9	3.41	n/a	n/a	8.10e-02	3.4	n/a
S961000546		F Am-241 by Extraction	uCi/g	106.1	<2.54e-02	1.010	1.230	1.120	19.6	n/a	n/a	7.20e-02	1.03e+01	n/a
S961000546		F Alpha of Digested Solid	uCi/g	118.0	<5.57e-02	2.880	2.570	2.725	11.4	n/a	n/a	7.20e-02	1.03e+01	n/a

Decanted Supernate (Liquid Grab Sludge): Decanted Supernate (Liquid Grab Sludge)

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk	Rec %	Det Limit	Count	Err%
S961000544		pH Direct	pH	99.75	n/a	10.09	n/a	n/a	n/a	n/a	n/a	1.00e-02	n/a	n/a
S961000544		Specific Gravity	Sp.G.	101.1	n/a	1.200	1.194	1.197	0.50	n/a	n/a	1.00e-03	n/a	n/a
S961000544		Tot. Organic Carbon by Coul.	ug/mL	100.0	1.00e-01	2.07e+03	2.02e+03	2.04e+03	2.44	100.0	n/a	1.00e-02	n/a	n/a
S961000544		% Water by Gravimetric	%	98.65	n/a	78.80	78.80	78.80	0.00	n/a	n/a	4.00e-03	2.08e+00	n/a
S961000544		Strontium-89/90 High Level	uCi/mL	101.6	<2.06e-03	9.68e-01	8.93e-01	9.30e-01	8.06	n/a	n/a	3.60e-02	1.96e+00	n/a
S961000544		Pu-239/240 by TRU-SPEC Resin	uCi/mL	92.39	<3.82e-03	7.69e-01	7.56e-01	7.62e-01	1.70	n/a	n/a	3.60e-02	1.96e+00	n/a

Filtered Centrifuged Solids: Filtered Centrifuged Solids

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk	Rec %	Det Limit	Count	Err%
S961000551		DSC Exotherm using Mettler	Joules/g	113.5	n/a	2.87e+02	279.9	283.4	2.47	n/a	n/a	n/a	n/a	n/a
S961000551		DSC Exotherm DRY Calculated	Joules/g DRY	n/a	n/a	3.29e+02	320.9	326.9	2.46	n/a	n/a	n/a	n/a	n/a
S961000551		% Water by TGA using Mettler	%	102.2	n/a	9.440	16.11	12.77	52.2	n/a	n/a	5.000	n/a	n/a
S961000551		TIC by Acid/Coulometry	ug/g	97.84	8.00e-01	2.56e+04	2.76e+04	2.66e+04	7.52	n/a	n/a	4.00e-02	n/a	n/a
S961000552		TIC by Persulfate/Coulometry	ug/g	92.03	3.100	2.47e+04	2.92e+04	2.70e+04	16.7	n/a	n/a	1.00e-02	n/a	n/a
S961000553		% Water by Gravimetric	%	98.14	n/a	18.90	19.20	19.05	0.38	n/a	n/a	1.00e-02	n/a	n/a
S961000553		pH on SST samples	pH	100.5	n/a	10.40	10.50	10.45	0.96	n/a	n/a	3.70e-02	6.26e+00	n/a
S961000553		F Technetium-99 Lq. Scint.	uCi/g	99.47	<3.58e-02	4.09e-02	<3.53e-02	n/a	n/a	n/a	n/a	3.70e-02	6.08e-01	n/a
S961000553		F Strontium-89/90 High Level	uCi/g	92.68	6.20e-02	5.19e+02	523.0	521.0	0.77	n/a	n/a	3.70e-02	6.08e-01	n/a

Sample#	R/L#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961000555	F	Pu-239/240 by TRU-SPEC Resin	uCi/g	98.69	<3.54e-02	1.320	1.280	1.300	n/a	n/a	8.90e-02	2.09e+00
S961000555	F	Cobalt-60 by GE	uCi/g	98.05	<4.73e-01	0.99e+00	<5.71e-01	n/a	n/a	n/a	n/a	n/a
S961000555	F	Cesium-137 by GE	uCi/g	98.56	<9.78e-01	5.06e+00	6.920	6.090	4.29	n/a	n/a	n/a
S961000555	F	Am-241 by Extraction	uCi/g	106.1	<2.54e-02	1.330	1.220	1.275	8.45	109.9	9.40e-03	2.8
S961000555	F	Alpha of Extracted Solid	uCi/g	118.0	<2.54e-02	3.330	3.060	3.195	8.45	109.9	7.11e-02	9.94e+00
S961000556	A	Silver - ICP-Acid Digest	ug/g	91.90	<1.00e-01	2.77e+03	2.02e+03	2.40e+03	31.3	n/a	11.00	n/a
S961000556	A	Aluminum - ICP-Acid Digest	ug/g	96.60	<1.80e-01	5.17e+04	4.42e+04	4.80e+04	15.6	1.38e+03	54.80	n/a
S961000556	A	Arsenic - ICP-Acid Digest	ug/g	97.20	<1.00e-02	<1.10e+02	<9.43e-01	n/a	n/a	95.40	110.0	n/a
S961000556	A	Boron - ICP-Acid Digest	ug/g	108.8	<5.40e-01	<5.480	<4.72e-01	282.0	15.6	102.2	54.80	n/a
S961000556	A	Beryllium - ICP-Acid Digest	ug/g	103.0	<5.00e-03	<5.480	<4.72e-01	n/a	n/a	98.40	5.480	n/a
S961000556	A	Bismuth - ICP-Acid Digest	ug/g	92.40	<1.00e-01	<1.10e+02	<9.43e-01	n/a	n/a	89.80	110.0	n/a
S961000556	A	Calcium - ICP-Acid Digest	ug/g	100.2	<4.59e-01	1.33e+03	1.12e+03	1.22e+03	17.1	91.02	110.0	n/a
S961000556	A	Cadmium - ICP-Acid Digest	ug/g	94.60	<5.00e-03	33.30	27.10	30.20	20.5	94.16	5.480	n/a
S961000556	A	Cerium - ICP-Acid Digest	ug/g	100.0	<1.00e-01	1.78e+02	174.0	176.0	2.27	106.1	110.0	n/a
S961000556	A	Cobalt - ICP-Acid Digest	ug/g	98.40	<1.70e-02	<21.90	<1.89e-01	n/a	n/a	97.20	21.90	n/a
S961000556	A	Chromium - ICP-Acid Digest	ug/g	97.00	<1.70e-02	6.45e+02	552.0	598.5	15.5	107.3	11.00	n/a
S961000556	A	Copper - ICP-Acid Digest	ug/g	92.80	<2.60e-02	89.70	76.70	83.20	15.6	94.02	11.00	n/a
S961000556	A	Iron - ICP-Acid Digest	ug/g	97.60	<7.00e-02	6.87e+04	5.86e+04	6.36e+04	15.9	1.65e+03	54.80	n/a
S961000556	A	Lanthanum - ICP-Acid Digest	ug/g	98.80	<5.00e-01	6.43e+02	588.0	615.5	8.94	118.1	54.80	n/a
S961000556	A	Lithium - ICP-Acid Digest	ug/g	98.20	<5.00e-02	74.80	60.50	67.65	21.1	97.36	54.80	n/a
S961000556	A	Magnesium - ICP-Acid Digest	ug/g	95.80	<1.00e-01	<1.10e+02	<9.43e-01	n/a	n/a	93.80	11.00	n/a
S961000556	A	Manganese - ICP-Acid Digest	ug/g	94.60	<1.00e-01	2.19e+02	1.86e+02	2.03.0	15.8	95.58	110.0	n/a
S961000556	A	Molybdenum - ICP-Acid Digest	ug/g	96.60	<5.00e-02	<1.10e+02	1.59e+03	1.72e+03	15.7	136.5	11.00	n/a
S961000556	A	Nickel - ICP-Acid Digest	ug/g	109.0	<7.70e-01	1.61e+05	1.37e+05	1.49e+05	16.1	1.69e+03	110.0	n/a
S961000556	A	Neodymium - ICP-Acid Digest	ug/g	97.20	<2.00e-02	6.45e+02	550.0	597.5	15.9	109.8	21.90	n/a
S961000556	A	Phosphorus - ICP-Acid Digest	ug/g	99.80	<2.00e-01	2.58e+03	2.20e+03	2.39e+03	15.9	148.5	219.0	n/a
S961000556	A	Lead - ICP-Acid Digest	ug/g	91.60	<1.00e-01	2.49e+03	2.15e+03	2.32e+03	14.7	148.3	110.0	n/a
S961000556	A	Sulfur - ICP-Acid Digest	ug/g	95.60	<1.00e-01	1.39e+03	1.19e+03	1.29e+03	15.5	121.2	110.0	n/a
S961000556	A	Antimony - ICP-Acid Digest	ug/g	96.60	<5.00e-02	<65.70	<5.66e-01	n/a	n/a	97.80	65.70	n/a
S961000556	A	Selenium - ICP-Acid Digest	ug/g	135.2	<2.27e-01	<1.10e+02	<9.43e-01	n/a	n/a	100.0	110.0	n/a
S961000556	A	Silicon - ICP-Acid Digest	ug/g	97.80	<1.00e-01	2.87e+04	2.47e+04	2.67e+04	15.0	756.3	54.80	n/a
S961000556	A	Samarium - ICP-Acid Digest	ug/g	99.80	<1.00e-02	2.10	17.90	19.50	16.4	95.68	11.00	n/a
S961000556	A	Strontium - ICP-Acid Digest	ug/g	91.60	<1.00e-02	1.20e+02	102.0	111.0	16.2	92.06	11.00	n/a
S961000556	A	Tantalum - ICP-Acid Digest	ug/g	88.60	<5.00e-01	<2.19e+02	<1.89e-02	n/a	n/a	88.60	219.0	n/a
S961000556	A	Thallium - ICP-Acid Digest	ug/g	94.40	<5.00e-01	8.30e+02	686.0	758.0	19.0	94.13	54.80	n/a
S961000556	A	Uranium - ICP-Acid Digest	ug/g	96.40	<5.00e-02	<54.80	<4.72e-01	n/a	n/a	95.80	54.80	n/a
S961000556	A	Vanadium - ICP-Acid Digest	ug/g	92.60	<2.50e-02	39.60	35.20	37.40	11.8	93.38	11.00	n/a
S961000556	A	Zinc - ICP-Acid Digest	ug/g	104.2	<1.00e-02	69.30	39.40	44.35	22.3	151.7	11.00	n/a
S961000556	A	Zirconium - ICP-Acid Digest	ug/g	96.10	<1.30e-02	2.09e+02	198.0	203.6	5.41	109.9	50.69	n/a
S961000557	F	Uranide - IC-Dioxin 40001/4500	ug/g	99.11	<1.30e-02	1.75e+04	1.690	170.4	1.76	99.37	66.28	n/a
S961000557	F	Chloride - IC-Dioxin 40001/4500	ug/g	97.74	<1.07e-01	1.32e+04	1.34e+04	1.35e+04	0.74	114.6	417.3	n/a
S961000557	F	Nitrite - IC-Dioxin 40001/4500	ug/g	97.72	<1.40e-01	1.27e+03	1.25e+03	1.28e+03	1.59	103.3	545.4	n/a
S961000557	F	Nitrate by IC-Dioxin 40001/4500	ug/g	100.2	<1.99e-01	9.29e+02	985.0	957.0	5.85	109.7	463.7	n/a
S961000557	F	Phosphate - IC-Dioxin 40001/4500	ug/g	97.94	<1.38e-01	4.12e+03	4.11e+03	4.11e+03	0.24	105.1	529.8	n/a
S961000557	F	Sulfate by IC-Dioxin 40001/4500	ug/g	95.07	<1.05e-01	7.70e+04	7.75e+04	7.75e+04	110.4	110.4	409.3	n/a

Interstitial Liquid: Interstitial Liquid

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD % Spk Rec %	Det Limit	Count Err%
S961000545		DSC Exotherm Dry, Calculated	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a
S961000545		DSC Exotherm on Perkin Elmer	Joules/g	95.82	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a
S961000545		% Water By IGA on Perkin Elmer	%	102.0	n/a	34.27	35.53	35.40	6.38	n/a	n/a
S961000545		TOL by Persulfate/Coulometry	ug/mL	96.00	5.00	2.42e+03	2.43e+03	2.42e+03	0.41	95.50	60.00
S961000545		Cobalt-60 by GEA	uCi/mL	96.00	<6.53e-04	<7.59e-03	1.00e-02	7.72	n/a	8.00e-03	n/a
S961000545		Cesium-137 by GEA	uCi/mL	95.34	<4.34e-04	16.50	100.0	88.23	26.6	n/a	0.220

Potential Organic Layer: Potential Organic Layer

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD % Spk Rec %	Det Limit	Count Err%
S961001548		DSC Exotherm Using Mettler	Joules/g	112.5	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a
S961001548		DSC Exotherm Dry, Calculated	Joules/g Dry	107.6	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a
S961001548		% Water by IGA using Mettler	%	103.9	n/a	34.18	35.78	34.97	4.63	n/a	n/a

WHC-SD-WM-DP-183, REV. 0

RISE: 1
SEGMENT #: 6C-96-8

SEGMENT PORTION: Compatibility Study Mixture

Table 3: Data Summary Report
C-106 GRAB

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961002766		DSC Exotherm on Perkin Elmer	Joules/g	100.6	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	1.00e-02	n/a
S961002766		pH Direct by TOA on Perkin Elmer	pH	100.2	n/a	11.22	96.24	96.24	0.08	n/a	1.00e-02	n/a
S961002766		% Water by TOA on Perkin Elmer	%	97.87	n/a	96.24	96.16	96.20	0.08	n/a	1.00e-02	n/a
S961002769		Bulk Density of Sample	g/mL	99.54	n/a	1.270	76.28	75.03	3.33	n/a	5.00e-01	n/a
S961002769		% Water by TOA using Mettler	%	99.54	n/a	76.28	76.28	75.03	3.33	n/a	5.00e-01	n/a
S961002770		DSC Exotherm using Mettler	Joules/g	111.8	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	1.00e-02	n/a
S961002770		pH Direct by TOA using Mettler	pH	100.0	n/a	11.71	11.69	11.70	0.17	n/a	1.00e-02	n/a
S961002770		% Water by TOA using Mettler	%	99.54	n/a	96.86	97.03	96.94	0.18	n/a	1.00e-01	n/a
S961002772		Bulk Density of Sample	g/mL	99.54	n/a	1.400	n/a	n/a	n/a	n/a	5.00e-01	n/a
S961002772		% Water by TOA using Mettler	%	99.54	n/a	79.49	78.33	79.06	1.09	n/a	1.00e-01	n/a

Decanted Supernate (Liquid Grab Sludge): Decanted Supernate (Liquid Grab Sludge)

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961002768		pH Direct	pH	100.2	n/a	11.10	n/a	n/a	n/a	n/a	1.00e-02	n/a
S961002768		Specific Gravity	Sp.G.	101.2	n/a	1.005	9.97e-01	1.001	0.80	n/a	1.00e-02	n/a
S961002771		pH Direct	pH	100.0	n/a	11.81	11.79	11.80	0.17	n/a	1.00e-02	n/a
S961002771		Specific Gravity	Sp.G.	97.43	n/a	1.002	9.91e-01	9.96e-01	1.10	n/a	1.00e-02	n/a

Potential Organic Layer: Potential Organic Layer

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961003134		2-Butoxyethanol	ug/L	n/a	n/a	SEE TICS	NA	n/a	n/a	n/a	n/a	n/a
S961003134		Nonane (C9)	ug/mL	n/a	n/a	U0.00e+00	n/a	n/a	n/a	n/a	50.00	n/a
S961003134		Decane (C10)	ug/mL	n/a	n/a	U0.00e+00	n/a	n/a	n/a	n/a	50.00	n/a
S961003134		Undecane (C11)	ug/mL	n/a	n/a	1.590	n/a	n/a	n/a	n/a	50.00	n/a
S961003134		Dodecane (C12)	ug/mL	n/a	n/a	10.10	n/a	n/a	n/a	n/a	50.00	n/a
S961003134		Tridecane (C13)	ug/mL	n/a	n/a	45.60	n/a	n/a	n/a	n/a	50.00	n/a
S961003134		Tetradecane (C14)	ug/mL	n/a	n/a	27.60	n/a	n/a	n/a	n/a	50.00	n/a
S961003134		Pentadecane (C15)	ug/mL	n/a	n/a	31.90	n/a	n/a	n/a	n/a	50.00	n/a
S961003134		Tri-n-butylphosphate	ug/mL	n/a	n/a	31.90	n/a	n/a	n/a	n/a	50.00	n/a
S961003134		Hexadecane (C16) Surr	ug/mL	n/a	n/a	83.50	n/a	n/a	n/a	n/a	50.00	n/a

Sludge (from Liquid Grab Sample): Sludge (from Liquid Grab Sample)

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S9610020654		TOC by Persulfate/coulometry	ug/g	95.36	8.300	1.34e+04	9.32e+03	1.14e+04	35.9	n/a	40.00	n/a
S961002021		DSC Exotherm using Mettler	Joules/g	97.72	n/a	33.50	100.6	67.05	100	n/a	n/a	n/a
S961002021		% Water by TOA Calculated	%	99.53	n/a	71.10	213.5	142.3	100	n/a	n/a	n/a
S961002021		% Water by TOA using Mettler	%	99.53	n/a	59.60	46.16	52.88	25.4	n/a	n/a	n/a
S961002042		DSC Exotherm Dry	Joules/g Dry	92.02	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S961002042		DSC Exotherm on Perkin Elmer	Joules/g	92.02	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S961002042		% Water by TOA using Mettler	%	99.16	n/a	60.45	60.55	60.50	0.17	n/a	n/a	n/a

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961002042	1	% Water by TGA using Mettler	%	99.83	N/A	56.10	54.50	55.30	2.89	N/A	N/A	N/A

WHC-SD-WM-DP-183, REV. 0

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD % Spk Rec %	Det Limit	Count	Err%
5961000571	F	Alpha - ICP-Acid Digest	uCi/g	118.0	< 5.5e-02	1.320	3.570	2.445	107.2	4.50e-02	1,22E+01	
5961000572	F	Silver - ICP-Acid Digest	ug/g	91.90	< 1.0e-02	1.42e+03	1.60e+03	1.54e+03	15.6	70.2	8.430	n/a
5961000573	A	Aluminum - ICP-Acid Digest	ug/g	96.60	1.18e-01	5.18e+04	6.08e+04	5.63e+04	16.0	232.4	42.20	n/a
5961000574	A	Arsenic - ICP-Acid Digest	ug/g	97.20	< 1.0e-01	8e+04	< 9.86e1	n/a	n/a	96.00	84.30	n/a
5961000575	A	Boron - ICP-Acid Digest	ug/g	108.8	5.40e-01	71.30	83.00	77.15	15.2	95.34	42.20	n/a
5961000576	A	Barium - ICP-Acid Digest	ug/g	97.60	< 5.0e-02	2.88e+02	340.0	314.0	16.6	97.20	42.20	n/a
5961000577	A	Beryllium - ICP-Acid Digest	ug/g	103.0	< 5.0e-03	< 4.220	< 4.93e0	n/a	n/a	97.80	4.210	n/a
5961000578	A	Bismuth - ICP-Acid Digest	ug/g	92.40	< 1.0e-01	84.30	< 9.86e1	n/a	n/a	89.00	84.30	n/a
5961000579	A	Calcium - ICP-Acid Digest	ug/g	100.2	4.59e-01	8.85e+02	44.50	42.20	10.9	92.26	4.210	n/a
5961000580	A	Cadmium - ICP-Acid Digest	ug/g	94.60	< 5.0e-03	39.90	44.50	202.5	3.46	96.92	84.30	n/a
5961000581	A	Cerium - ICP-Acid Digest	ug/g	100.0	< 1.0e-01	2.08e+02	199.0	< 1.97e1	n/a	96.00	18.90	n/a
5961000582	A	Cobalt - ICP-Acid Digest	ug/g	98.40	< 2.0e-02	< 16.90	< 1.97e1	n/a	n/a	92.22	8.430	n/a
5961000583	A	Chromium - ICP-Acid Digest	ug/g	97.80	1.70e-02	7.69e+02	884.0	826.5	13.9	92.22	8.430	n/a
5961000584	A	Copper - ICP-Acid Digest	ug/g	92.00	2.60e+02	84.40	8.25e+04	90.40	13.3	92.22	8.430	n/a
5961000585	A	Iron - ICP-Acid Digest	ug/g	97.60	7.00e-02	1.03e+04	646.0	629.0	5.41	18.42	42.20	n/a
5961000586	A	Potassium - ICP-Acid Digest	ug/g	98.80	< 5.0e-02	59.10	72.30	65.70	20.1	96.20	84.30	n/a
5961000587	A	Lanthanum - ICP-Acid Digest	ug/g	95.80	< 1.0e-02	< 8.430	< 9.86e1	n/a	n/a	96.20	84.30	n/a
5961000588	A	Lithium - ICP-Acid Digest	ug/g	95.80	< 1.0e-01	2.25e+02	263.0	244.0	12.6	91.28	84.30	n/a
5961000589	A	Magnesium - ICP-Acid Digest	ug/g	94.60	< 1.0e-02	1.75e+03	2.07e+03	1.90e+03	15.6	92.40	42.20	n/a
5961000590	A	Manganese - ICP-Acid Digest	ug/g	97.60	< 5.0e-02	< 42.20	< 4.93e1	n/a	n/a	92.40	42.20	n/a
5961000591	A	Molybdenum - ICP-Acid Digest	ug/g	109.0	7.70e-01	1.19e+03	1.41e+03	1.30e+03	16.7	1.82e+02	84.30	n/a
5961000592	A	Nickel - ICP-Acid Digest	ug/g	96.00	< 1.0e-01	1.23e+02	70.0	76.1	16.2	88.82	14.90	n/a
5961000593	A	Lead - ICP-Acid Digest	ug/g	97.20	< 2.0e-02	6.23e+02	735.0	661.3	16.2	92.22	8.430	n/a
5961000594	A	Phosphorus - ICP-Acid Digest	ug/g	99.60	< 2.0e-01	2.25e+03	3.40e+03	2.75e+03	15.9	93.02	82.30	n/a
5961000595	A	Sulfur - ICP-Acid Digest	ug/g	91.60	< 1.0e-01	2.25e+03	3.40e+03	2.75e+03	15.9	93.02	82.30	n/a
5961000596	A	Selenium - ICP-Acid Digest	ug/g	95.60	< 1.0e-02	1.19e+03	1.41e+03	1.30e+03	16.7	1.82e+02	84.30	n/a
5961000597	A	Silicon - ICP-Acid Digest	ug/g	115.0	2.77e-01	2.22e+03	2.64e+04	2.46e+04	15.8	90.80	84.30	n/a
5961000598	A	Samarium - ICP-Acid Digest	ug/g	97.60	< 1.0e-01	< 16.30	< 9.86e1	n/a	n/a	99.00	84.30	n/a
5961000599	A	Strontium - ICP-Acid Digest	ug/g	97.60	< 1.0e-02	1.77e+02	20.40	19.05	16.2	95.70	8.430	n/a
5961000600	A	Tantalum - ICP-Acid Digest	ug/g	91.60	< 1.0e-03	1.25e+02	147.0	136.0	16.2	89.42	8.430	n/a
5961000601	A	Tellurium - ICP-Acid Digest	ug/g	88.60	< 2.0e-01	1.49e+03	< 1.97e2	n/a	n/a	87.40	169.0	n/a
5961000602	A	Thallium - ICP-Acid Digest	ug/g	96.60	< 5.0e-01	7.07e+02	890.0	798.5	22.9	104.1	422.0	n/a
5961000603	A	Uranium - ICP-Acid Digest	ug/g	96.40	< 5.0e-02	< 42.20	< 4.93e1	n/a	n/a	95.40	42.20	n/a
5961000604	A	Vanadium - ICP-Acid Digest	ug/g	92.60	2.50e+02	40.30	44.60	42.45	10.1	91.22	8.430	n/a
5961000605	A	Zinc - ICP-Acid Digest	ug/g	104.2	< 1.0e-02	7.53e+02	890.0	822.5	16.4	180.4	8.430	n/a
5961000606	A	Zirconium - ICP-Acid Digest	ug/g	96.10	< 1.0e-03	1.94e+02	195.0	194.7	0.51	100.8	55.12	n/a
5961000607	W	Antimony - ICP-Acid Digest	ug/g	99.11	3.30e-02	1.47e+02	133.0	140.0	10.0	95.06	72.07	n/a
5961000608	W	Barium - ICP-Acid Digest	ug/g	97.71	< 1.0e-01	1.04e+04	1.03e+04	1.03e+04	0.97	107.5	453.6	n/a
5961000609	W	Bismuth - ICP-Acid Digest	ug/g	97.72	< 1.0e-01	1.83e+03	978.0	1.41e+03	60.7	93.81	593.2	n/a
5961000610	W	Calcium - ICP-Acid Digest	ug/g	100.2	< 1.0e-01	3.52e+03	1.01e+03	2.27e+03	111	89.19	504.2	n/a
5961000611	W	Chromium - ICP-Acid Digest	ug/g	97.94	< 1.0e-01	3.52e+03	3.31e+03	3.32e+03	0.30	98.26	576.2	n/a
5961000612	W	Copper - ICP-Acid Digest	ug/g	99.07	< 1.0e-01	6.90e+04	6.83e+04	6.86e+04	1.02	116.0	445.2	n/a
5961000613	W	Iron - ICP-Acid Digest	ug/g	110.5	< 1.0e-02	< 3.52e+02	< 3.70e2	n/a	n/a	n/a	3.50e+02	6.92E+00
5961000614	W	Lithium - ICP-Acid Digest	ug/g	104.6	8.13e-01	5.90e+02	639.0	614.5	7.97	n/a	6.41e-01	1.01E+00
5961000615	W	Magnesium - ICP-Acid Digest	ug/g	97.11	< 3.0e-02	1.520	1.530	1.525	0.66	n/a	1.02e-01	2.08E+00
5961000616	W	Phosphorus - ICP-Acid Digest	ug/g	98.94	< 3.0e-01	< 3.3e+01	< 4.23e1	n/a	n/a	n/a	5.33e-01	n/a
5961000617	W	Sulfur - ICP-Acid Digest	ug/g	97.97	< 4.9e-01	5.80e+02	633.0	606.3	8.74	n/a	n/a	1.10

Sample#	Pl#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
S961002718	F	Am-241 by Extraction	uCi/g	101.3	<2.76e-02	1.870	1.890	1.780	1.780	n/a	1.65e-01	2.69e+00	
S961002718	F	Alpha of Digested Solid	uCi/g	114.1	<5.69e-02	3.500	3.640	3.570	3.92	89.14	9.20e-02	9.86e+00	

Interstitial Liquid: Interstitial Liquid													
Sample#	Pl#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
S961000563	D	DSC Exotherm Dry, Calculated	Joules/g Dry	95.2	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a	n/a
S961000563	D	DSC Exotherm on Peckin Elmer	Joules/g	95.2	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a	n/a
S961000563	D	% Water by TGA using Mettler	%	103.2	n/a	61.32	2.39.37	60.34	3.23	n/a	n/a	n/a	n/a
S961000563	D	Tot. Organic Carbon by Coul	ug/mL	103.2	2.00e-01	2.45e-03	2.45e-03	2.44e-03	0.00	95.50	55.00	n/a	n/a
S961000563	D	TOC by Persulfate/Coulometry	ug/mL	96.00	5.00e-03	2.35e-03	2.35e-03	2.34e-03	0.00	n/a	40.00	n/a	n/a
S961000563	D	Strontium-89/90 High Level	uCi/mL	93.14	<3.54e-01	6.33e-01	6.33e-01	6.33e-01	6.18	n/a	8.00e-03	2.78e+00	n/a
S961000563	D	Pu-239/240 by TRU-SPEC Resin	uCi/mL	97.40	<1.00e-03	8.13e-01	8.13e-01	8.12e-01	2.35	n/a	3.80e-02	1.59e+00	n/a
S961000563	D	Silver-ICP-Acid Dil.	ug/mL	96.60	<1.00e-02	< 20.10	< 20.10	n/a	n/a	92.80	4.010	n/a	n/a
S961000563	D	Aluminum-ICP-Acid Dil.	ug/mL	101.0	<1.00e-02	< 40.10	< 40.10	n/a	n/a	92.80	20.10	n/a	n/a
S961000563	D	Arsenic-ICP-Acid Dil.	ug/mL	101.0	<1.00e-02	< 20.10	< 20.10	n/a	n/a	102.8	40.10	n/a	n/a
S961000563	D	Boron-ICP-Acid Dil.	ug/mL	99.40	<5.00e-03	< 20.10	< 20.10	n/a	n/a	92.80	20.10	n/a	n/a
S961000563	D	Barium-ICP-Acid Dil.	ug/mL	103.8	<5.00e-03	< 2.000	< 2.000	n/a	n/a	101.0	20.10	n/a	n/a
S961000563	D	Beryllium-ICP-Acid Dil.	ug/mL	99.60	<1.00e-01	< 40.10	< 40.10	n/a	n/a	95.50	40.10	n/a	n/a
S961000563	D	Bismuth-ICP-Acid Dil.	ug/mL	99.60	<1.00e-01	< 40.10	< 40.10	n/a	n/a	95.50	40.10	n/a	n/a
S961000563	D	Calcium-ICP-Acid Dil.	ug/mL	100.8	<1.00e-03	< 2.000	< 2.000	n/a	n/a	92.80	20.10	n/a	n/a
S961000563	D	Cadmium-ICP-Acid Dil.	ug/mL	100.4	<1.00e-02	< 40.10	< 40.10	n/a	n/a	96.50	40.10	n/a	n/a
S961000563	D	Cerium-ICP-Acid Dil.	ug/mL	100.2	<2.00e-02	< 8.020	< 8.020	n/a	n/a	97.00	8.020	n/a	n/a
S961000563	D	Cobalt-ICP-Acid Dil.	ug/mL	100.2	<1.00e-02	< 4.010	< 4.010	n/a	n/a	98.50	4.010	n/a	n/a
S961000563	D	Chromium-ICP-Acid Dil.	ug/mL	100.6	<1.00e-02	< 4.010	< 4.010	n/a	n/a	99.80	4.010	n/a	n/a
S961000563	D	Copper-ICP-Acid Dil.	ug/mL	103.4	<5.00e-02	< 20.10	< 20.10	n/a	n/a	105.2	20.10	n/a	n/a
S961000563	D	Iron-ICP-Acid Dil.	ug/mL	97.20	<5.00e-01	5.48e+02	5.48e+02	556.0	2.88	96.40	200.0	n/a	n/a
S961000563	D	Potassium-ICP-Acid Dil.	ug/mL	100.8	<5.00e-02	< 20.10	< 20.10	n/a	n/a	101.0	20.10	n/a	n/a
S961000563	D	Lanthanum-ICP-Acid Dil.	ug/mL	97.00	<1.00e-02	< 40.10	< 40.10	n/a	n/a	92.00	40.10	n/a	n/a
S961000563	D	Lithium-ICP-Acid Dil.	ug/mL	96.80	<1.00e-01	< 40.10	< 40.10	n/a	n/a	93.80	40.10	n/a	n/a
S961000563	D	Magnesium-ICP-Acid Dil.	ug/mL	100.2	<1.00e-02	< 4.010	< 4.010	n/a	n/a	99.30	4.010	n/a	n/a
S961000563	D	Manganese-ICP-Acid Dil.	ug/mL	99.20	<5.00e-02	< 21.30	< 21.30	n/a	n/a	96.70	20.10	n/a	n/a
S961000563	D	Nickel-ICP-Acid Dil.	ug/mL	96.60	<1.00e-01	1.03e+05	1.03e+05	1.02e+05	1.96	n/a	40.10	n/a	n/a
S961000563	D	Sodium-ICP-Acid Dil.	ug/mL	105.8	<1.00e-01	< 40.10	< 40.10	n/a	n/a	105.3	40.10	n/a	n/a
S961000563	D	Neodymium-ICP-Acid Dil.	ug/mL	100.8	<2.00e-02	< 13.70	< 13.70	13.60	1.47	98.60	8.020	n/a	n/a
S961000563	D	Phosphorus-ICP-Acid Dil.	ug/mL	100.8	<2.00e-01	3.71e+02	3.71e+02	373.0	1.07	115.0	80.20	n/a	n/a
S961000563	D	Lead-ICP-Acid Dil.	ug/mL	100.6	<1.00e-01	< 40.10	< 40.10	n/a	n/a	99.50	40.10	n/a	n/a
S961000563	D	Sulfur-ICP-Acid Dil.	ug/mL	98.20	<1.00e-01	2.48e+03	2.48e+03	2.49e+03	0.80	82.70	40.10	n/a	n/a
S961000563	D	Antimony-ICP-Acid Dil.	ug/mL	94.60	<1.00e-02	< 24.10	< 24.10	n/a	n/a	90.80	24.10	n/a	n/a
S961000563	D	Selenium-ICP-Acid Dil.	ug/mL	102.6	<1.00e-01	< 40.10	< 40.10	n/a	n/a	110.0	40.10	n/a	n/a
S961000563	D	Silicon-ICP-Acid Dil.	ug/mL	95.20	<5.00e-02	< 25.80	< 25.80	26.35	4.17	95.10	20.10	n/a	n/a
S961000563	D	Samarium-ICP-Acid Dil.	ug/mL	101.0	<1.00e-01	< 40.10	< 40.10	n/a	n/a	102.0	40.10	n/a	n/a
S961000563	D	Strontium-ICP-Acid Dil.	ug/mL	99.40	<1.00e-02	< 4.010	< 4.010	n/a	n/a	99.30	4.010	n/a	n/a
S961000563	D	Titanium-ICP-Acid Dil.	ug/mL	96.60	<1.00e-02	< 4.010	< 4.010	n/a	n/a	96.00	4.010	n/a	n/a
S961000563	D	Thallium-ICP-Acid Dil.	ug/mL	95.00	<2.00e-01	< 80.20	< 80.20	n/a	n/a	85.80	80.20	n/a	n/a
S961000563	D	Uranium-ICP-Acid Dil.	ug/mL	98.50	<5.00e-01	1.56e+03	1.56e+03	1.56e+03	0.64	102.3	200.0	n/a	n/a
S961000563	D	Vanadium-ICP-Acid Dil.	ug/mL	102.0	<5.00e-02	< 20.10	< 20.10	n/a	n/a	100.0	20.10	n/a	n/a
S961000563	D	Zinc-ICP-Acid Dil.	ug/mL	100.6	<1.00e-02	< 4.010	< 4.010	n/a	n/a	97.50	4.010	n/a	n/a
S961000563	D	Zirconium-ICP-Acid Dil.	ug/mL	99.80	<1.00e-02	3.36e+02	3.36e+02	336.0	0.00	100.6	4.010	n/a	n/a

Sample#	R/A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T000563		Fluoride-IC-Dioxex 40001/4500	ug/mL	95.46	<1.30e-02	2.36e+02	230.0	232.8	2.58	108.5	27.57	n/a
S96T000563		Chloride-IC-Dioxex 40001/4500	ug/mL	90.58	3.59e-01	3.04e+02	326.0	315.1	6.98	91.65	36.06	n/a
S96T000563		Nitrite-IC - Dioxex 40001/4500	ug/mL	97.93	<1.07e-01	2.91e+04	2.83e+04	2.87e+04	2.79	102.6	226.9	n/a
S96T000563		Nitrate-IC - Dioxex 40001/4500	ug/mL	93.93	2.02e-01	1.17e+03	1.14e+03	1.15e+03	2.60	94.46	286.9	n/a
S96T000563		Phosphate-IC-Dioxex 40001/4500	ug/mL	96.89	<1.19e-01	6.49e+02	609.0	629.0	6.36	97.80	252.2	n/a
S96T000563		Sulfate by IC - Dioxex 40001/4500	ug/mL	95.26	<1.36e-01	7.76e+03	7.61e+03	7.69e+03	1.95	96.89	288.2	n/a
S96T000563		Oxalate by IC - Dioxex 40001	ug/mL	96.11	<1.09e-01	3.08e+03	3.09e+03	3.09e+03	0.32	98.43	222.7	n/a
S96T000563		Cobalt-60 by GEA	uCi/mL	96.11	<6.53e-04	<6.45e-03	1.24e-02	n/a	n/a	n/a	8.00e-03	n/a
S96T000563		Cesium-137 by GEA	uCi/mL	95.94	<4.94e-04	1.54e+02	153.0	153.5	0.65	n/a	n/a	0.200

Potential Organic Layer: Potential Organic Layer

Sample#	R/A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T001567		DSC Exotherm using Mettler	Joules/g	113.0	n/a	2.13e+02	142.4	178.8	40.7	n/a	n/a	n/a
S96T001567		DSC Exotherm Dry Calculated	Joules/g Dry	103.7	n/a	7.07e+02	467.7	587.0	40.7	n/a	n/a	n/a
S96T001567		% Water by IGA using Mettler	%	94.03	3.00e-01	3.08e+02	3.44e+04	3.26e+04	5.84	n/a	40.00	n/a
S96T002634		TOC by Persulfate/Coulometry	ug/mL	99.21	<3.10e-02	6.41e-01	6.31e-01	6.36e-01	12.2	n/a	4.60e-02	2.00e+00
S96T002634		Pu-239/240 by TRU-SPEC Resin	uCi/g	n/a	<3.10e-02	2.00e-01	2.01e-01	2.01e-01	0.50	n/a	4.60e-02	2.78e+00
S96T002634		Pu-238 by Ion Exchange	uCi/g	n/a	<3.10e-02	2.00e-01	2.01e-01	2.01e-01	0.50	n/a	4.60e-02	2.78e+00

WHC-SD-WM-DP-183, REV. 0

Table 3: Data Summary Report
C-106 GRAB

RISER: 7
SEGMENT #: 6C-96-11
SEGMENT PORTION: Centrifuged Solids (Grab Sample)

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961001674		Bulk Density of Sample	g/mL	n/a	n/a	1.250	n/a	n/a	n/a	n/a	5.00e-01	n/a
S961001674		DSC Exotherm using Mettler	Joules/g	97.72	n/a	19.70	109.8	64.45	139	n/a	n/a	n/a
S961001674		DSC Exotherm DRY Calculated	Joules/g	n/a	n/a	21.66	120.5	71.08	139	n/a	n/a	n/a
S961001674		% Water by TGA using Mettler	%	99.93	n/a	2.630	8.430	9.030	13.3	n/a	n/a	n/a
S961001674		Volume % Solids	%	n/a	n/a	59.50	n/a	n/a	n/a	n/a	n/a	n/a
S961001674		% Water by Gravimetric	%	100.8	n/a	12.40	10.90	11.65	12.9	n/a	1.00e-02	n/a

Control Sample: Control Sample

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961001676		DSC Exotherm using Mettler	Joules/g	112.1	n/a	1.46e+02	137.2	141.6	6.21	n/a	n/a	n/a
S961001676		DSC Exotherm DRY Calculated	Joules/g	n/a	n/a	2.42e+02	227.8	235.1	6.21	n/a	n/a	n/a
S961001676		% Water by TGA using Mettler	%	102.3	n/a	40.05	39.47	39.76	1.46	n/a	n/a	n/a
S961001678		F Technetium-99 Liq. Scint.	uCi/g	99.21	n/a	1.98e-02	2.75e-02	2.34e-02	35.0	n/a	1.80e-02	6.25e+00
S961001678		F Strontium-89/90 High Level	uCi/g	102.4	7.59e-01	3.83e+02	361.0	382.0	0.52	n/a	2.36e-01	7.89E-01
S961001678		F Pu-239/240 by TRU-SPEC Resin	uCi/g	100.3	<1.71e-02	7.78e-01	2.65e-01	7.70e-01	1.30	n/a	4.90e-02	2.01E+00
S961001678		F Cobalt-60 by GEA	uCi/g	99.96	<1.06e-03	<7.17e-01	<5.87e-1	n/a	n/a	n/a	7.17e-01	1.55
S961001678		F Cesium-137 by GEA	uCi/g	100.6	<2.56e-03	4.50e+02	408.0	429.1	9.79	n/a	6.10e-02	2.64E+00
S961001678		F Am-241 by Extraction	uCi/g	97.13	<1.31e-02	7.03e-01	7.15e-01	7.09e-01	1.69	n/a	6.10e-02	2.64E+00
S961001678		F Alpha of Digestion Solid	uCi/g	102.3	<4.10e-02	1.500	1.620	1.560	7.69	91.09	6.10e-02	9.65E+00

Decanted Supernate (Liquid Grab Sludge): Decanted Supernate (Liquid Grab Sludge)

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961001675		Specific Gravity	Sp.G.	102.1	n/a	1.153	1.138	1.145	1.31	n/a	1.00e-03	n/a
S961001675		% Water by Gravimetric	%	98.82	n/a	78.20	78.30	78.25	0.13	n/a	1.00e-02	n/a
S961002024		pH Direct	pH	99.75	n/a	10.15	n/a	n/a	n/a	n/a	1.00e-02	n/a
S961002024		Specific Gravity	Sp.G.	97.74	n/a	1.195	1.195	1.195	0.00	n/a	1.00e-03	n/a
S961002024		Fluoride-IC-Dionex 4000/14500	ug/mL	98.98	<1.30e-02	2.01e+02	209.0	205.1	3.90	127.5	14.44	n/a
S961002024		Chloride-IC-Dionex 4000/14500	ug/mL	99.75	<1.70e-02	2.58e+02	266.0	261.9	3.05	97.85	18.89	n/a
S961002024		Nitrate-IC - Dionex 4000/14500	ug/mL	103.5	<1.07e-01	2.91e+02	2.99e+04	2.69e+04	7.43	134.9	118.9	n/a
S961002024		Nitrate-IC - Dionex 4000/14500	ug/mL	103.5	<1.40e-01	9.81e+02	1.01e+03	995.5	2.91	97.23	155.5	n/a
S961002024		Phosphate-IC-Dionex 4000/14500	ug/mL	103.5	<1.19e-01	4.42e+02	480.0	460.9	8.24	101.3	132.1	n/a
S961002024		Sulfate by IC-Dionex4000/14500	ug/mL	101.6	<1.36e-01	6.69e+02	7.20e+03	6.94e+03	7.34	112.2	151.0	n/a
S961002024		Oxalate by IC - Dionex 4000/14500	ug/mL	103.2	<1.05e-01	3.18e+03	3.45e+03	3.31e+03	8.14	106.3	116.7	n/a
S961002024		Cobalt-60 by GEA	uCi/mL	93.30	<4.67e-04	<4.49e-3	<4.49e-3	n/a	n/a	n/a	5.00e-03	n/a
S961002024		Cesium-137 by GEA	uCi/mL	90.88	<2.68e-03	1.28e+02	127.0	127.5	0.78	n/a	n/a	0.140

Filtered Centrifuged Solids: Filtered Centrifuged Solids

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD % Spk Rec %	Det Limit	Count Err%
S961001685		DSC Exotherm DRY, Calculated	Joules/g DRY	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a
S961001685		DSC Exotherm on Perkin Elmer	Joules/g	100.3	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a
S961001685		% Water by IGA on Perkin Elmer	%	99.39	n/a	32.54	31.29	31.91	3.92	n/a	n/a
S961001686		TIC by Acid/Coulometry	ug/g	93.68	3.00e-01	2.32e+04	2.28e+04	2.30e+04	1.74	n/a	n/a
S961001686		TOC by Persulfate/Coulometry	ug/g	94.03	3.000	2.00e+04	1.73e+04	1.86e+04	14.5	n/a	n/a
S961001687		% Water by Gravimetric	%	98.99	n/a	34.10	34.10	34.10	0.00	n/a	n/a
S961001688		pH on SST Samples	pH	99.95	n/a	10.42	10.42	10.42	n/a	1.00e-02	n/a
S961001689		F Technium-99 Liq. Scint.	uCi/g	99.21	n/a	2.97e-02	5.04e-01	2.67e-01	n/a	n/a	n/a
S961001689		F Strontium-89/90 High Level	uCi/g	102.4	7.55e-01	4.87e+02	523.0	505.0	7.13	n/a	n/a
S961001689		F Pu-239/240 by TRU-SPEC Resin	uCi/g	100.3	< 1.71e-02	9.01e-01	9.26e-01	9.13e-01	2.74	n/a	n/a
S961001689		F Cobalt-60 by GE	uCi/g	99.72	< 2.00e-02	< 3.03e-01	< 4.13e-01	n/a	n/a	n/a	n/a
S961001689		F Cesium-137 by GE	uCi/g	100.9	< 5.54e-01	4.88e+02	509.0	495.9	5.24	n/a	n/a
S961001689		F Am-241 by Extraction	uCi/g	97.13	< 1.31e-02	1.030	9.80e-01	1.005	4.98	n/a	n/a
S961001689		F Alpha of Digested Solid	uCi/g	102.3	< 4.10e-02	1.680	1.840	1.760	9.09	93.31	1.33e-01
S961001690		A Silver - ICP-Acid Digest	ug/g	90.20	< 1.00e-02	1.94e+03	1.45e+03	1.60e+03	44.2	139.0	n/a
S961001690		A Aluminum - ICP-Acid Digest	ug/g	91.40	< 1.09e-01	3.81e+04	3.77e+04	3.79e+04	1.06	130.2	n/a
S961001690		A Arsenic - ICP-Acid Digest	ug/g	93.80	< 1.00e-01	< 38.30	< 3.93e1	n/a	n/a	90.50	n/a
S961001690		A Boron - ICP-Acid Digest	ug/g	97.60	< 6.50e-01	25.80	30.70	28.25	17.3	90.36	n/a
S961001690		A Barium - ICP-Acid Digest	ug/g	94.00	< 5.00e-02	2.22e+02	219.0	220.5	1.36	90.42	n/a
S961001690		A Beryllium - ICP-Acid Digest	ug/g	102.6	< 5.00e-03	< 1.910	< 1.97e0	n/a	n/a	97.50	n/a
S961001690		A Bismuth - ICP-Acid Digest	ug/g	91.20	< 1.00e-01	< 38.30	< 3.93e1	n/a	n/a	91.10	n/a
S961001690		A Calcium - ICP-Acid Digest	ug/g	91.60	< 1.28e-01	2.65e+03	2.50e+03	2.58e+03	5.83	84.64	n/a
S961001690		A Cadmium - ICP-Acid Digest	ug/g	89.60	< 5.00e-03	23.90	24.80	24.35	3.70	88.24	n/a
S961001690		A Cerium - ICP-Acid Digest	ug/g	97.00	< 2.00e-02	1.41e+02	152.0	146.5	7.51	94.62	n/a
S961001690		A Cobalt - ICP-Acid Digest	ug/g	92.40	< 1.00e-02	< 7.660	8.350	n/a	n/a	90.60	n/a
S961001690		A Chromium - ICP-Acid Digest	ug/g	91.00	< 1.00e-02	5.28e+02	538.0	533.0	1.88	90.42	n/a
S961001690		A Copper - ICP-Acid Digest	ug/g	92.00	< 1.00e-02	95.60	94.20	94.90	1.48	89.50	n/a
S961001690		A Potassium - ICP-Acid Digest	ug/g	90.80	< 5.00e-02	4.59e+04	5.74e+04	5.16e+04	22.3	81.64	n/a
S961001690		A Lanthanum - ICP-Acid Digest	ug/g	93.00	< 5.00e-01	5.53e+02	514.0	533.5	7.31	96.10	n/a
S961001690		A Lithium - ICP-Acid Digest	ug/g	94.40	< 1.00e-02	49.60	47.80	48.70	3.70	91.60	n/a
S961001690		A Magnesium - ICP-Acid Digest	ug/g	99.20	< 1.00e-02	< 3.830	< 3.93e0	n/a	n/a	92.00	n/a
S961001690		A Manganese - ICP-Acid Digest	ug/g	86.40	< 1.00e-01	2.50e+02	264.0	257.0	5.45	85.64	n/a
S961001690		A Molybdenum - ICP-Acid Digest	ug/g	90.80	< 1.00e-02	3.21e+03	3.27e+03	3.24e+03	1.85	102.1	n/a
S961001690		A Sodium - ICP-Acid Digest	ug/g	91.40	< 5.00e-02	< 19.10	< 1.97e1	n/a	n/a	89.50	n/a
S961001690		A Neodymium - ICP-Acid Digest	ug/g	103.6	8.77e-01	1.08e+05	1.08e+05	1.08e+05	0.00	n/a	n/a
S961001690		A Nickel - ICP-Acid Digest	ug/g	91.80	< 1.00e-01	1.28e+02	125.0	126.5	2.37	91.22	n/a
S961001690		A Phosphorus - ICP-Acid Digest	ug/g	93.80	< 2.00e-02	5.15e+02	518.0	516.5	0.58	91.10	n/a
S961001690		A Lead - ICP-Acid Digest	ug/g	96.80	< 1.00e-01	1.76e+03	1.81e+03	1.78e+03	2.80	110.1	n/a
S961001690		A Selenium - ICP-Acid Digest	ug/g	86.80	< 1.00e-01	1.90e+03	1.92e+03	1.92e+03	2.60	89.60	n/a
S961001690		A Sulfur - ICP-Acid Digest	ug/g	90.20	< 1.00e-01	9.18e+02	938.0	928.0	2.16	93.06	n/a
S961001690		A Antimony - ICP-Acid Digest	ug/g	93.40	< 5.00e-02	< 23.00	< 2.36e1	n/a	n/a	92.50	n/a
S961001690		A Tellurium - ICP-Acid Digest	ug/g	88.60	< 1.00e-01	< 38.30	< 3.93e1	n/a	n/a	89.50	n/a
S961001690		A Silicon - ICP-Acid Digest	ug/g	125.0	< 7.00e-01	2.16e+04	2.09e+04	2.10e+04	5.23	72.84	n/a
S961001690		A Strontium - ICP-Acid Digest	ug/g	92.60	< 1.00e-01	< 38.30	< 3.93e1	n/a	n/a	91.10	n/a
S961001690		A Vanadium - ICP-Acid Digest	ug/g	92.40	< 1.00e-02	20.10	20.00	20.05	0.50	89.04	n/a
S961001690		A Titanium - ICP-Acid Digest	ug/g	86.20	< 2.00e-01	87.40	87.50	87.45	0.11	83.24	n/a
S961001690		A Thallium - ICP-Acid Digest	ug/g	86.00	< 2.00e-01	< 76.60	< 7.87e1	n/a	n/a	85.00	n/a
S961001690		A Uranium - ICP-Acid Digest	ug/g	91.20	< 5.00e-01	5.78e+02	588.0	583.0	1.72	87.90	n/a

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961001690	A	Vanadium - ICP-Acid Digest	ug/g	111.0	< 5.00e-02	< 19.10	< 1.97e1	5.500	0.00	N/A	89.10	19.10
S961001690	A	Zinc - ICP-Acid Digest	ug/g	87.40	1.00e-02	62.30	87.40	76.95	N/A	N/A	87.96	N/A
S961001690	A	Zirconium - ICP-Acid Digest	ug/g	99.20	< 1.00e-02	1.62e+02	431.0	296.5	90.7	119.5	3.830	N/A
S961003180	B	Fluoride-IC-Dioxex 40001/4500	ug/g	104.2	< 1.00e-02	1.12e+02	344.0	228.2	102	N/A	49.60	N/A
S961003180	B	Chloride-IC-Dioxex 40001/4500	ug/g	96.58	< 1.00e-02	1.56e+02	153.0	154.3	1.94	N/A	64.87	N/A
S961003180	B	Nitrate-IC - Dioxex 40001/4500	ug/g	93.91	< 1.00e-01	8.22e+03	2.35e+03	7.71e+03	33.2	N/A	408.2	N/A
S961003180	B	Nitrate by IC-Dioxex 40001/4500	ug/g	102.8	5.910	2.65e+03	2.35e+03	2.50e+03	12.0	N/A	533.8	N/A
S961003180	B	Phosphate-IC-Dioxex 40001/4500	ug/g	105.3	< 1.19e-01	8.29e+02	44.15e2	2.41e+03	10.4	N/A	453.6	N/A
S961003180	B	Sulfate by IC-Dioxex 40001/4500	ug/g	105.7	< 1.36e-01	2.53e+03	2.28e+03	2.41e+03	10.4	N/A	518.5	N/A
S961003180	B	Oxalate by IC - Dioxex 40001	ug/g	105.3	< 1.05e-01	7.82e+04	2.26e+05	1.52e+05	97.2	N/A	400.6	N/A

Interstitial Liquid: Interstitial Liquid

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961001681	DSC	Exotherm using Mettler	Joules/g	101.6	N/A	5.500	5.500	5.500	0.00	N/A	N/A	N/A
S961001681	DSC	Exotherm Dry Calculated	Joules/g	N/A	N/A	10.27	10.27	10.27	0.00	N/A	N/A	N/A
S961001681	D	% Water by TGA on Perkin Elmer	%	99.27	N/A	48.47	44.37	46.42	8.83	N/A	N/A	N/A
S961001681	TOT	Organic Carbon by Cowi	ug/mL	93.36	1.300	2.06e+03	2.08e+03	2.07e+03	0.97	96.30	55.00	N/A
S961001681	TOT	by Persulfate/Coulometry	ug/mL	93.36	6.300	1.64e+03	1.62e+03	1.63e+03	1.23	97.00	40.00	N/A
S961001681	Strontium-89/90	High Level	uCi/mL	99.19	4.00e-03	6.71e-01	6.68e-01	6.69e-01	0.45	N/A	8.00e-03	3.75e+00
S961001681	Pur-235/240	by TRU-SPEC Resin	uCi/mL	98.69	< 1.67e-02	8.40e-01	8.34e-01	8.37e-01	0.72	N/A	4.90e-02	1.88e+00
S961001681	D	Silver-ICP-Acid Dill.	ug/mL	98.20	< 1.00e-02	< 4.010	< 4.01e0	N/A	N/A	93.80	4.010	N/A
S961001681	D	Aluminum-ICP-Acid Dill.	ug/mL	98.20	< 1.00e-02	< 20.10	< 2.01e1	N/A	N/A	96.00	20.10	N/A
S961001681	D	Arsenic-ICP-Acid Dill.	ug/mL	102.2	< 1.00e-01	< 40.10	< 4.01e1	N/A	N/A	105.7	40.10	N/A
S961001681	D	Boron-ICP-Acid Dill.	ug/mL	101.0	< 1.00e-02	< 20.10	< 2.01e1	N/A	N/A	101.3	20.10	N/A
S961001681	D	Barium-ICP-Acid Dill.	ug/mL	99.20	< 1.00e-02	< 20.10	< 2.01e1	N/A	N/A	99.80	20.10	N/A
S961001681	D	Beryllium-ICP-Acid Dill.	ug/mL	102.8	< 1.00e-03	< 2.000	< 2.00e0	N/A	N/A	101.5	2.000	N/A
S961001681	D	Bismuth-ICP-Acid Dill.	ug/mL	99.60	< 1.00e-01	< 40.10	< 4.01e1	N/A	N/A	90.80	40.10	N/A
S961001681	D	Calcium-ICP-Acid Dill.	ug/mL	97.60	< 1.00e-01	< 40.10	< 4.01e1	N/A	N/A	97.30	40.10	N/A
S961001681	D	Cadmium-ICP-Acid Dill.	ug/mL	99.80	< 1.00e-03	< 2.000	< 2.00e0	N/A	N/A	96.00	2.000	N/A
S961001681	D	Cerium-ICP-Acid Dill.	ug/mL	101.6	< 1.00e-01	< 40.10	< 4.01e1	N/A	N/A	99.30	40.10	N/A
S961001681	D	Cobalt-ICP-Acid Dill.	ug/mL	100.8	< 1.00e-02	< 8.020	< 8.02e0	N/A	N/A	98.00	8.020	N/A
S961001681	D	Chromium-ICP-Acid Dill.	ug/mL	101.6	< 1.00e-02	< 4.010	< 4.01e0	N/A	N/A	98.30	4.010	N/A
S961001681	D	Copper-ICP-Acid Dill.	ug/mL	100.6	< 1.00e-02	< 4.010	< 4.01e0	N/A	N/A	99.80	4.010	N/A
S961001681	D	Iron-ICP-Acid Dill.	ug/mL	100.0	< 1.00e-02	< 20.10	< 2.01e1	N/A	N/A	101.8	20.10	N/A
S961001681	D	Potassium-ICP-Acid Dill.	ug/mL	101.2	< 1.00e-01	5.41e+02	533.0	537.0	1.49	98.30	200.0	N/A
S961001681	D	Lanthanum-ICP-Acid Dill.	ug/mL	98.60	< 1.00e-02	< 20.10	< 2.01e1	N/A	N/A	98.50	20.10	N/A
S961001681	D	Lithium-ICP-Acid Dill.	ug/mL	100.4	< 1.00e-02	< 4.010	< 4.01e0	N/A	N/A	95.50	4.010	N/A
S961001681	D	Magnesium-ICP-Acid Dill.	ug/mL	98.20	< 1.00e-01	< 40.10	< 4.01e1	N/A	N/A	94.80	40.10	N/A
S961001681	D	Manganese-ICP-Acid Dill.	ug/mL	100.0	< 1.00e-02	< 4.010	< 4.01e0	N/A	N/A	98.00	4.010	N/A
S961001681	D	Molybdenum-ICP-Acid Dill.	ug/mL	101.8	< 1.00e-02	< 20.10	< 2.01e1	N/A	N/A	104.0	20.10	N/A
S961001681	D	Sodium-ICP-Acid Dill.	ug/mL	99.40	< 1.00e-01	9.91e+04	9.56e+04	9.74e+04	3.60	N/A	40.10	N/A
S961001681	D	Neodymium-ICP-Acid Dill.	ug/mL	99.80	< 1.00e-02	< 40.10	< 4.01e1	N/A	N/A	104.7	40.10	N/A
S961001681	D	Nickel-ICP-Acid Dill.	ug/mL	99.80	< 2.00e-02	11.50	11.30	11.40	1.75	96.60	8.020	N/A
S961001681	D	Phosphorus-ICP-Acid Dill.	ug/mL	102.0	< 2.00e-01	2.66e+02	275.0	270.5	3.33	103.1	80.20	N/A
S961001681	D	Lead-ICP-Acid Dill.	ug/mL	99.20	< 1.00e-01	< 40.10	< 4.01e1	N/A	N/A	98.30	40.10	N/A
S961001681	D	Sulfur-ICP-Acid Dill.	ug/mL	100.2	< 1.00e-01	2.24e+03	2.15e+03	2.20e+03	4.10	79.60	40.10	N/A
S961001681	D	Antimony-ICP-Acid Dill.	ug/mL	95.40	< 1.00e-02	< 20.10	< 2.01e1	N/A	N/A	91.00	24.10	N/A
S961001681	D	Selenium-ICP-Acid Dill.	ug/mL	103.6	< 1.00e-01	< 40.10	< 4.01e1	N/A	N/A	118.7	40.10	N/A
S961001681	D	Silicon-ICP-Acid Dill.	ug/mL	95.40	< 1.00e-02	27.50	20.40	23.95	29.6	92.90	20.10	N/A

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961001681	D	Samarium-ICP-Acid Dil.	ug/mL	99.60	<1.00e-01	< 4.0E-10	<4.0E-10	n/a	n/a	102.5	4.0E-10	n/a
S961001681	D	Strontium-ICP-Acid Dil.	ug/mL	99.20	<1.00e-02	< 4.0E-10	<4.0E-10	n/a	n/a	99.50	4.0E-10	n/a
S961001681	D	Titanium-ICP-Acid Dil.	ug/mL	98.20	<1.00e-02	< 4.0E-10	<4.0E-10	n/a	n/a	97.50	4.0E-10	n/a
S961001681	D	Thallium-ICP-Acid Dil.	ug/mL	96.00	<2.00e-01	< 8.0E-03	<8.0E-03	n/a	n/a	92.00	8.0E-03	n/a
S961001681	D	Uranium-ICP-Acid Dil.	ug/mL	96.60	<5.00e-01	1.60e+03	1.50e+03	1.55e+03	6.45	98.85	200.0	n/a
S961001681	D	Vanadium-ICP-Acid Dil.	ug/mL	101.2	<5.00e-02	< 2.0E-10	<2.0E-10	n/a	n/a	99.30	2.0E-10	n/a
S961001681	D	Zinc-ICP-Acid Dil.	ug/mL	102.2	<1.00e-02	< 4.0E-10	<4.0E-10	n/a	n/a	97.50	4.0E-10	n/a
S961001681	D	Zirconium-ICP-Acid Dil.	ug/mL	98.60	<1.00e-02	3.30e+02	319.0	324.5	3.39	98.70	4.0E-10	n/a
S961001681	D	Cobalt-60 by GEA	uCi/mL	97.28	<3.26e-04	<5.05e-03	<4.80e-03	n/a	n/a	n/a	5.00e-03	n/a
S961001681	D	Cesium-137 by GEA	uCi/mL	97.05	1.00e-03	1.21e+02	121.0	121.0	0.00	n/a	n/a	0.140

Potential Organic Layer: Potential Organic Layer

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961001679	DSC	Exotherm using Mettler	Joules/g	93.85	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S961001679	DSC	Exotherm Dry	Joules/g	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S961001679	%	Water by TGA using Mettler	%	101.2	n/a	28.37	31.34	29.84	9.95	n/a	n/a	n/a
S961001679	TOC	by Persulfate/Coulometry	ug/mL	94.03	3.000	2.48e+04	2.20e+04	2.34e+04	12.0	n/a	40.00	n/a
S961002635	Pu-239/240	by TRU-SPEC Resin	uCi/g	99.21	<3.10e-02	3.63e-01	3.57e-01	3.60e-01	1.67	n/a	2.80e-02	2.19e+00
S961002635	Pu-238	by Ion Exchange	uCi/g	n/a	<3.10e-02	1.12e-01	1.00e-01	1.06e-01	11.3	n/a	2.80e-02	3.22e+00

WHC-SD-WM-DP-183, REV. 0

Table 3: Data Summary Report
C-106 GRAB

SEGMENT PORTION: Supernate
RISER: 7
SEGMENT #: 6C-96-12

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Shk Rec %	Det Limit	Count Err%
S9451001023		DSC Exotherm using Mettler	Joules/g	108.3	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S9451001023		DSC Exotherm DSC Calculated	Joules/g Dry	94.6	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S9451001023		DSC DTA by DSC Std Additions	ug/mL	100.0	3.100	< 5.000	< 5.000	< 5.000	0.00	99.00	5.000	n/a
S9451001023		Specific Gravity	g/mL	98.25	n/a	1.024	1.024	1.024	0.06	n/a	1.00e-02	n/a
S9451001023		% Water by TGA using Mettler	%	98.25	n/a	1.024	1.024	1.024	0.06	n/a	1.00e-02	n/a
S9451001023		% Moisture by TGA using Mettler	%	102.2	n/a	79.02	79.02	79.02	1.93	n/a	1.00e-02	n/a
S9451001023		Total Organic Carbon by Coul.	ug/mL	103.5	< 5.000	2.43e+02	2.43e+02	2.43e+02	0.32	n/a	10.0	n/a
S9451001023		Total Organic Carbon by Coul.	ug/mL	103.5	< 5.000	2.43e+02	2.43e+02	2.43e+02	1.35	99.00	10.0	n/a
S9451001023		TOC by Resulfate Conductivity	ug/mL	99.70	< 5.000	1.93e+02	1.93e+02	1.93e+02	5.91	97.90	40.000	n/a
S9451001023		% Water by gravimetric	%	91.36	2.800	79.00	79.00	79.00	0.00	n/a	1.00e-02	n/a
S9451001023		% Silicon-ICP-Acid Dill.	ug/mL	102.2	< 1.00e-03	9.210	9.390	9.570	7.52	81.6	1.00e-02	n/a
S9451001023		% Aluminum-ICP-Acid Dill.	ug/mL	100.8	< 1.00e-03	< 3.000	< 3.000	< 3.000	9.50	95.90	30.10	n/a
S9451001023		% Arsenic-ICP-Acid Dill.	ug/mL	98.40	< 1.00e-03	< 3.000	< 3.000	< 3.000	n/a	98.90	40.10	n/a
S9451001023		% Boron-ICP-Acid Dill.	ug/mL	103.8	< 1.00e-01	< 40.10	< 40.10	< 40.10	n/a	100.4	60.10	n/a
S9451001023		% Barium-ICP-Acid Dill.	ug/mL	100.4	< 1.00e-02	< 30.00	< 30.00	< 30.00	n/a	98.30	30.10	n/a
S9451001023		% Barium-ICP-Acid Dill.	ug/mL	102.6	< 1.00e-02	< 30.00	< 30.00	< 30.00	n/a	98.30	30.10	n/a
S9451001023		% Beryllium-ICP-Acid Dill.	ug/mL	104.0	< 1.00e-03	< 3.000	< 3.000	< 3.000	n/a	99.40	3.000	n/a
S9451001023		% Bismuth-ICP-Acid Dill.	ug/mL	101.8	< 1.00e-01	< 60.10	< 60.10	< 60.10	n/a	102.6	60.10	n/a
S9451001023		% Calcium-ICP-Acid Dill.	ug/mL	104.2	< 1.00e-01	< 60.10	< 60.10	< 60.10	n/a	102.1	60.10	n/a
S9451001023		% Cadmium-ICP-Acid Dill.	ug/mL	102.8	< 1.00e-03	< 3.000	< 3.000	< 3.000	n/a	98.80	3.000	n/a
S9451001023		% Cobalt-ICP-Acid Dill.	ug/mL	105.6	< 1.00e-01	< 12.00	< 12.00	< 12.00	n/a	101.9	60.10	n/a
S9451001023		% Chromium-ICP-Acid Dill.	ug/mL	103.4	< 1.00e-02	< 60.10	< 60.10	< 60.10	n/a	99.80	12.00	n/a
S9451001023		% Copper-ICP-Acid Dill.	ug/mL	104.0	< 1.00e-02	< 60.10	< 60.10	< 60.10	n/a	100.1	6.010	n/a
S9451001023		% Iron-ICP-Acid Dill.	ug/mL	104.2	< 1.00e-02	< 60.10	< 60.10	< 60.10	n/a	99.30	30.10	n/a
S9451001023		% Potassium-ICP-Acid Dill.	ug/mL	103.2	< 1.00e-02	< 30.00	< 30.00	< 30.00	n/a	99.30	30.10	n/a
S9451001023		% Lanthanum-ICP-Acid Dill.	ug/mL	103.4	< 1.00e-01	6.94e+02	788.0	741.0	12.7	107.3	300.0	n/a
S9451001023		% Lithium-ICP-Acid Dill.	ug/mL	103.6	< 1.00e-02	< 30.00	< 30.00	< 30.00	n/a	97.80	30.10	n/a
S9451001023		% Magnesium-ICP-Acid Dill.	ug/mL	99.60	< 1.00e-02	< 60.10	< 60.10	< 60.10	n/a	96.80	6.010	n/a
S9451001023		% Manganese-ICP-Acid Dill.	ug/mL	97.60	< 1.00e-01	< 60.10	< 60.10	< 60.10	n/a	95.00	60.10	n/a
S9451001023		% Molybdenum-ICP-Acid Dill.	ug/mL	100.6	< 1.00e-02	< 60.10	< 60.10	< 60.10	n/a	94.60	6.010	n/a
S9451001023		% Sodium-ICP-Acid Dill.	ug/mL	103.8	< 1.00e-02	< 30.00	< 30.00	< 30.00	n/a	103.8	30.10	n/a
S9451001023		% Neodymium-ICP-Acid Dill.	ug/mL	98.20	< 1.00e-01	1.08e+05	1.08e+05	1.08e+05	3.77	n/a	60.10	n/a
S9451001023		% Nickel-ICP-Acid Dill.	ug/mL	105.2	< 1.00e-01	< 60.10	< 60.10	< 60.10	n/a	100.1	60.10	n/a
S9451001023		% Phosphorus-ICP-Acid Dill.	ug/mL	101.6	< 2.00e-02	14.00	14.70	14.35	4.88	98.80	12.00	n/a
S9451001023		% Lead-ICP-Acid Dill.	ug/mL	102.2	< 2.00e-01	2.53e+02	247.0	250.0	2.40	97.30	120.0	n/a
S9451001023		% Selenium-ICP-Acid Dill.	ug/mL	102.0	< 1.00e-01	< 60.10	< 60.10	< 60.10	n/a	102.4	60.10	n/a
S9451001023		% Silver-ICP-Acid Dill.	ug/mL	98.80	< 1.00e-01	2.45e+03	2.47e+03	2.47e+03	1.62	69.70	60.10	n/a
S9451001023		% Antimony-ICP-Acid Dill.	ug/mL	96.20	< 1.00e-02	< 36.10	< 36.10	< 36.10	n/a	96.90	36.10	n/a
S9451001023		% Strontium-ICP-Acid Dill.	ug/mL	98.40	< 1.00e-01	< 60.10	< 60.10	< 60.10	n/a	99.40	30.10	n/a
S9451001023		% Silicon-ICP-Acid Dill.	ug/mL	99.00	< 1.00e-02	< 30.00	< 30.00	< 30.00	n/a	95.90	30.10	n/a
S9451001023		% Samarium-ICP-Acid Dill.	ug/mL	100.4	< 1.00e-01	< 60.10	< 60.10	< 60.10	n/a	95.90	60.10	n/a
S9451001023		% Strontium-ICP-Acid Dill.	ug/mL	101.8	< 1.00e-02	< 60.10	< 60.10	< 60.10	n/a	96.30	6.010	n/a
S9451001023		% Tantalum-ICP-Acid Dill.	ug/mL	100.4	< 1.00e-02	< 60.10	< 60.10	< 60.10	n/a	96.10	6.010	n/a
S9451001023		% Thallium-ICP-Acid Dill.	ug/mL	99.00	< 2.00e-01	< 1.20e+02	< 1.20e+02	< 1.20e+02	n/a	96.40	120.0	n/a

Sample#	R #/ Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Error
S96T001023	D Uranium-ICP-Acid Dil.	ug/mL	99.20	<5.00e-01	1.48e+03	1.41e+03	1.44e+03	4.84	76.80	300.0	0.78
S96T001023	D Vanadium-ICP-Acid Dil.	ug/mL	103.4	<5.00e-02	< 30.00	<3.00e1	N/A	N/A	99.40	30.10	0.78
S96T001023	D Zinc-ICP-Acid Dil.	ug/mL	101.6	<1.00e-02	< 6.010	<6.01e0	N/A	N/A	100.6	6.010	0.78
S96T001023	D Zirconium-ICP-Acid Dil.	ug/mL	102.0	<1.00e-02	3.44e+02	333.0	338.5	3.25	92.60	6.010	0.78
S96T001023	Fluoride-IC-Dionex 40001/4500	ug/mL	91.69	<1.30e-02	1.83e+02	184.0	183.4	0.54	105.3	16.40	0.78
S96T001023	Chloride-IC-Dionex 40001/4500	ug/mL	99.49	<1.70e-02	3.20e+02	317.0	318.7	0.54	92.15	36.04	0.78
S96T001023	Nitrate-IC - Dionex 40001/4500	ug/mL	92.18	<1.07e-01	2.42e+04	2.40e+04	2.41e+04	0.83	100.9	118.9	0.78
S96T001023	Nitrate-IC - Dionex 40001/4500	ug/mL	93.16	4.44e-01	1.11e+03	1.12e+03	1.11e+03	0.90	88.27	155.3	0.78
S96T001023	Phosphate-IC-Dionex 40001/4500	ug/mL	89.74	<1.19e-01	8.53e+02	845.0	854.0	2.11	81.68	132.3	0.78
S96T001023	Sulfate by IC - Dionex 40001/4500	ug/mL	92.08	<1.36e-01	6.54e+03	6.53e+03	6.54e+03	0.15	93.03	157.0	0.78
S96T001024	Oxalate by IC - Dionex 40001	ug/mL	97.25	<1.05e-01	2.98e+03	2.98e+03	2.98e+03	0.100	97.25	116.7	0.78
S96T001024	Technetium-99 Liq. Scint.	uci/mL	103.9	<3.65e-04	1.60e-01	4.70e-01	4.83e-01	0.41	N/A	N/A	N/A
S96T001024	Strontium-89/90 High Level	uci/mL	95.12	8.00e-03	4.80e-01	4.82e-01	4.83e-01	9.79	N/A	N/A	N/A
S96T001024	Pu-239/240 by TRU-SPEC Resin	uci/mL	68.28	<5.12e-03	7.38e-01	7.38e-01	7.38e-01	N/A	N/A	N/A	N/A
S96T001024	Cobalt-60 by GEA	uci/mL	99.23	<1.92e-05	<6.19e-03	<5.55e-3	110.0	109.0	N/A	N/A	N/A
S96T001024	Cesium-137 by GEA	uci/mL	101.5	<5.81e-05	1.08e+02	<1.13e-02	<1.28e-2	1.83	N/A	N/A	N/A
S96T001024	Am-241 by Extraction	uci/mL	80.13	<1.13e-02	<1.13e-02	<1.13e-02	<1.13e-02	N/A	N/A	N/A	N/A
S96T001024	Alpha in Liquid Samples	uci/mL	88.23	<4.98e-03	9.28e-01	8.80e-01	9.04e-01	5.31	92.68	1.20e-02	5.11e+00

WHC-SD-WM-DP-183, REV. 0

Table 3: Data Summary Report
C-106 GRAB

RISE: 7
SEGMENT #: 4C-96-13

SEGMENT PORTION: Centrifuged Solids (Grab Sample)

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961001030		Bulk Density of Sample	g/mL	n/a	n/a	1.520	n/a	n/a	n/a	n/a	5.00e-01	n/a
S961001030		DSC Exotherm using Mettler	Joules/g	112.1	n/a	1.81e+02	258.9	219.9	35.5	n/a	n/a	n/a
S961001030		DSC Exotherm DRY Calculated	Joules/g DRY	n/a	n/a	2.00e+02	285.6	242.6	35.4	n/a	n/a	n/a
S961001030		% Water by IGA on Perkin Elmer	%	99.16	n/a	9.240	9.480	9.360	2.56	n/a	n/a	n/a
S961001030		Volume % Solids	%	n/a	n/a	67.30	n/a	n/a	n/a	n/a	n/a	n/a
S961001030		% Water by Gravimetric	%	98.99	n/a	19.30	22.40	20.85	14.9	n/a	1.00e-02	n/a

Control Sample: Control Sample

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961001034		DSC Exotherm using Mettler	Joules/g	100.9	n/a	87.40	66.70	77.05	26.9	n/a	n/a	n/a
S961001034		DSC Exotherm DRY Calculated	Joules/g DRY	n/a	n/a	1.22e+02	96.81	111.9	26.9	n/a	n/a	n/a
S961001034		% Water by IGA using Mettler	%	99.43	n/a	3.52e+01	30.91	31.10	1.22	n/a	n/a	n/a
S961001036		F Technetium-99 Liq. Scint.	uCi/g	102.9	<1.62e-02	3.52e+02	2.44e+02	3.00e+02	39.3	n/a	1.70e-02	6.45e+00
S961001036		F Strontium-89/90 High Level	uCi/g	99.19	6.97e-01	1.22e+02	43.0	861.3	87.9	n/a	1.87e-01	4.24e-01
S961001036		F Pu-239/240 by TRU-SPEC Resin	uCi/g	97.90	<1.60e-02	1.200	8.95e-01	1.047	29.1	n/a	6.80e-02	1.82e+00
S961001036		F Cobalt-60 by GEA	uCi/g	101.4	<4.12e-01	5.75e-01	<5.58e-01	1.047	29.1	n/a	5.75e-01	n/a
S961001036		F Cesium-137 by GEA	uCi/g	103.2	<4.64e-01	8.99e+02	715.0	807.9	22.7	n/a	n/a	0.810
S961001036		F Am-241 by Extraction	uCi/g	101.0	<1.28e-02	1.660	1.210	1.315	8.7	n/a	1.20e-01	2.62e+00
S961001036		F Alpha of Digested Solid	uCi/g	114.8	<6.30e-02	6.330	2.420	4.373	89.4	98.68	1.09e-01	6.97e+00

Decanted Supernate (Liquid Grab Sludge): Decanted Supernate (Liquid Grab Sludge)

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961001032		Specific Gravity	Sp.G.	n/a	n/a	1.000	1.000	n/a	n/a	n/a	1.00e-03	n/a
S961002025		pH Direct	pH	99.75	n/a	1.95e+03	1.95e+03	n/a	n/a	n/a	1.00e-02	n/a
S961002025		Tot. Organic Carbon by Coul.	ug/mL	100.0	<1.00e-01	7.73e-01	7.66e-01	7.70e-01	0.00	103.0	55.00	n/a
S961002025		Pu-239/240 by TRU-SPEC Resin	ug/mL	96.33	<3.33e-03	2.09	2.09	2.00	9.00	n/a	3.80e-02	1.66e+00
S961002025		Fluoride-IC-Dionex 40001/4500	ug/mL	98.98	<1.30e-02	2.82e+02	293.0	287.2	3.83	n/a	18.89	n/a
S961002025		Chloride-IC-Dionex 40001/4500	ug/mL	99.75	<1.70e-02	2.74e+04	3.08e+04	2.90e+04	10.7	n/a	118.9	n/a
S961002025		Nitrate-IC - Dionex 40001/4500	ug/mL	103.5	<1.07e-01	2.69e+02	1.10e+03	1.03e+03	12.7	n/a	155.5	n/a
S961002025		Phosphate-IC-Dionex 40001/4500	ug/mL	103.1	<1.19e-01	4.88e+02	558.0	522.8	13.4	n/a	132.1	n/a
S961002025		Sulfate by IC-Dionex40001/4500	ug/mL	101.6	<1.36e-01	7.99e+03	7.98e+03	7.58e+03	10.4	n/a	151.0	n/a
S961002025		Oxalate by IC - Dionex 40001	ug/mL	103.2	<1.05e-01	3.11e+03	3.47e+03	3.29e+03	10.9	n/a	116.7	n/a
S961002025		Cobalt-60 by GEA	uCi/mL	93.30	<8.67e-04	4.03e-03	<4.34e-03	n/a	n/a	n/a	4.00e-03	n/a
S961002025		Cesium-137 by GEA	uCi/mL	90.88	<2.68e-03	1.04e+02	105.0	104.5	0.96	n/a	n/a	0.160

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A-0002-3

Filtered Centrifuged Solids: Filtered Centrifuged Solids

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
5961001559		DSC Exotherm Dry	Joules/g	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
5961001559		DSC Exotherm on Perkin Elmer	Joules/g	100.3	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
5961001559		% Water by TGA on Perkin Elmer	%	99.39	n/a	21.28	26.12	23.70	20.4	n/a	n/a	n/a
5961001560		TIC by Acid/Coulometry	ug/g	93.68	3.00e-01	2.64e+04	2.64e+04	2.65e+04	0.75	103.0	5.000	n/a
5961001560		TIC by Persulfate/Coulometry	ug/g	94.03	3.000	1.80e+04	1.85e+04	1.84e+04	16.9	77.00	40.00	n/a
5961001561		% Water by Gravimetric	%	98.65	n/a	25.90	26.70	26.30	3.04	n/a	1.00e-02	n/a
5961001562		pH on SST Samples	pH	99.45	n/a	10.67	10.62	10.64	0.47	n/a	1.00e-02	n/a
5961001563		F Technetium-99 Liq. Scint.	uCi/g	102.9	<1.62e-02	4.11e-02	3.25e-02	3.67e-02	24.0	n/a	1.50e-02	4.90E-01
5961001563		F Strontium-89/90 High Resol	uCi/g	99.19	6.97e-01	6.38e+02	683.0	660.5	6.81	n/a	1.86e-01	5.91E-01
5961001563		F Pu-239/240 by TRU-SPEC Resin	uCi/g	97.90	<1.60e-02	1.650	1.540	1.595	6.90	n/a	8.50e-02	1.70E+00
5961001563		F Cobalt-60 by GEA	uCi/g	101.4	44.12e-01	8.88e+02	892.0	n/a	n/a	n/a	6.24e-01	n/a
5961001563		F Cobalt-60 by GEA	uCi/g	103.2	<1.28e-02	1.590	1.630	1.610	2.48	n/a	1.32e-01	2.54E+00
5961001563		F Am-241 by Extraction	uCi/g	114.8	<6.30e-02	3.610	3.670	3.640	1.65	108.4	1.10e-01	9.56E+00
5961001563		F Alpha of Digested Solid	uCi/g	90.20	<1.00e-02	1.81e+03	3.35e+03	2.57e+03	59.1	n/a	4.420	n/a
5961001564		A Silver - ICP-Acid Digest	ug/g	91.40	<1.00e-01	6.21e+04	6.55e+04	6.33e+04	3.79	n/a	21.10	n/a
5961001564		A Arsenic - ICP-Acid Digest	ug/g	93.80	<1.00e-01	42.30	44.18e1	n/a	n/a	n/a	42.20	n/a
5961001564		A Boron - ICP-Acid Digest	ug/g	97.60	6.50e-01	79.30	61.30	70.30	25.6	n/a	21.10	n/a
5961001564		A Barium - ICP-Acid Digest	ug/g	94.00	<5.00e-02	3.67e+02	375.0	371.0	2.16	n/a	2.110	n/a
5961001564		A Beryllium - ICP-Acid Digest	ug/g	102.8	<5.00e-03	<2.110	<2.0940	n/a	n/a	n/a	42.20	n/a
5961001564		A Bismuth - ICP-Acid Digest	ug/g	91.20	<1.00e-01	44.18e1	44.18e1	n/a	n/a	n/a	42.20	n/a
5961001564		A Calcium - ICP-Acid Digest	ug/g	91.60	1.28e-01	1.20e+03	1.27e+03	1.24e+03	5.67	n/a	42.20	n/a
5961001564		A Cadmium - ICP-Acid Digest	ug/g	89.60	<5.00e-03	36.50	36.90	37.70	6.37	n/a	2.110	n/a
5961001564		A Cerium - ICP-Acid Digest	ug/g	97.00	<1.00e-01	2.13e+02	231.0	232.0	16.4	n/a	42.20	n/a
5961001564		A Cobalt - ICP-Acid Digest	ug/g	92.40	<2.00e-02	10.30	10.70	10.70	7.48	n/a	8.450	n/a
5961001564		A Chromium - ICP-Acid Digest	ug/g	91.00	<1.00e-02	6.53e+02	682.0	686.5	4.04	n/a	4.420	n/a
5961001564		A Copper - ICP-Acid Digest	ug/g	92.00	<1.00e-02	7.04e+02	708.0	717.0	3.77	n/a	3.110	n/a
5961001564		A Iron - ICP-Acid Digest	ug/g	90.80	5.00e-02	7.00e+04	7.29e+04	7.14e+04	4.06	n/a	31.10	n/a
5961001564		A Potassium - ICP-Acid Digest	ug/g	93.00	<5.00e-01	9.42e+02	974.0	993.0	1.77	n/a	42.20	n/a
5961001564		A Lanthanum - ICP-Acid Digest	ug/g	94.00	<5.00e-01	70.50	71.50	72.00	3.80	n/a	4.230	n/a
5961001564		A Lithium - ICP-Acid Digest	ug/g	95.20	<1.00e-01	5.650	5.650	5.698	3.80	n/a	4.230	n/a
5961001564		A Magnesium - ICP-Acid Digest	ug/g	86.20	<1.00e-02	2.79e+02	303.0	297.2	8.26	n/a	42.20	n/a
5961001564		A Manganese - ICP-Acid Digest	ug/g	90.80	<5.00e-02	3.72e+03	4.03e+03	3.59	n/a	n/a	4.230	n/a
5961001564		A Molybdenum - ICP-Acid Digest	ug/g	91.00	<5.00e-02	<2.110	<2.0940	1.36e+03	3.59	n/a	21.10	n/a
5961001564		A Sodium - ICP-Acid Digest	ug/g	103.4	8.77e-01	1.61e+02	1.74e+02	1.68e+02	4.36	n/a	42.20	n/a
5961001564		A Neodymium - ICP-Acid Digest	ug/g	93.80	<2.00e-02	7.09e+02	760.0	792.0	4.23	n/a	42.20	n/a
5961001564		A Nickel - ICP-Acid Digest	ug/g	94.80	<2.00e-01	2.71e+03	2.74e+03	2.72e+03	1.10	n/a	8.450	n/a
5961001564		A Phosphorus - ICP-Acid Digest	ug/g	86.80	<1.00e-01	2.81e+03	2.85e+03	2.83e+03	1.41	n/a	42.20	n/a
5961001564		A Lead - ICP-Acid Digest	ug/g	96.30	<1.00e-01	1.67e+03	1.51e+03	1.59e+03	10.1	n/a	42.20	n/a
5961001564		A Sulfur - ICP-Acid Digest	ug/g	93.40	<4.00e-02	<2.110	<2.0940	n/a	n/a	n/a	25.30	n/a
5961001564		A Tellurium - ICP-Acid Digest	ug/g	88.40	<1.00e-01	44.18e1	44.18e1	n/a	n/a	n/a	42.20	n/a
5961001564		A Tin - ICP-Acid Digest	ug/g	125.0	<7.00e-01	3.55e+02	2.95e+04	3.25e+04	18.5	n/a	21.10	n/a
5961001564		A Vanadium - ICP-Acid Digest	ug/g	92.40	<1.00e-02	<2.110	<2.0940	n/a	n/a	n/a	42.20	n/a
5961001564		A Zirconium - ICP-Acid Digest	ug/g	92.00	<1.00e-02	31.50	24.60	24.05	4.59	n/a	4.230	n/a
5961001564		A Barium - ICP-Acid Digest	ug/g	86.20	<1.00e-02	1.15e+02	121.0	118.0	5.08	n/a	4.230	n/a
5961001564		A Bismuth - ICP-Acid Digest	ug/g	86.00	<2.00e-01	<8.450	<8.450	n/a	n/a	n/a	8.450	n/a
5961001564		A Uranium - ICP-Acid Digest	ug/g	91.20	<5.00e-01	1.00e+03	927.0	993.5	13.4	n/a	21.10	n/a

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961001564	A	Vanadium - ICP-Acid Digest	ug/g	111.0	< 5.00e-02	< 2.10	< 2.09e1	107.8	20.5	n/a	21.10	n/a
S961001564	A	Zinc - ICP-Acid Digest	ug/g	87.40	1.00e-02	55.50	58.00	55.75	8.07	n/a	4.220	n/a
S961001564	A	Zirconium - ICP-Acid Digest	ug/g	99.20	< 1.00e-02	4.52e+02	1.10e+03	776.0	83.5	n/a	4.220	n/a
S961003181	A	Fluoride - IC-Dioxex 40001/4500	ug/g	104.2	< 1.00e-02	4.02e+02	119.0	240.3	109	97.33	52.21	n/a
S961003181	A	Chloride - IC-Dioxex 40001/4500	ug/g	96.58	< 1.00e-02	1.56e+03	197.0	176.4	23.2	149.4	48.28	n/a
S961003181	A	Nitrate - IC - Dioxex 40001/4500	ug/g	93.91	< 1.00e-02	1.16e+04	1.09e+04	1.13e+04	6.23	93.54	49.8	n/a
S961003181	A	Nitrate by IC-Dioxex40001/4500	ug/g	102.8	5.910	9.89e+02	9.94e+03	1.46e+03	64.9	96.09	551.9	n/a
S961003181	A	Phosphate - IC-Dioxex 40001/4500	ug/g	105.3	< 1.99e-01	9.24e+02	1.08e+03	1.00e+03	15.6	97.44	477.5	n/a
S961003181	A	Sulfate by IC-Dioxex40001/4500	ug/g	105.7	< 1.36e-01	3.52e+03	3.32e+03	3.32e+03	12.0	100.6	515.8	n/a
S961003181	A	Oxalate by IC - Dioxex 40001	ug/g	105.3	< 1.05e-01	2.50e+04	8.25e+04	5.37e+04	107	99.80	421.7	n/a

Interstitial Liquid: Interstitial Liquid

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961001566	D	DSC Exotherm using Mettler	Joules/g	93.85	n/a	1.19e+02	96.80	107.8	20.5	n/a	n/a	n/a
S961001566	D	BSC Exotherm Dry Calculated	Joules/g	n/a	n/a	4.90e+02	399.3	444.9	20.5	n/a	n/a	n/a
S961001566	D	% Water by TGA using Mettler	%	101.2	6.500	74.92	76.40	75.76	2.22	n/a	n/a	n/a
S961001566	D	TOC by Persulfate/Coulometry	uCi/mL	93.36	1.20e-02	1.83e+03	1.83e+03	1.84e+03	1.63	n/a	40.00	n/a
S961001566	D	Strontium-89/90 High Level	ug/mL	96.75	< 1.00e-02	6.39e+02	8.86e+02	7.62e+02	32.4	n/a	2.40e+02	3.65E+01
S961001566	D	Aluminum-ICP-Acid Dill.	ug/mL	97.40	< 5.00e-02	8.510	9.270	8.890	8.55	92.20	4.010	n/a
S961001566	D	Aluminum-ICP-Acid Dill.	ug/mL	96.20	< 5.00e-02	48.10	66.90	57.50	32.7	n/a	20.10	n/a
S961001566	D	Arsenic-ICP-Acid Dill.	ug/mL	100.4	< 1.00e-01	< 40.10	< 40.01	< 40.01	0.93	98.20	40.10	n/a
S961001566	D	Boron-ICP-Acid Dill.	ug/mL	97.60	< 5.00e-02	< 20.10	< 20.01	< 20.01	0.93	98.20	40.10	n/a
S961001566	D	Beryllium-ICP-Acid Dill.	ug/mL	102.6	< 5.00e-03	< 2.000	< 2.00e0	n/a	n/a	102.5	2.000	n/a
S961001566	D	Bismuth-ICP-Acid Dill.	ug/mL	98.60	< 1.00e-01	< 40.10	< 40.01	n/a	n/a	90.00	40.10	n/a
S961001566	D	Calcium-ICP-Acid Dill.	ug/mL	98.20	< 5.00e-03	< 40.10	< 40.01	n/a	n/a	100.8	40.10	n/a
S961001566	D	Cadmium-ICP-Acid Dill.	ug/mL	100.2	< 5.00e-03	< 2.000	< 2.00e0	n/a	n/a	96.80	2.000	n/a
S961001566	D	Cerium-ICP-Acid Dill.	ug/mL	98.60	< 1.00e-01	< 40.10	< 40.01	n/a	n/a	96.80	40.10	n/a
S961001566	D	Cobalt-ICP-Acid Dill.	ug/mL	99.60	< 2.00e-02	< 8.020	< 8.02e0	n/a	n/a	97.00	8.020	n/a
S961001566	D	Chromium-ICP-Acid Dill.	ug/mL	100.0	< 1.00e-02	< 4.010	< 4.01e0	n/a	n/a	98.30	4.010	n/a
S961001566	D	Copper-ICP-Acid Dill.	ug/mL	99.00	< 1.00e-02	< 4.010	< 4.01e0	n/a	n/a	98.30	4.010	n/a
S961001566	D	Iron-ICP-Acid Dill.	ug/mL	103.2	< 5.00e-02	52.80	64.70	58.75	20.3	98.80	20.10	n/a
S961001566	D	Potassium-ICP-Acid Dill.	ug/mL	97.80	< 5.00e-01	6.71e+02	634.0	652.5	5.67	82.10	200.0	n/a
S961001566	D	Lanthanum-ICP-Acid Dill.	ug/mL	99.60	< 1.00e-02	< 20.10	< 20.01	n/a	n/a	100.5	20.10	n/a
S961001566	D	Lithium-ICP-Acid Dill.	ug/mL	95.00	< 1.00e-02	< 4.010	< 4.01e0	n/a	n/a	91.00	4.010	n/a
S961001566	D	Magnesium-ICP-Acid Dill.	ug/mL	96.60	< 1.00e-02	< 40.10	< 40.01	n/a	n/a	94.30	40.10	n/a
S961001566	D	Manganese-ICP-Acid Dill.	ug/mL	98.20	< 5.00e-02	< 4.010	< 4.01e0	n/a	n/a	99.00	4.010	n/a
S961001566	D	Molybdenum-ICP-Acid Dill.	ug/mL	100.0	< 1.00e-02	22.40	22.70	22.55	1.33	98.20	20.10	n/a
S961001566	D	Sodium-ICP-Acid Dill.	ug/mL	95.80	< 1.00e-01	1.13e+05	1.10e+05	1.12e+05	2.69	n/a	40.10	n/a
S961001566	D	Nickel-ICP-Acid Dill.	ug/mL	104.6	< 1.00e-01	< 40.10	< 40.01	n/a	n/a	105.2	40.10	n/a
S961001566	D	Neodymium-ICP-Acid Dill.	ug/mL	99.80	< 2.00e-02	15.20	15.00	15.10	1.32	97.70	8.020	n/a
S961001566	D	Nickel-ICP-Acid Dill.	ug/mL	112.2	< 2.00e-01	3.68e+02	393.0	380.5	6.57	121.9	80.20	n/a
S961001566	D	Lead-ICP-Acid Dill.	ug/mL	100.6	< 1.00e-01	< 40.10	< 40.01	n/a	n/a	102.8	40.10	n/a
S961001566	D	Sulfur-ICP-Acid Dill.	ug/mL	99.60	< 1.00e-01	2.73e+03	2.72e+03	2.72e+03	0.74	85.10	40.10	n/a
S961001566	D	Antimony-ICP-Acid Dill.	ug/mL	105.6	< 1.00e-02	< 24.10	< 24.01	n/a	n/a	84.30	24.10	n/a
S961001566	D	Selenium-ICP-Acid Dill.	ug/mL	100.6	< 1.00e-01	< 40.10	< 40.01	n/a	n/a	117.0	40.10	n/a
S961001566	D	Silicon-ICP-Acid Dill.	ug/mL	94.80	< 5.00e-02	1.18e+02	124.0	121.0	4.96	90.80	20.10	n/a
S961001566	D	Samarium-ICP-Acid Dill.	ug/mL	98.40	< 1.00e-01	< 40.10	< 40.01	n/a	n/a	102.8	40.10	n/a
S961001566	D	Strontium-ICP-Acid Dill.	ug/mL	97.80	< 1.00e-02	< 4.010	< 4.01e0	n/a	n/a	100.3	4.010	n/a

Sample#	RAP	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	ppb % Spk	Rec %	Det Limit	Count Err%
S96T001566	D	Titanium-ICP-Acid Dil.	ug/mL	95.60	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	95.80	4.010	n/a
S96T001566	D	Thallium-ICP-Acid Dil.	ug/mL	94.60	<2.00e-01	< 80.20	<8.02e1	n/a	n/a	88.30	80.20	n/a
S96T001566	D	Uranium-ICP-Acid Dil.	ug/mL	95.60	<5.00e-01	1.87e-03	1.83e+03	1.85e+03	2.16	99.85	200.0	n/a
S96T001566	D	Vanadium-ICP-Acid Dil.	ug/mL	101.4	<5.00e-02	< 20.10	<2.01e1	n/a	n/a	100.0	20.10	n/a
S96T001566	D	Zinc-ICP-Acid Dil.	ug/mL	100.8	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	98.50	4.010	n/a
S96T001566	D	Zirconium-ICP-Acid Dil.	ug/mL	98.80	<1.00e-02	3.79e-02	375.0	377.0	1.06	99.90	4.010	n/a
S96T001566	D	Cobalt-60 by GEA	uCi/mL	98.44	<2.89e-03	<6.19e-03	<7.19e-3	n/a	n/a	n/a	6.00e-03	n/a
S96T001566	D	Cesium-137 by GEA	uCi/mL	96.31	<8.70e-03	1.35e-02	170.0	152.3	23.0	n/a	n/a	0.210

Potential Organic Layer: Potential Organic Layer

Sample#	RAP	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	ppb % Spk	Rec %	Det Limit	Count Err%
S96T001553	DSC	Exotherm using Mettler	Joules/g	113.9	n/a	2.08e-02	15.9	188.0	21.4	n/a	n/a	n/a
S96T001553	DSC	Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	7.59e-02	498.3	681.1	21.4	n/a	n/a	n/a
S96T001553	%	Water by TGA using Mettler	%	103.7	n/a	72.40	30.11	51.26	82.3	n/a	n/a	n/a

WHC-SD-WM-DP-183, REV. 0

Table 3: Data Summary Report
C-106 GRAB

RISER: 7
SEGMENT #: 6C-96-14

SEGMENT PORTION: Compatibility Study Mixture

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
5951002825		DSC Exotherm on Perkin Elmer	Joules/g	100.6	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
5951002825		pH Direct	pH	100.2	n/a	11.12	11.12	n/a	n/a	n/a	1.00e-02	n/a
5951002825		% Water by IGA on Perkin Elmer	%	97.87	n/a	95.76	95.76	92.97	6.04	n/a	5.00e-01	n/a
5951002827		Bulk Density of Sample	g/mL	103.7	n/a	1.520	1.520	90.16	n/a	n/a	5.00e-01	n/a
5951002827		% Water by IGA using Mettler	%	103.7	n/a	95.08	95.08	94.64	1.73	n/a	n/a	n/a
5951002829		DSC Exotherm using Mettler	Joules/g	111.2	n/a	0.00e+00	500.2	296.4	2.00	n/a	n/a	n/a
5951002829		% Water by IGA using Mettler	%	111.2	n/a	0.00e+00	77.90	58.30	2.00	n/a	n/a	n/a
5951002829		pH Direct	pH	100.0	n/a	11.80	11.79	11.79	0.03	n/a	1.00e-02	n/a
5951002829		% Water by IGA using Mettler	%	99.54	n/a	95.69	96.02	95.85	0.34	n/a	n/a	n/a
5951002831		Bulk Density of Sample	g/mL	n/a	n/a	1.420	n/a	n/a	n/a	n/a	5.00e-01	n/a
5951002831		% Water by IGA on Perkin Elmer	%	99.61	n/a	83.65	85.33	84.67	1.98	n/a	n/a	n/a

Decanted Supernate (Liquid Grab Sludge): Decanted Supernate (Liquid Grab Sludge)

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
5951002826		pH Direct	pH	100.2	n/a	11.50	n/a	n/a	n/a	n/a	1.00e-02	n/a
5951002826		Specific Gravity	Sp. G.	101.2	n/a	9.88e-01	9.72e-01	9.80e-01	1.25	n/a	1.00e-02	n/a
5951002830		pH Direct	pH	100.0	n/a	11.91	11.90	11.91	0.09	n/a	1.00e-02	n/a
5951002830		Specific Gravity	Sp. G.	97.43	n/a	9.96e-01	9.99e-01	9.98e-01	0.30	n/a	1.00e-02	n/a

Potential Organic Layer: Potential Organic Layer

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
5951003230		2-Butoxyethanol	ug/L	n/a	n/a	SEE TICS	NA	n/a	n/a	n/a	n/a	n/a
5951003230		Nonane (C9)	ug/mL	n/a	n/a	100.00e+00	n/a	n/a	n/a	n/a	50.00	n/a
5951003230		Decane (C10)	ug/mL	n/a	n/a	100.00e+00	n/a	n/a	n/a	n/a	50.00	n/a
5951003230		Undecane (C11)	ug/mL	n/a	n/a	4.070	n/a	n/a	n/a	n/a	50.00	n/a
5951003230		Dodecane (C12)	ug/mL	n/a	n/a	J 27.00	n/a	n/a	n/a	n/a	50.00	n/a
5951003230		Tridecane (C13)	ug/mL	n/a	n/a	1.19e+02	n/a	n/a	n/a	n/a	50.00	n/a
5951003230		Tetradecane (C14)	ug/mL	n/a	n/a	77.00	n/a	n/a	n/a	n/a	50.00	n/a
5951003230		Pentadecane (C15)	ug/mL	n/a	n/a	J 6.270	n/a	n/a	n/a	n/a	50.00	n/a
5951003230		Tri-n-butylphosphate	ug/mL	n/a	n/a	J 48.80	n/a	n/a	n/a	n/a	50.00	n/a
5951003230		Hexadecane (C16) Surr	ug/mL	n/a	n/a	83.90	n/a	n/a	n/a	n/a	50.00	n/a

Sludge (from Liquid Grab Sample): Sludge (from Liquid Grab Sample)

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
5961001551		TOC by Persulfate/Coulometry	ug/g	95.36	8.300	2.97e+04	2.85e+04	2.91e+04	4.12	82.00	40.00	n/a
5961002350		DSC Exotherm using Mettler	Joules/g	111.4	n/a	29.80	61.10	45.45	68.9	n/a	n/a	n/a
5961002350		DSC Exotherm DRY Calculated	Joules/g DRY	n/a	n/a	83.15	170.5	126.8	68.9	n/a	n/a	n/a
5961002350		% Water by IGA using Mettler	%	99.31	n/a	65.05	63.26	64.16	2.79	n/a	n/a	n/a
5961002351		DSC Exotherm using Mettler	Joules/g	112.8	n/a	1.81e+02	218.1	199.3	18.8	n/a	n/a	n/a
5961002351		DSC Exotherm DRY Calculated	Joules/g DRY	n/a	n/a	4.04e+02	487.9	445.9	18.8	n/a	n/a	n/a

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Sample#	R AP#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
1596T002351		% Water by TGA on Perkin Elmer %		97.43	n/a	56.03	54.56	55.30	2.66	n/a	n/a	n/a

WHC-SD-WM-DP-183, REV. 0

Table 3: Data Summary Report
C-106 GRAB

RISER: 7
SEGMENT #: 6C-96-15

SEGMENT PORTION: Supernate

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD % Spk Rec %	Det Limit	Count	Err%
S961001546	D	Silver-ICP-Acid Dill.	ug/mL	97.80	< 1.00e-02	< 4.010	< 4.010	n/a	n/a	90.00	4.010	n/a
S961001546	D	Aluminum-ICP-Acid Dill.	ug/mL	100.0	< 1.00e-02	< 20.10	< 20.10	n/a	n/a	90.30	20.10	n/a
S961001546	D	Arsenic-ICP-Acid Dill.	ug/mL	103.0	< 1.00e-02	< 4.010	< 4.010	n/a	n/a	101.3	4.010	n/a
S961001546	D	Boron-ICP-Acid Dill.	ug/mL	103.2	< 1.00e-02	< 20.10	< 20.10	n/a	n/a	103.8	20.10	n/a
S961001546	D	Bromine-ICP-Acid Dill.	ug/mL	104.0	< 1.00e-02	< 20.10	< 20.10	n/a	n/a	103.8	20.10	n/a
S961001546	D	Barium-ICP-Acid Dill.	ug/mL	105.4	< 1.00e-02	< 2.000	< 2.000	n/a	n/a	105.5	2.000	n/a
S961001546	D	Beryllium-ICP-Acid Dill.	ug/mL	101.4	< 1.00e-02	< 4.010	< 4.010	n/a	n/a	89.50	4.010	n/a
S961001546	D	Bismuth-ICP-Acid Dill.	ug/mL	103.2	< 1.00e-02	< 40.10	< 40.10	n/a	n/a	104.2	40.10	n/a
S961001546	D	Calcium-ICP-Acid Dill.	ug/mL	99.40	< 1.00e-02	< 2.000	< 2.000	n/a	n/a	94.90	2.000	n/a
S961001546	D	Cadmium-ICP-Acid Dill.	ug/mL	105.0	< 1.00e-02	< 4.010	< 4.010	n/a	n/a	100.8	4.010	n/a
S961001546	D	Cobalt-ICP-Acid Dill.	ug/mL	100.0	< 1.00e-02	< 8.020	< 8.020	n/a	n/a	95.00	8.020	n/a
S961001546	D	Chromium-ICP-Acid Dill.	ug/mL	98.80	< 1.00e-02	< 4.010	< 4.010	n/a	n/a	92.90	4.010	n/a
S961001546	D	Copper-ICP-Acid Dill.	ug/mL	102.0	< 1.00e-02	< 4.010	< 4.010	n/a	n/a	102.3	4.010	n/a
S961001546	D	Iron-ICP-Acid Dill.	ug/mL	102.0	< 1.00e-02	< 20.10	< 20.10	n/a	n/a	100.0	20.10	n/a
S961001546	D	Potassium-ICP-Acid Dill.	ug/mL	101.4	< 1.00e-02	< 20.10	< 20.10	n/a	n/a	101.5	20.10	n/a
S961001546	D	Antimony-ICP-Acid Dill.	ug/mL	102.6	< 1.00e-02	< 20.10	< 20.10	n/a	n/a	100.0	20.10	n/a
S961001546	D	Lithium-ICP-Acid Dill.	ug/mL	104.4	< 1.00e-02	< 4.010	< 4.010	n/a	n/a	100.0	4.010	n/a
S961001546	D	Magnesium-ICP-Acid Dill.	ug/mL	97.00	< 1.00e-02	< 4.010	< 4.010	n/a	n/a	92.00	4.010	n/a
S961001546	D	Manganese-ICP-Acid Dill.	ug/mL	99.40	< 1.00e-02	< 4.010	< 4.010	n/a	n/a	96.00	4.010	n/a
S961001546	D	Molybdenum-ICP-Acid Dill.	ug/mL	100.2	< 1.00e-02	< 21.80	< 21.80	n/a	n/a	95.40	20.10	n/a
S961001546	D	Sodium-ICP-Acid Dill.	ug/mL	105.0	< 1.00e-02	< 1.00e+05	< 1.00e+05	n/a	n/a	109.5	40.10	n/a
S961001546	D	Nickel-ICP-Acid Dill.	ug/mL	108.4	< 1.00e-02	< 40.10	< 40.10	n/a	n/a	109.5	40.10	n/a
S961001546	D	Phosphorus-ICP-Acid Dill.	ug/mL	99.40	< 1.00e-02	< 2.92e+02	< 2.92e+02	n/a	n/a	98.10	80.20	n/a
S961001546	D	Lead-ICP-Acid Dill.	ug/mL	99.40	< 1.00e-02	< 40.10	< 40.10	n/a	n/a	96.30	40.10	n/a
S961001546	D	Sulfur-ICP-Acid Dill.	ug/mL	99.40	< 1.00e-02	< 2.42e+03	< 2.42e+03	n/a	n/a	91.50	24.10	n/a
S961001546	D	Antimony-ICP-Acid Dill.	ug/mL	96.80	< 1.00e-02	< 24.10	< 24.10	n/a	n/a	112.2	40.10	n/a
S961001546	D	Selenium-ICP-Acid Dill.	ug/mL	106.0	< 1.00e-02	< 40.10	< 40.10	n/a	n/a	95.00	20.10	n/a
S961001546	D	Silicon-ICP-Acid Dill.	ug/mL	95.40	< 1.00e-02	< 20.10	< 20.10	n/a	n/a	109.0	40.10	n/a
S961001546	D	Samarium-ICP-Acid Dill.	ug/mL	105.8	< 1.00e-02	< 40.10	< 40.10	n/a	n/a	102.3	4.010	n/a
S961001546	D	Strontium-ICP-Acid Dill.	ug/mL	103.4	< 1.00e-02	< 4.010	< 4.010	n/a	n/a	96.50	4.010	n/a
S961001546	D	Titanium-ICP-Acid Dill.	ug/mL	99.00	< 1.00e-02	< 80.20	< 80.20	n/a	n/a	90.80	80.20	n/a
S961001546	D	Thallium-ICP-Acid Dill.	ug/mL	97.20	< 1.00e-02	< 1.79e+03	< 1.79e+03	n/a	n/a	88.70	200.0	n/a
S961001546	D	Uranium-ICP-Acid Dill.	ug/mL	100.0	< 1.00e-02	< 20.10	< 20.10	n/a	n/a	98.30	20.10	n/a
S961001546	D	Vanadium-ICP-Acid Dill.	ug/mL	102.0	< 1.00e-02	< 4.320	< 4.320	n/a	n/a	93.20	4.010	n/a
S961001546	D	Zinc-ICP-Acid Dill.	ug/mL	101.4	< 1.00e-02	< 3.81e+02	< 3.81e+02	n/a	n/a	93.50	4.010	n/a
S961001546	D	Zirconium-ICP-Acid Dill.	ug/mL	98.81	< 1.00e-02	< 2.24e+02	< 2.24e+02	n/a	n/a	125.6	14.44	n/a
S961001546	D	Fluoride-IC-Dioxex 4000/4500	ug/mL	93.17	< 1.70e-02	< 2.95e+02	< 2.95e+02	n/a	n/a	99.75	18.89	n/a
S961001546	D	Chloride-IC-Dioxex 4000/4500	ug/mL	98.61	< 1.07e-01	< 3.02e+04	< 3.02e+04	n/a	n/a	96.88	118.9	n/a
S961001546	D	Nitrate-IC-Dioxex 4000/4500	ug/mL	99.67	< 2.38e-01	< 1.00e+03	< 1.00e+03	n/a	n/a	96.91	155.5	n/a
S961001546	D	Phosphate-IC-Dioxex 4000/4500	ug/mL	100.7	< 1.19e-01	< 5.13e+02	< 5.13e+02	n/a	n/a	101.5	132.1	n/a
S961001546	D	Sulfate by IC-Dioxex4000/4500	ug/mL	99.53	< 1.35e-01	< 7.88e+03	< 7.88e+03	n/a	n/a	103.8	151.0	n/a

29-Jul-1996 11:19:54
A-0002-3

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
1396001546		Oxalate by IC - Dionex 4001	ug/mL	100.2	<1.05e-01	3.53e+03	3.50e+03	3.52e+03	0.85	101.1	116.7	n/a

WHC-SD-WM-DP-183, REV. 0

Table 3: Data Summary Report
C-106 GRAB

RISER: 1
SEGMENT #: 6C-96-17
SEGMENT PORTION: Field Blank

Sample#	RA#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPO % Spk Rec %	Det Limit	Count Err%
S961000855		DSC: Exotherm using Mettler	Joules/g	94.55		0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a
S961000855		Ammonia by ISE-Std Additions	ug/mL	104.8	5.80e-02	< 5.000	< 5.000	n/a	0.00	104.0	5.00e-02
S961000855		pH Direct	pH	99.52	n/a	8.282	8.239	8.261	0.15	104.0	1.00e-02
S961000855		Specific Gravity	Sp.G.	102.1	n/a	9.75e-01	9.74e-01	9.74e-01	0.10	n/a	1.00e-03
S961000855		% Water by TGA using Mettler	%	101.9	n/a	1.00e+02	95.85	100.2	0.45	n/a	1.00e-03
S961000855		Tot. Inorg. Carbon by Coul.	ug/mL	97.17	< 5.000	8.000	8.755	17.1	96.0	5.00e-02	n/a
S961000855		Tot. Organic Carbon by Coul.	ug/mL	103.0	9.00e-01	< 1.000	14.30	15.70	17.8	96.0	5.00e-02
S961000855		TOC by Resulfate/Coulometry	ug/mL	93.03	1.600	< 40.00	< 40.00	n/a	85.00	40.00	n/a
S961000855		% Water by gravimetric	%	98.82	n/a	1.00e+02	100.0	100.0	0.00	n/a	1.00e-02
S961000855		Technetium-99 Liq. Scint.	uCi/mL	102.6	< 3.72e-03	< 3.64e-05	3.84e-05	n/a	n/a	3.50e-05	7.00e+00
S961000855		Strontium-89/90 High Level	uCi/mL	100.4	8.78e-07	1.79e-02	1.79e-02	1.79e-02	0.00	n/a	9.37e-07
S961000855		Pu-239/240 by TRU-SPEC Resin	uCi/mL	109.4	< 3.64e-05	1.64e-05	1.63e-05	1.63e-05	0.61	n/a	3.65e-06
S961000855		D Silicon-ICP-Acid Dill.	ug/mL	99.20	< 1.00e-02	< 1.00e-02	< 1.00e-02	n/a	n/a	81.50	1.00e-02
S961000855		D Aluminum-ICP-Acid Dill.	ug/mL	97.80	< 5.00e-02	2.82e-01	2.62e-01	2.72e-01	7.35	98.30	5.00e-02
S961000855		D Arsenic-ICP-Acid Dill.	ug/mL	101.6	< 1.00e-01	< 1.00e-01	< 1.00e-01	n/a	n/a	100.0	1.00e-01
S961000855		D Boron-ICP-Acid Dill.	ug/mL	101.4	< 5.00e-02	< 5.00e-02	< 5.00e-02	n/a	n/a	99.20	5.00e-02
S961000855		D Barium-ICP-Acid Dill.	ug/mL	98.40	< 5.00e-02	< 5.00e-02	< 5.00e-02	n/a	n/a	96.90	5.00e-02
S961000855		D Beryllium-ICP-Acid Dill.	ug/mL	102.4	< 5.00e-03	< 5.00e-03	< 5.00e-03	n/a	n/a	101.5	5.00e-03
S961000855		D Bismuth-ICP-Acid Dill.	ug/mL	98.80	< 1.00e-01	< 1.00e-01	< 1.00e-01	n/a	n/a	96.20	1.00e-01
S961000855		D Calcium-ICP-Acid Dill.	ug/mL	98.80	< 1.00e-01	6.870	6.740	6.805	1.91	98.90	1.00e-01
S961000855		D Cadmium-ICP-Acid Dill.	ug/mL	100.4	< 5.00e-03	< 5.00e-03	< 5.00e-03	n/a	n/a	98.50	5.00e-03
S961000855		D Cerium-ICP-Acid Dill.	ug/mL	99.20	< 1.00e-01	< 1.00e-01	< 1.00e-01	n/a	n/a	94.60	1.00e-01
S961000855		D Cobalt-ICP-Acid Dill.	ug/mL	101.2	< 2.00e-02	< 2.00e-02	< 2.00e-02	n/a	n/a	99.20	2.00e-02
S961000855		D Chromium-ICP-Acid Dill.	ug/mL	101.4	< 1.00e-02	< 1.00e-02	< 1.00e-02	n/a	n/a	98.50	1.00e-02
S961000855		D Copper-ICP-Acid Dill.	ug/mL	99.60	< 1.00e-02	< 1.00e-02	< 1.00e-02	n/a	n/a	99.20	1.00e-02
S961000855		D Iron-ICP-Acid Dill.	ug/mL	101.0	< 5.00e-02	< 5.00e-02	< 5.00e-02	n/a	n/a	98.30	5.00e-02
S961000855		D Potassium-ICP-Acid Dill.	ug/mL	101.4	< 5.00e-01	< 5.00e-01	< 5.00e-01	n/a	n/a	123.8	5.00e-01
S961000855		D Lanthanum-ICP-Acid Dill.	ug/mL	99.20	< 5.00e-02	< 5.00e-02	< 5.00e-02	n/a	n/a	97.70	5.00e-02
S961000855		D Lithium-ICP-Acid Dill.	ug/mL	97.80	< 1.00e-01	1.37e-01	1.20e-01	1.29e-01	13.2	94.10	1.00e-01
S961000855		D Magnesium-ICP-Acid Dill.	ug/mL	98.40	< 1.00e-02	1.04e-02	1.05e-02	1.05e-02	0.96	98.50	1.00e-02
S961000855		D Manganese-ICP-Acid Dill.	ug/mL	100.8	< 1.00e-02	< 5.00e-02	< 5.00e-02	n/a	n/a	98.50	5.00e-02
S961000855		D Molybdenum-ICP-Acid Dill.	ug/mL	101.2	< 5.00e-02	< 5.00e-02	< 5.00e-02	n/a	n/a	104.2	1.00e-01
S961000855		D Sodium-ICP-Acid Dill.	ug/mL	97.40	< 1.00e-01	18.50	18.30	18.40	1.09	100.0	1.00e-01
S961000855		D Neodymium-ICP-Acid Dill.	ug/mL	100.0	< 1.00e-01	< 1.00e-01	< 1.00e-01	n/a	n/a	96.90	1.00e-01
S961000855		D Nickel-ICP-Acid Dill.	ug/mL	100.4	< 2.00e-02	< 2.00e-02	< 2.00e-02	n/a	n/a	98.50	2.00e-02
S961000855		D Phosphorus-ICP-Acid Dill.	ug/mL	100.4	< 2.00e-02	2.280	2.190	2.235	4.03	101.7	2.00e-01
S961000855		D Lead-ICP-Acid Dill.	ug/mL	101.0	< 1.00e-01	< 1.00e-01	< 1.00e-01	n/a	n/a	101.5	1.00e-01
S961000855		D Sulfer-ICP-Acid Dill.	ug/mL	99.00	< 1.00e-01	3.32e-01	3.32e-01	3.26e-01	3.68	95.20	1.00e-01
S961000855		D Antimony-ICP-Acid Dill.	ug/mL	94.20	< 6.00e-02	< 6.00e-02	< 6.00e-02	n/a	n/a	90.80	6.00e-02
S961000855		D Selenium-ICP-Acid Dill.	ug/mL	98.20	< 1.00e-01	< 1.00e-01	< 1.00e-01	n/a	n/a	97.70	1.00e-01
S961000855		D Silicon-ICP-Acid Dill.	ug/mL	99.00	< 5.00e-02	7.36e-01	7.26e-01	7.26e-01	2.62	95.40	5.00e-02
S961000855		D Samarium-ICP-Acid Dill.	ug/mL	99.00	< 1.00e-01	< 1.00e-01	< 1.00e-01	n/a	n/a	95.70	1.00e-01
S961000855		D Strontium-ICP-Acid Dill.	ug/mL	98.20	< 1.00e-02	< 1.00e-02	< 1.00e-02	n/a	n/a	96.90	1.00e-02

Sample#	#/An	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T000855	0	Titanium-ICP-Acid Dil.	ug/mL	98.20	<1.00e-02	<1.00e-02	<1.00e-02	n/a	n/a	96.20	1.00e-02	n/a
S96T000855	0	Thallium-ICP-Acid Dil.	ug/mL	97.00	<2.00e-01	<2.00e-01	<2.00e-01	n/a	n/a	86.90	2.00e-01	n/a
S96T000855	0	Uranium-ICP-Acid Dil.	ug/mL	96.70	<5.00e-01	<5.00e-01	<5.00e-01	n/a	n/a	89.60	5.00e-01	n/a
S96T000855	0	Vanadium-ICP-Acid Dil.	ug/mL	101.4	<5.00e-02	<5.00e-02	<5.00e-02	n/a	n/a	98.50	5.00e-02	n/a
S96T000855	0	Zinc-ICP-Acid Dil.	ug/mL	101.8	<1.00e-02	<1.00e-02	<1.00e-02	n/a	n/a	100.8	1.00e-02	n/a
S96T000855	0	Cadmium-ICP-Acid Dil.	ug/mL	98.60	<1.00e-02	<1.00e-02	<1.00e-02	n/a	n/a	95.40	1.00e-02	n/a
S96T000855	0	Fluoride-IC-Dionex 4000/4500	ug/mL	101.0	<1.30e-02	9.60e-05	1.00e-02	n/a	n/a	95.40	1.00e-02	n/a
S96T000855	0	Chloride-IC-Dionex 4000/4500	ug/mL	97.72	<1.70e-02	1.5e-06	1.00e-01	1.02e-01	11.8	n/a	1.30e-02	n/a
S96T000855	0	Nitrate-IC - Dionex 4000/4500	ug/mL	103.0	<1.07e-01	6.43e-01	6.22e-01	6.27e-01	1.59	n/a	1.70e-02	n/a
S96T000855	0	Nitrate-IC - Dionex 4000/4500	ug/mL	102.8	3.61e-01	1.527	1.583	1.583	1.89	n/a	1.40e-01	n/a
S96T000855	0	Phosphate-IC-Dionex 4000/4500	ug/mL	98.53	<1.39e-01	4.59e-01	4.18e-01	4.39e-01	9.35	n/a	1.20e-01	n/a
S96T000855	0	Sulfate by IC-Dionex 4000/4500	ug/mL	101.1	<1.36e-01	1.303	1.311	1.311	4.58	n/a	1.36e-01	n/a
S96T000855	0	Chlorate by IC-Dionex 4000/4500	ug/mL	104.2	<1.05e-01	<1.05e-01	<1.05e-01	n/a	n/a	n/a	1.05e-01	n/a
S96T000855	0	Cobalt-60 by GEA	ug/L	100.4	<2.62e-05	<3.21e-05	<3.21e-05	n/a	n/a	n/a	3.21e-05	n/a
S96T000855	0	As by GEA	ug/L	100.0	<7.02e-05	4.16e-05	4.17e-05	4.39e-05	0.91	n/a	1.60e-05	1.15
S96T000855	0	As by extraction	ug/L	82.08	<1.16e-05	<1.60e-05	1.73e-05	4.39e-05	0.91	n/a	1.60e-05	5.27e+00
S96T000855	0	Alumina in Liquid Samples	ug/L	105.9	<1.44e-06	3.34e-05	2.05e-05	2.69e-05	47.9	113.6	3.85e-06	2.10e+01

WHC-SD-WM-DP-183, REV. 0

WHC-SD-WM-DP-183, REV. 1

PHOTOGRAPHS

WHC-SD-WM-DP-183, REV. 1

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6C-96-5

6C-96-6

6C-96-8

6C-96-7

6C-96-10

596T001021

6C-96-11

6C-96-12

596T001022

6C-96-13

6C-96-14

6C-96-15

GC-96-15 after sitting in hotcell for 1 week

6C-96-16

6C-96-16 after sitting in hotcell for 1 week

6C-96-7 shows oil layer after centrifugation

GC-96-10 shows oil layer after centrifugation

GC-96-3 dried solid after sample was overheated

WHC-SD-WM-DP-183, REV. 0

SAMPLE PREPARATIONS

WMC-SD-WM-DP-183, REV. 0

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WHC-SD-WM-DP-183, REV. 0
LABCORE Data Entry Template for Worklist#

5962

Analyst: QRM

Instrument: FUS01 SN16355

Book # _____

Method: LA-549-141 Rev/Mod

F-0

Worklist Comment: Tank# C-106, Riser#1(6C-96-7,7C,10,10C (PC is rae) LL.rts!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	<u>1</u>	<u>.250</u>	N/A	g/L
96000082	C-106 GRAB	2 SAMPLE	S96T000546 0 F		FUSION01	SOLID	N/A	<u>.9436</u>		g/L
		<u>.2359g → .250g</u>								
96000082	C-106 GRAB	3 SAMPLE	S96T000546 0 F		DOSE-02	SOLID	N/A	<u>150</u>		mrad/hour
96000082	C-106 GRAB	4 DUP	S96T000546 0 F		FUSION01	SOLID	<u>.9436</u>	<u>1.0540</u>	N/A	g/L
		<u>.2635g → .250g</u>								
96000082	C-106 GRAB	5 DUP	S96T000546 0 F		DOSE-02	SOLID	<u>150</u>	<u>200</u>	N/A	mrad/hour
96000082	C-106 GRAB	6 SAMPLE	S96T000555 0 F		FUSION01	SOLID	N/A	<u>.8844</u>		g/L
		<u>.2211g → .250g</u>								
96000082	C-106 GRAB	7 SAMPLE	S96T000555 0 F		DOSE-02	SOLID	N/A	<u>165</u>		mrad/hour
96000082	C-106 GRAB	8 DUP	S96T000555 0 F		FUSION01	SOLID	<u>.8844</u>	<u>.9700</u>	N/A	g/L
		<u>.2425g → .250g</u>								
96000082	C-106 GRAB	9 DUP	S96T000555 0 F		DOSE-02	SOLID	<u>165</u>	<u>250</u>	N/A	mrad/hour
96000082	C-106 GRAB	10 SAMPLE	S96T000561 0 F		FUSION01	SOLID	N/A	<u>.5160</u>		g/L
		<u>.1290g → .250g</u>								
96000082	C-106 GRAB	11 SAMPLE	S96T000561 0 F		DOSE-02	SOLID	N/A	<u>40</u>		mrad/hour
96000082	C-106 GRAB	12 DUP	S96T000561 0 F		FUSION01	SOLID	<u>.5160</u>	<u>.6120</u>	N/A	g/L
		<u>.1530g → .250g</u>								
96000082	C-106 GRAB	13 DUP	S96T000561 0 F		DOSE-02	SOLID	<u>40</u>	<u>40</u>	N/A	mrad/hour
96000082	C-106 GRAB	14 SAMPLE	S96T000571 0 F		FUSION01	SOLID	N/A	<u>1.5148</u>		g/L
		<u>.3787g → .250g</u>								
96000082	C-106 GRAB	15 SAMPLE	S96T000571 0 F		DOSE-02	SOLID	N/A	<u>100</u>		mrad/hour
96000082	C-106 GRAB	16 DUP	S96T000571 0 F		FUSION01	SOLID	<u>1.5148</u>	<u>1.2024</u>	N/A	g/L
		<u>.3006g → .250g</u>								
96000082	C-106 GRAB	17 DUP	S96T000571 0 F		DOSE-02	SOLID	<u>100</u>	<u>250</u>	N/A	mrad/hour

Data Entry Comments:

S96T000564- Sample is not homogenous.

S96T000560- Sample stuck to the bottle.

40ml con HNO₃, <10% solids

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

5962

GROUP PROJECT S TYPE SAMPLE# R A -----TEST----- MATRIX ACTUAL FOUND DL UNIT

Final page for worklist #

5962

DM Murphy 4-16-96
Analyst Signature Date

Susan Bee 4/17/96
Analyst Signature Date

6C-96-7 / 596T000548 → 596T000555
6C-96-7C / 596T000543 → 596T000546
6C-96-10C / 596T000560 → 596T000561
6C-96-10 / 596T000564 → 596T000571
RTS 2/28/96

Reviewed by DK Fuller
4/18/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

WHC-SD-WM-DP-183, REV. 0
LABCORE Data Entry Template for Worklist#

8147

Analyst: CRM

Instrument: ACD01 SN16355

Book # _____

Method: LA-549-141 Rev/Mod F-0

Worklist Comment: C-106 GRAB 6C-96-4 FUSION01 SKB

RUSH

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	<u>1</u>	<u>250</u>	N/A	g/L
96000082	C-106 GRAB	2 SAMPLE	S96T001531	0 F	FUSION01	SOLID	N/A	<u>2.1028</u>		g/L
96000082	C-106 GRAB	3 SAMPLE	S96T001531	0 F	DOSE-02	SOLID	N/A	<u>780</u>		mrad/hour
96000082	C-106 GRAB	4 DUP	S96T001531	0 F	FUSION01	SOLID	<u>2.1028</u>	<u>2.1916</u>	N/A	g/L
96000082	C-106 GRAB	5 DUP	S96T001531	0 F	DOSE-02	SOLID	<u>780</u>	<u>500</u>	N/A	mrad/hour
96000082	C-106 GRAB	6 SAMPLE	S96T001541	0 F	FUSION01	SOLID	N/A	<u>1.9148</u>		g/L
96000082	C-106 GRAB	7 SAMPLE	S96T001541	0 F	DOSE-02	SOLID	N/A	<u>500</u>		mrad/hour
96000082	C-106 GRAB	8 DUP	S96T001541	0 F	FUSION01	SOLID	<u>1.9148</u>	<u>1.9684</u>	N/A	g/L
96000082	C-106 GRAB	9 DUP	S96T001541	0 F	DOSE-02	SOLID	<u>500</u>	<u>500</u>	N/A	mrad/hour

Final page for worklist #

8147

Analyst Signature James Murphy

Date 5-16-96

Analyst Signature Susan Bee

Date 5/17/96

S96T001530 → 1531
1533 → 1541

(Light brown color after fusion)
Solids may be present.
(Yellow color after fusion. Fusion complete)

* NOTE: Incomplete fusion on sample # S96T001531. Both sample and dup did not fuse. Reddish-brown solids present in both sample. The sample had slightly more solids than the duplicate. RK Full 5/17/96

Data Entry Comments:

Samples were not homogeneous

40ml H₂O₂, <100 DO's

Reviewed by RK Full
5/17/96

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

* 16

LABCORE Data Entry Template for Worklist#

8456

Analyst: CHAMInstrument: FUS01 SN16355

Book # _____

Method: LA-549-141 Rev/Mod F-0

Worklist Comment: C-106 S11CS,S11FS,S13CS,S13FS FUSIONS01 SKB

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	1	250	N/A	g/L
96000174	C-106 GRAB	2 SAMPLE	S96T001678	0 F	FUSION01	SOLID	N/A	1.8392		g/L
		.4598g →	250							
96000174	C-106 GRAB	3 SAMPLE	S96T001678	0 F	DOSE-02	SOLID	N/A	250		mrad/hour
96000174	C-106 GRAB	4 DUP	S96T001678	0 F	FUSION01	SOLID	1.8392	1.9588	N/A	g/L
		.4897g →	250							
96000174	C-106 GRAB	5 DUP	S96T001678	0 F	DOSE-02	SOLID	250	400	N/A	mrad/hour
96000174	C-106 GRAB	6 SAMPLE	S96T001689	0 F	FUSION01	SOLID	N/A	9924		g/L
		.2481g →	250							
96000174	C-106 GRAB	7 SAMPLE	S96T001689	0 F	DOSE-02	SOLID	N/A	200		mrad/hour
96000174	C-106 GRAB	8 DUP	S96T001689	0 F	FUSION01	SOLID	9924	9972	N/A	g/L
		.2493g →	250							
96000174	C-106 GRAB	9 DUP	S96T001689	0 F	DOSE-02	SOLID	200	250	N/A	mrad/hour
96000174	C-106 GRAB	10 SAMPLE	S96T001036	0 F	FUSION01	SOLID	N/A	1.8792		g/L
		.4698g →	250							
96000174	C-106 GRAB	11 SAMPLE	S96T001036	0 F	DOSE-02	SOLID	N/A	650		mrad/hour
96000174	C-106 GRAB	12 DUP	S96T001036	0 F	FUSION01	SOLID	1.8792	1.8996	N/A	g/L
		.4749g →	250							
96000174	C-106 GRAB	13 DUP	S96T001036	0 F	DOSE-02	SOLID	650	400	N/A	mrad/hour
96000174	C-106 GRAB	14 SAMPLE	S96T001563	0 F	FUSION01	SOLID	N/A	1.8081		g/L
		.4671g →	250							
96000174	C-106 GRAB	15 SAMPLE	S96T001563	0 F	DOSE-02	SOLID	N/A	550		mrad/hour
96000174	C-106 GRAB	16 DUP	S96T001563	0 F	FUSION01	SOLID	1.8081	1.8492	N/A	g/L
		.4623g →	250							
96000174	C-106 GRAB	17 DUP	S96T001563	0 F	DOSE-02	SOLID	550	650	N/A	mrad/hour

S96T001676 → S96T001678

1682 → 1689

1034 → 1036

1556 → 1563

Data Entry Comments:

1682: Not enough sample for .5g

Samples were not homogeneous 40ml con HNO₃, 51070 DOLUO

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

8456

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
-------	---------	--------	---------	-----	----------------	--------	--------	-------	----	------

Final page for worklist #

8456

[Signature] 5-16-96
Analyst Signature Date

[Signature] 5/17/96
Analyst Signature Date

Data Entry Comments:

Reviewed by R K Fulle
5/17/96

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

8634

Analyst:

QAM

Instrument: FUS01

SN16355

Book #

Method: LA-549-141 Rev/Mod

F-0

Worklist Comment: C-106 GRAB FUSION01 PREP SKB

RUSH

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP				FUSION01	SOLID	<u>1</u> <u>.250</u>	<u>N/A</u>	g/L
96000082	C-106 GRAB	2 SAMPLE	S96T002718	0 F		FUSION01	SOLID	<u>N/A</u> <u>.3488</u>		g/L
		<u>.2122g</u> → <u>.250g</u>								
96000082	C-106 GRAB	3 SAMPLE	S96T002718	0 F		DOSE-02	SOLID	<u>N/A</u> <u>.250</u>		mrad/hour
96000082	C-106 GRAB	4 DUP	S96T002718	0 F		FUSION01	SOLID	<u>.8488</u> <u>.8184</u>	<u>N/A</u>	g/L
		<u>.2046g</u> → <u>.250g</u>								
96000082	C-106 GRAB	5 DUP	S96T002718	0 F		DOSE-02	SOLID	<u>.250</u> <u>.250</u>	<u>N/A</u>	mrad/hour

Final page for worklist #

8634

Analyst Signature

Date

5-16-96

Analyst Signature

Date

Susan Bee 5/17/96

596T000564 → 596T002718 (light yellow after fusion)

Data Entry Comments:

Samples were not homogeneous
40ml HNO₃, <170 solids

Reviewed by RK Felt
5/17/96

WMC-SD-WM-DP-183, REV. 0
LABCORE Data Entry Template for Worklist#

5964

Analyst: elmh Instrument: H2001 596455 Book # _____

Method: LA-504-101 Rev/Mod E - O

Worklist Comment: Tank# C-106, Riser#1 (6C-96-7,10 (PC is rae) LL.rts!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H2001G01	SOLID	<u>1</u>	<u>.100</u>	N/A	g/L
96000082	C-106 GRAB	2 SAMPLE	S96T000557	0 W	H2001G01	SOLID	N/A	<u>3.3860</u>		g/L
		<u>.5386g</u> →	<u>.100l</u>							
96000082	C-106 GRAB	3 SAMPLE	S96T000557	0 W	DOSE-02	SOLID	N/A	<u>15</u>		mrad/hour
96000082	C-106 GRAB	4 DUP	S96T000557	0 W	H2001G01	SOLID	<u>5.3860</u>	<u>5.4230</u>	N/A	g/L
		<u>5.428g</u> →	<u>.100l</u>							
96000082	C-106 GRAB	5 DUP	S96T000557	0 W	DOSE-02	SOLID	<u>15</u>	<u>15</u>	N/A	mrad/hour
96000082	C-106 GRAB	6 SAMPLE	S96T000574	0 W	H2001G01	SOLID	N/A	<u>4.9530</u>		g/L
		<u>4.953g</u> →	<u>.100l</u>							
96000082	C-106 GRAB	7 SAMPLE	S96T000574	0 W	DOSE-02	SOLID	N/A	<u>8</u>		mrad/hour
96000082	C-106 GRAB	8 DUP	S96T000574	0 W	H2001G01	SOLID	<u>4.9530</u>	<u>5.0430</u>	N/A	g/L
		<u>5.043g</u> →	<u>.100l</u>							
96000082	C-106 GRAB	9 DUP	S96T000574	0 W	DOSE-02	SOLID	<u>8</u>	<u>8</u>	N/A	mrad/hour

Final page for worklist #

5964

NO Landley
Analyst Signature Date 4-23-96

Susan Ber
Analyst Signature Date 4/25/96

Reviewed by PK Fuller 4/25/96

Data Entry Comments:

HPT: Scott Lawderbach

LABCORE Data Entry Template for Worklist#

8277

Analyst:

[Signature]

Instrument: H2001 *SN16355*

Book # _____

Method: LA-504-101 Rev/Mod *E-0*

Worklist Comment: C-106 6C-96-4 H2ODIG01 SKB

RUSH

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H2001G01	SOLID	<i>1</i>	<i>100</i>	N/A	g/L
96000082	C-106 GRAB	2 SAMPLE	S96T001543	0 W	H2001G01	SOLID	N/A	<i>4.9930</i>		g/L
		<i>.49 43g → 1000</i>								
96000082	C-106 GRAB	3 SAMPLE	S96T001543	0 W	DOSE-02	SOLID	N/A	<i>250</i>		mrad/hour
96000082	C-106 GRAB	4 DUP	S96T001543	0 W	H2001G01	SOLID	<i>4.9930</i>	<i>4.9940</i>	N/A	g/L
		<i>.4944g → 1000</i>								
96000082	C-106 GRAB	5 DUP	S96T001543	0 W	DOSE-02	SOLID	<i>250</i>	<i>250</i>	N/A	mrad/hour

Final page for worklist #

8277

Peresa Murphy 5-16-96
Analyst Signature Date

Susan Su 5/17/96
Analyst Signature Date

S96T001536 → 1543

Data Entry Comments:

Samples were not homogeneous

Reviewed by RH Filler
5/17/96

worklistrpt Version 2.1 05/15/95
05/07/96 15:18

Page: 1

LABCORE Data Entry Template for Worklist#

8458

Analyst:

QAMInstrument: H2001 SN 6355

Book # _____

Method: LA-504-101 Rev/Mod

E-0

Worklist Comment: C-106 GRAB S11FS,S13FS H2ODIG01 SKB

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP				H2ODIG01	SOLID	<u>1</u> <u>100</u>	<u>N/A</u>	g/L
96000174	C-106 GRAB	2 SAMPLE	S96T001691 0 W			H2ODIG01	SOLID	<u>N/A</u> <u>5.6590</u>		g/L
96000174	C-106 GRAB	3 SAMPLE	S96T001691 0 W			DOSE-02	SOLID	<u>N/A</u> <u>250</u>		mrad/hour
96000174	C-106 GRAB	4 DUP	S96T001691 0 W			H2ODIG01	SOLID	<u>5.6590</u> <u>5.7690</u>	<u>N/A</u>	g/L
96000174	C-106 GRAB	5 DUP	S96T001691 0 W			DOSE-02	SOLID	<u>250</u> <u>200</u>	<u>N/A</u>	mrad/hour
96000174	C-106 GRAB	6 SAMPLE	S96T001565 0 W			H2ODIG01	SOLID	<u>N/A</u> <u>2.0880</u>		g/L
96000174	C-106 GRAB	7 SAMPLE	S96T001565 0 W			DOSE-02	SOLID	<u>N/A</u> <u>250</u>		mrad/hour
96000174	C-106 GRAB	8 DUP	S96T001565 0 W			H2ODIG01	SOLID	<u>5.0880</u> <u>4.9250</u>	<u>N/A</u>	g/L
96000174	C-106 GRAB	9 DUP	S96T001565 0 W			DOSE-02	SOLID	<u>250</u> <u>250</u>	<u>N/A</u>	mrad/hour

Final page for worklist #

8458

QAM 5-16-96
Analyst Signature Date

Joan Bee 5/17/96
Analyst Signature Date

596T001684 → 596T001691
1558 → 1565

Data Entry Comments:

Samples were not homogeneous

Reviewed by RK Fall
5/17/96

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

8696

Analyst: DM Instrument: H2001 S01635 Book # _____

Method: LA-504-101 Rev/Mod E-O

Worklist Comment: C-106 GRAB REPREP H2ODIG01 SKB

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H2001G01	SOLID	<u>1</u>	<u>.100</u>	<u>N/A</u>	g/L
96000082	C-106 GRAB	2 SAMPLE <u>-5172g</u> → <u>-100g</u>	S96T002821	0	W	H2001G01	SOLID	<u>N/A</u>	<u>5.1720</u>	g/L
96000082	C-106 GRAB	3 SAMPLE	S96T002821	0	W	DOSE-02	SOLID	<u>N/A</u>	<u>175</u>	mrad/hour
96000082	C-106 GRAB	4 DUP	S96T002821	0	W	H2001G01	SOLID	<u>5.1720</u>	<u>5.1360</u>	<u>N/A</u> g/L
96000082	C-106 GRAB	5 DUP <u>-5134g</u> → <u>-100g</u>	S96T002821	0	W	DOSE-02	SOLID	<u>175</u>	<u>175</u>	<u>N/A</u> mrad/hour

Final page for worklist #

8696

DM Murphy 5-17-96
Analyst Signature Date

Susan Bee 5/17/96
Analyst Signature Date

596T009822 → 596T002821.

Data Entry Comments:

Reviewed by PK-Field
5/17/96

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

9285

Analyst: QRM Instrument: H2001 ALIQUOT Book # _____

Method: LA-504-101 Rev/Mod E-0

Worklist Comment: C-106 CRAB SEG.3,4 H2ODIG01 SKB

SUPER SUPER RUSH

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H2001G01	SOLID	<u>1</u>	<u>100</u>	<u>N/A</u>	g/L
96000082	C-106 GRAB	2 SAMPLE	S96T003178	0 W	H2001G01	SOLID	<u>N/A</u>	<u>4.8870</u>		g/L
96000082	C-106 GRAB	3 SAMPLE	S96T003178	0 W	DOSE-02	SOLID	<u>N/A</u>	<u>5</u>		mrad/hour
96000082	C-106 GRAB	4 DUP	S96T003178	0 W	H2001G01	SOLID	<u>4.8870</u>	<u>2.4820</u>	<u>N/A</u>	g/L
96000082	C-106 GRAB	5 DUP	S96T003178	0 W	DOSE-02	SOLID	<u>5</u>	<u>5</u>	<u>N/A</u>	mrad/hour
96000082	C-106 GRAB	6 SAMPLE	S96T003179	0 W	H2001G01	SOLID	<u>N/A</u>	<u>2.5190</u>		g/L
96000082	C-106 GRAB	7 SAMPLE	S96T003179	0 W	DOSE-02	SOLID	<u>N/A</u>	<u>25</u>		mrad/hour
96000082	C-106 GRAB	8 DUP	S96T003179	0 W	H2001G01	SOLID	<u>2.5190</u>	<u>1.7300</u>	<u>N/A</u>	g/L
96000082	C-106 GRAB	9 DUP	S96T003179	0 W	DOSE-02	SOLID	<u>25</u>	<u>0</u>	<u>N/A</u>	mrad/hour

Final page for worklist #

9285

Analyst Signature QRM Date 5-31-96

Analyst Signature Steven Bu Date 5/31/96

596T002822 → 3178
1536 → 3179

Data Entry Comments:

Sample 2822 → 3178 used in process
Sample 1536 → 3179 used in process
HP7-Gerry Gunnskey

Reviewed by RK Full
5/31/96

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

9286

Analyst: AM Instrument: H2001 AL11066 Book # _____

Method: LA-504-101 Rev/Mod E-0

SUPER SUPER RUSH

Worklist Comment: C-106 GRAB SEG.11,13 H2ODIG01 SKB

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H2001G01	SOLID	<u>1</u>	<u>.100</u>	<u>N/A</u>	g/L
96000174	C-106 GRAB	2 SAMPLE	S96T003181 0 W		H2001G01	SOLID	<u>N/A</u>	<u>2.7390</u>		g/L
96000174	C-106 GRAB	3 SAMPLE	S96T003181 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>30.5</u>		mrad/hour
96000174	C-106 GRAB	4 DUP	S96T003181 0 W		H2001G01	SOLID	<u>2.7390</u>	<u>4.3160</u>	<u>N/A</u>	g/L
96000174	C-106 GRAB	5 DUP	S96T003181 0 W		DOSE-02	SOLID	<u>5</u>	<u>25</u>	<u>N/A</u>	mrad/hour
96000174	C-106 GRAB	6 SAMPLE	S96T003180 0 W		H2001G01	SOLID	<u>N/A</u>	<u>2.8830</u>		g/L
96000174	C-106 GRAB	7 SAMPLE	S96T003180 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>30</u>		mrad/hour
96000174	C-106 GRAB	8 DUP	S96T003180 0 W		H2001G01	SOLID	<u>2.8830</u>	<u>3.1510</u>	<u>N/A</u>	g/L
96000174	C-106 GRAB	9 DUP	S96T003180 0 W		DOSE-02	SOLID	<u>30</u>	<u>7.5</u>	<u>N/A</u>	mrad/hour

Final page for worklist #

9286

AM 5-31-96
Analyst Signature Date

Susan Ba 5/31/96
Analyst Signature Date

596T001685 → 3180
1558 → 3181

Data Entry Comments:
Sample 1685 → 3180 used in process
Sample 1558 → 3181 used in process
HPT- Gerry Gunnskey

Reviewed by RK Felt
5/31/96

Units shown for QC (SPK & STD) may not reflect the actual units / DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

5963

Analyst: lml Instrument: ACD01 5916355 Book # WHC1A

Method: LA-505-159 Rev/Mod D-0

Worklist Comment: Tank# C-106, Riser#(6C-96-7,10 (PC is rae) LL.rts!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			ACIDIG01	SOLID	<u>1</u>	<u>.050</u>	N/A	g/L
		2 STD-PREP			ACIDIG01	SOLID	<u>20</u>	<u>20</u>	N/A	g/L
96000082	C-106 GRAB	3 SAMPLE	S96T000556 0 A		ACIDIG01	SOLID	N/A	<u>4.5640</u>		g/L
		<u>.2282g</u> → <u>.050L</u>								
96000082	C-106 GRAB	4 SAMPLE	S96T000556 0 A		DOSE-02	SOLID	N/A	<u>400</u>		mrad/hour
96000082	C-106 GRAB	5 DUP	S96T000556 0 A		ACIDIG01	SOLID	<u>4.5640</u>	<u>5.3020</u>	N/A	g/L
		<u>.2051g</u> → <u>.050L</u>								
96000082	C-106 GRAB	6 DUP	S96T000556 0 A		DOSE-02	SOLID	<u>400</u>	<u>500</u>	N/A	mrad/hour
96000082	C-106 GRAB	7 SPK	S96T000556 0 A		ACIDIG01	SOLID	<u>20</u>	<u>20</u>	N/A	g/L
		<u>.2900g</u> → <u>.050L</u> = <u>5.8000</u>								
96000082	C-106 GRAB	8 SPK	S96T000556 0 A		DOSE-02	SOLID	<u>N/A</u>	<u>500</u>	N/A	mrad/hour
								<u>400</u>		
96000082	C-106 GRAB	9 SAMPLE	S96T000572 0 A		ACIDIG01	SOLID	N/A	<u>5.9300</u>		g/L
		<u>.2965g</u> → <u>.050L</u>								
96000082	C-106 GRAB	10 SAMPLE	S96T000572 0 A		DOSE-02	SOLID	N/A	<u>500</u>		mrad/hour
96000082	C-106 GRAB	11 DUP	S96T000572 0 A		ACIDIG01	SOLID	<u>5.9300</u>	<u>5.0720</u>	N/A	g/L
		<u>.2536g</u> → <u>.050L</u>								
96000082	C-106 GRAB	12 DUP	S96T000572 0 A		DOSE-02	SOLID	<u>500</u>	<u>500</u>	N/A	mrad/hour
96000082	C-106 GRAB	13 SPK	S96T000572 0 A		ACIDIG01	SOLID	<u>20</u>	<u>20</u>	N/A	g/L
96000082	C-106 GRAB	14 SPK	S96T000572 0 A		DOSE-02	SOLID	<u>N/A</u>	<u>450</u>	N/A	mrad/hour
		<u>.2951g</u> → <u>.050L</u>								

Final page for worklist #

5963

Analyst Signature [Signature] Date 4-20-96

Analyst Signature [Signature] Date 4/25/96

Data Entry Comments: 6C-96-7/596T000549 → 596T000556
6C-96-10/596T000565 → 596T000572 RLS 4-22-96
Reviewed by RKF/lls 4/25/96

LABCORE Data Entry Template for Worklist#

8346

Analyst: DM Instrument: ACD01 S96T001535 Book # _____

Method: LA-505-159 Rev/Mod D-O

Worklist Comment: C-106 GRAB 6C-96-4 ACIDIG01 SKB

RUSH

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			ACIDIG01	SOLID	<u>1</u>	<u>.050</u>	<u>N/A</u>	g/L
		2 STD-PREP			ACIDIG01	SOLID	<u>20</u>	<u>20</u>	<u>N/A</u>	g/L
96000082	C-106 GRAB	3 SAMPLE	S96T001542	D A	ACIDIG01	SOLID	<u>N/A</u>	<u>4.8840</u>		g/L
			<u>.2442g → .050g</u>							
96000082	C-106 GRAB	4 SAMPLE	S96T001542	D A	DOSE-02	SOLID	<u>N/A</u>	<u>400</u>		mrad/hour
96000082	C-106 GRAB	5 DUP	S96T001542	D A	ACIDIG01	SOLID	<u>4.8840</u>	<u>5.0800</u>	<u>N/A</u>	g/L
			<u>.2540g → .050g</u>							
96000082	C-106 GRAB	6 DUP	S96T001542	D A	DOSE-02	SOLID	<u>400</u>	<u>350</u>	<u>N/A</u>	mrad/hour
96000082	C-106 GRAB	7 SPK	S96T001542	D A	ACIDIG01	SOLID	<u>20</u>	<u>20</u>	<u>N/A</u>	g/L
			<u>.2340g → .050g</u>							
96000082	C-106 GRAB	8 SPK	S96T001542	D A	DOSE-02	SOLID	<u>NA</u>	<u>350</u>	<u>N/A</u>	mrad/hour

Final page for worklist #

8346

Analyst Signature DM Murphy Date 5-16-96

Analyst Signature Susan Bee Date 5/17/96

S96T001535 → 1542

Data Entry Comments:

Sample was not homogeneous

Reviewed by RK Fields
5/17/96

LABCORE Data Entry Template for Worklist#

8457

Analyst: QAM Instrument: ACD01 SU16355 Book # _____

Method: LA-505-159 Rev/Mod D-0

Worklist Comment: C-106 GRAB S11FS,S13FS ACIDIG01 SKB

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			ACIDIG01	SOLID	<u>1</u>	<u>050</u>	N/A	g/L
		2 STD-PREP			ACIDIG01	SOLID	<u>20</u>	<u>20</u>	N/A	g/L
96000174	C-106 GRAB	3 SAMPLE	S96T001690	0 A	ACIDIG01	SOLID	N/A	<u>5.2240</u>		g/L
			<u>.2612g</u>							<u>D.F. 5-15-96</u>
96000174	C-106 GRAB	4 SAMPLE	S96T001690	0 A	DOSE-02	SOLID	N/A	<u>300</u>		mrad/hour
96000174	C-106 GRAB	5 DUP	S96T001690	0 A	ACIDIG01	SOLID	<u>5.2240</u>	<u>5.0840</u>	N/A	g/L
			<u>.2542g</u>							
96000174	C-106 GRAB	6 DUP	S96T001690	0 A	DOSE-02	SOLID	<u>300</u>	<u>500</u>	N/A	mrad/hour
96000174	C-106 GRAB	7 SPK	S96T001690	0 A	ACIDIG01	SOLID	<u>20</u>	<u>20</u>	N/A	g/L
			<u>.2611g</u>							<u>D.F. 5-15-96</u>
96000174	C-106 GRAB	8 SPK	S96T001690	0 A	DOSE-02	SOLID	<u>NA</u>	<u>350</u>	N/A	mrad/hour
96000174	C-106 GRAB	9 SAMPLE	S96T001564	0 A	ACIDIG01	SOLID	N/A	<u>4.7340</u>		g/L
			<u>.2367g</u>							
96000174	C-106 GRAB	10 SAMPLE	S96T001564	0 A	DOSE-02	SOLID	N/A	<u>350</u>		mrad/hour
96000174	C-106 GRAB	11 DUP	S96T001564	0 A	ACIDIG01	SOLID	<u>4.7340</u>	<u>4.7860</u>	N/A	g/L
			<u>.2393g</u>							
96000174	C-106 GRAB	12 DUP	S96T001564	0 A	DOSE-02	SOLID	<u>350</u>	<u>350</u>	N/A	mrad/hour

Final page for worklist #

8457

QAMurphy 5-16-96
Analyst Signature Date

Susan Bu 5/17/96
Analyst Signature Date

S96T001683 → S96T001690
1557 → 1564

Data Entry Comments:

Samples were not homogeneous
<100 solids

Reviewed by PKTallie 5/17/96

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

WHC-SD-WM-DP-183, REV. 0

INORGANIC ANALYSES

WHC-SD-WM-DP-183, REV. 0

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LABCORE Data Entry Template for Worklist#

6224

Analyst: DPB Instrument: DSC0 1 Book # 12 N14B

Method: LA-514-113 Rev/Mod C-1

Worklist Comment: C-106 DSC-01 RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	<u>28.45</u>	<u>27.5</u>	<u>N/A</u>	Joules/g
96000082	C-106 GRAB	2 SAMPLE	S96T000538	0	DSC-01	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
96000082	C-106 GRAB	3 DUP	S96T000538	0	DSC-01	LIQUID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist # 6224

Daniel P. Bromley 3/9/96 1650
Analyst Signature Date

[Signature] 3-14-96
Analyst Signature Date

Verified by Blandina Valenzuela
3/8/96

Data Entry Comments:

Sample produced an endotherm at 105.3°C with a delta
H of 1585.9 J/g

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 128 TO 130.

DSC STD 12N14B File: 00085.001 DSC METTLER 09-Mar-96
15.317 mg Rate: 10.0 °C/min Ident: 0.0 222-S Laboratory

821

James P. Brandy 3/9/96

LABCORE Data Entry Template for Worklist#

6349

Analyst: JPB **Instrument:** DSC0 1 **Book #** 12 N14B

Method: LA-514-113 Rev/Mod C-1

Worklist Comment: C-106 DSC RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	<u>28.45</u>	<u>30.8</u>	<u>N/A</u>	Joules/g
96000174	C-106 GRAB	2 SAMPLE	S96T001023	0	DSC-01	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
96000174	C-106 GRAB	3 DUP	S96T001023	0	DSC-01	LIQUID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist #

6349

JPB 3/10/96
Janele P. Bromley 3/4/96
Analyst Signature **Date**

Jay Hammond 3-14-96
Analyst Signature **Date**

3/10/96 1030
Verified by Blandina Valenzuela
3/18/96

Data Entry Comments:

Sample produced an endotherm at 105.3°C with a delta
H of 1228.0 J/g.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 132 TO 134.

David W. Bomby 3/10/96

worklistrpt Version 2.1 05/15/95
04/01/96 15:57

WHC-SD-WM-DP-183, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist#

6847

Analyst: VLM Instrument: DSC0 1Book # 75NBA ^{Hea}
12N148 ⁴⁻⁹⁻⁹⁶Method: LA-514-113 Rev/Mod C-1

Worklist Comment: Please run C-106 DSCs under N2. hdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	<u>28.45</u>	<u>26.9</u> *	<u>N/A</u>	Joules/g
96000082	C-106 GRAB	2 SAMPLE	5967000855	0	DSC-01	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
		3 STD			DSC-01	LIQUID	<u>28.45</u>	<u>31.3</u>	<u>N/A</u>	Joules/g
96000082	C-106 GRAB	4 DUP	5967000855	0	DSC-01	LIQUID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist #

6847

See attached for signatures
Analyst Signature _____ Date _____

Heather Anastor ⁴⁻⁹⁻⁹⁶
Analyst Signature _____ Date _____

Verified by
Heather Anastor ⁴⁻⁹⁻⁹⁶

Data Entry Comments: Sample produced an endotherm at 95.3°C with a
delta H of 1822.15/g

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

worklistrpt Version 2.1 05/15/95
03/21/96 11:14

WHC-SD-WM-DP-183, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist#

6847

Analyst: NLM

Instrument: DSC0 _____

Book # 75#84 HLG
12N14B 4-9-96Method: LA-514-113 Rev/Mod C-1

Worklist Comment: Please run C-106 DSCs under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID			N/A	Joules/g
96000082	C-106 GRAB	2 SAMPLE	596T000855	0	DSC-01	LIQUID	N/A			Joules/g
96000082	C-106 GRAB	3 DUP	596T000855	0	DSC-01	LIQUID			N/A	Joules/g

Final page for worklist #

6847

Analyst Signature _____ Date _____

Volunt Masson 03-22-96
Analyst Signature Date

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 137 TO 140.

DSC STD 12N14B Rate: 10.0 °C/min File: 00080.001 DSC METTLER 21-Mar-96
8.615 mg Ident: 0.0 222-S Laboratory

S96T000855 SAM N2
 10.023 mg
 Rate: 10.0 °C/min
 File: 00089.001 DSC METTLER 21-Mar-96
 Ident: 0.0 222-S Laboratory

1331

DSC STD 12N14B
8.615 mg
Rate: 10.0 °C/min
File: 00094.001
Ident: 0.0
DSC METTLER 22-Mar-96
222-S Laboratory

631

S96T000855 DUP N2
 10.003 mg
 Rate: 10.0 °C/min
 File: 00095.001 DSC METTLER 22-Mar-98
 Ident: 0.0 222-S Laboratory

LABCORE Data Entry Template for Worklist#

7135

Analyst: RPM

Instrument: DSC01

Book # 12N14B

Method: LA-514-113 Rev/Mod C-1

Worklist Comment: C-106 FOR DSC01 PLEASE RUN UNDER N2 RUSH RUSH RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	28.45	32.0	N/A	Joules/g
96000082	C-106 GRAB	2 SAMPLE	S96T001548	0	DSC-01	LIQUID	N/A	Ø		Joules/g
96000082	C-106 GRAB	3 DUP	S96T001548	0	DSC-01	LIQUID	Ø	Ø	N/A	Joules/g

Final page for worklist #

7135

Analyst Signature RPM Date 3/21/96

Analyst Signature Rebecca HA Date 4/4/96

Verified by Hanastor 4-9-96

Data Entry Comments:

S96T001548 baseline shifted slightly at approximately 340°C. The shift may be due to a change in heat capacity/thermal properties of the sample. The endotherm suggests there is something other than water in the sample due to the two peaks at approximately 120°C. The duplicate does not show this. Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code. Same baseline shift, however the endotherm does suggest the sample is different constituents,

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 143 TO 144.

DSC STD 12N14-B
9.010 mg
Rate: 10.0 °C/min
File: 00079.001
Ident: 0.0
DSC METTLER 29-Mar-96
222-S Laboratory

worklistrpt Version 2.1 05/15/95
04/09/96 09:03

WHC-SD-WM-DP-183, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist#

7207

Analyst: SMF Instrument: DSC0 3 Book # 12N14BMethod: LA-514-114 Rev/Mod C-1

Worklist Comment: C-106 FOR DSC PLEASE RUN UNDER N2

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	SOLID	<u>28.45</u>	<u>27.26</u>	<u>N/A</u>	Joules/g
96000082	C-106 GRAB	2 SAMPLE	S96T000543	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96000082	C-106 GRAB	3 DUP	S96T000543	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist #

7207

See attached for signatures

Analyst Signature

Date

4-9-96

B0Y

Analyst Signature

Date

4-9-96

Reviewed 4/15/96 Jane M. Lyle

Data Entry Comments:

Sample produced two endotherms one at 115.88°C with a delta H of 942.07 J/g, and second at 323.53°C with a delta H of 48.95 J/g

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

worklist rpt Version 2.1 05/15/95
04/01/96 15:10

WHC-SD-WM-DP-183, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist#

7207

Analyst:

SMF

Instrument: DSC0

Book # 12 N14B

Method: LA-514-113 Rev/Mod

Worklist Comment: C-106 FOR DSC PLEASE RUN UNDER N2

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID			N/A	Joules/g
96000082	C-106 GRAB	2 SAMPLE	S96T000543	0	DSC-01	SOLID	N/A			Joules/g
96000082	C-106 GRAB	3 DUP	S96T000543	0	DSC-01	SOLID			N/A	Joules/g

Final page for worklist #

7207

Susan M. Fulton 4-7-96
Analyst Signature Date_____
Analyst Signature Date

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

Curve 1: DSC
 File Info: IND040701 Sun Apr 7 06:24:53 1996
 Sample Weight: 7.900 mg
 12N14-B INDIUM AT 10C/MIN

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 147 TO 149

N2, EXOTHERM DOWN
 TEMPERATURE 140.0 °C
 TIME: 0.0 min RATE: 10.0 °C/min
 SN FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Apr 7 13:50:30 1996

Curve 1: DSC
 File Info: SAM040705 Sun Apr 7 14:53:25 1996
 Sample Weight: 22.820 mg
 S96T000543

SM ELLIOT
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Apr 7 15:41:17 1996

Curve 1: DSC
 File Info: SAM040706 Sun Apr 7 16: 27: 40 1996
 Sample Weight: 32.130 mg
 S96T000543 DUP

exotherm down, N2 purge gas
 RATE: 10.0 °C/min
 TIME: 55.8 s
 SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Apr 7 16: 32: 44 1996

worklistrpt Version 2.1 05/15/95
04/04/96 15:10

WHC-SD-WM-DP-103, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist#

7388

Analyst: SMF Instrument: DSC0 1 Book # 12N/4B

Method: LA-514-113 Rev/Mod C-1

Worklist Comment: C-106 RUN UNDER N2, SAMPLE IS DRY AND FLIGHTY, HIGH ALPHA.RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	<u>28.45</u>	<u>32.3</u>	<u>N/A</u>	Joules/g
96000082	C-106 GRAB	2 SAMPLE	S96T000542	0	DSC-01	SOLID	<u>N/A</u>	<u>112</u>		Joules/g
96000082	C-106 GRAB	3 DUP	S96T000542	0	DSC-01	SOLID	<u>112</u>	<u>89.1</u> 89.1	<u>N/A</u>	Joules/g
96000082	C-106 GRAB	4 SAMPLE	S96T000551	0	DSC-01	SOLID	<u>N/A</u>	<u>286.9</u>		Joules/g
96000082	C-106 GRAB	5 DUP	S96T000551	0	DSC-01	SOLID	<u>286.9</u>	<u>279.9</u>	<u>N/A</u>	Joules/g

Final page for worklist #

7388

Sue M. Fulton 4-7-96
Analyst Signature Date

[Signature] 4-9-96
Analyst Signature Date

Reviewed 4/15/96 Jean Lige

S96T000542 produced two endotherms, one at 111.9°C with a delta H of 381.6 J/g and second at 320.2°C with a delta H of 39.3 J/g. The results given are the sum of two ~~weight endo~~ ^{4/8/96} exotherms. S96T000551 produced one endotherm, ~~one~~ ^{4/8/96} at 66.5°C with a delta H of 429.3 J/g.

Data Entry Comments:

~~S96T000542 - Dip on graph caused by hand~~
~~being bumped~~ SMF 4-7-96

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 151 TO 155.

DSC STD 12N14B
14.190 mg

Rate: 10.0 °C/min

File: 00080.001 DSC METTLER 07-Apr-98
Ident: 0.0 222-S Laboratory

SM Fulton 180.7.98

worklistrpt Version 2.1 05/15/95
04/09/96 09:05

WHC-SD-WM-DP-183, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist#

7389

Analyst: SMF Instrument: DSC0 3 Book # 12N14BMethod: LA-514-114 Rev/Mod C-1Worklist Comment: C-106 RUN UNDER N₂, SAMPLE IS DRY AND FLIGHTY, HIGH ALPHA. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	SOLID	<u>28.45</u>	<u>28.01</u>	<u>N/A</u>	Joules/g
96000082	C-106 GRAB	2 SAMPLE	S96T000558	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96000082	C-106 GRAB	3 DUP	S96T000558	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
96000082	C-106 GRAB	4 SAMPLE	S96T000560	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96000082	C-106 GRAB	5 DUP	S96T000560	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist #

7389

See attached for signatures

Analyst Signature Date 4-9-96

 4-9-96
 Analyst Signature Date

 Verified by Blandina
 Valenzuela
 4-11-96

Data Entry Comments:

Sample S96T000558 produced ⁴⁻⁹⁻⁹⁶ an endotherm at 108.2°C with a delta H of 513.6 J/g.

S96T000560 produced an endotherm at 111.2°C with a delta H of 351.4 J/g.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

worklistrpt Version 2.1 05/15/95
04/04/96 15:14

WHC-SD-WM-DP-183, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist#

7389

Analyst: SMF Instrument: DSC0 Book # 12N143

Method: LA-514-113 Rev/Mod _____

Worklist Comment: C-106 RUN UNDER N2,SAMPLE IS DRY AND FLIGHTY,HIGH ALPHA. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID			N/A	Joules/g
96000082	C-106 GRAB	2 SAMPLE	996T000558 0		DSC-01	SOLID	N/A			Joules/g
96000082	C-106 GRAB	3 DUP	996T000558 0		DSC-01	SOLID			N/A	Joules/g
96000082	C-106 GRAB	4 SAMPLE	996T000560 0		DSC-01	SOLID	N/A			Joules/g
96000082	C-106 GRAB	5 DUP	996T000560 0		DSC-01	SOLID			N/A	Joules/g

Final page for worklist #

7389

Analyst Signature Date 4-5-96_____
Analyst Signature Date

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

Curve 1: DSC
File Info: IND040501 Fri Apr 5 07:03:11 1996

Sample Weight: 7.900 mg

12N14-B INDUM AT 100/MIN

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT

COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 158 TO 162.

N2, EXOTHERM DOWN
TEMP: 140.0 °C
TIME: 0.0 min
RATE: 10.0 °C/min

Curve 1: DSC
 File info: SAN040501 Fri Apr 5 10:05:39 1996
 Sample Weight: 7.410 mg
 996T000558

SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri Apr 5 10:19:31 1996

exotherm down, N2 purge gas
 RATE: 10.0 °C/min
 TIME: 0.0 min
 START: 000.0 °C

Curve 1: DSC

File Info: SAM040502 Fri Apr 5 11:23:54 1996

Sample Weight: 14.910 mg

S96T000558 DuP

SMF4-B-9C

Curve 1: DSC
 File info: SAM040503 Fri Apr 5 13:32:36 1996
 Sample Weight: 19.880 mg
 S96T000560

SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri Apr 5 13:38:17 1996

exotherm down, N2 purge gas
 30.0 °C/min
 0.0 min RATE1:
 0.0 min RATE2:
 0.0 min RATE3:

Curve 1: DSC
 File info: SAM040504 Fri Apr 5 14:34:07 1996
 Sample Weight: 7.550 mg
 S96T000560 DUP

SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri Apr 5 15:42:50 1996

worklistrpt Version 2.1 05/15/95
04/04/96 15:18

WHC-SD-WM-DP-183, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist#

7391

Analyst: SMF Instrument: DSC0 1 Book # 1201413

Method: LA-514-113 Rev/Mod C-1

Worklist Comment: C-106 RUN UNDER N2, SAMPLE IS DRY AND FLIGHTY HIGH ALPHA. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	<u>28.45</u>	<u>28.4</u>	<u>N/A</u>	Joules/g
96000082	C-106 GRAB	2 SAMPLE	S96T000567	0	DSC-01	SOLID	<u>N/A</u>	<u>69.7</u>		Joules/g
96000082	C-106 GRAB	3 DUP	S96T000567	0	DSC-01	SOLID	<u>69.7</u>	<u>94.7</u>	<u>N/A</u>	Joules/g

Final page for worklist # 7391

Sm Fulton 4-5-96
Analyst Signature Date

Theresa Sumner 4-9-96
Analyst Signature Date

Verified by Blandina
Valenzuela
4-11-96

Data Entry Comments: Sample produced two endotherms one at 117.4°C with
a delta H of 939.7 J/g and second at 318.1°C with a delta H
of 82.0 J/g

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 114a TO 114e.

DSC STD 12N14B

9.010 mg

Rate: 10.0 °C/min

File: 00064.001 DSC METTLER 08-Apr-96

Ident: 0.0 222-8 Laboratory

exo

10. mW

Integration
Delta H 256 mJ
28.4 J/g
Peak 159.6 °C
-14.9 mW

°C

160.

140.

120.

Insulation 4.5-7°C

worklistrpt Version 2.1 05/15/95
04/09/96 09:01

WHC-SD-WM-DP-183, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist#

7405

Analyst: SME Instrument: DSC0 3 Book # 12N14BMethod: LA-514-114 Rev/Mod C-1

Worklist Comment: C-106 RUN UNDER N2, SAMPLE IS DRY AND FLIGHTY, HIGH ALPHA. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	LIQUID	<u>28.45</u>	<u>27.26</u>	<u>N/A</u>	Joules/g
96000082	C-106 GRAB	2 SAMPLE	S96T000545	0	DSC-03	LIQUID	<u>N/A</u>	<u>φ</u>		Joules/g
96000082	C-106 GRAB	3 DUP	S96T000545	0	DSC-03	LIQUID	<u>φ</u>	<u>φ</u>	<u>N/A</u>	Joules/g
96000082	C-106 GRAB	4 SAMPLE	S96T000563	0	DSC-03	LIQUID	<u>N/A</u>	<u>φ</u>		Joules/g
96000082	C-106 GRAB	5 DUP	S96T000563	0	DSC-03	LIQUID	<u>φ</u>	<u>φ</u>	<u>N/A</u>	Joules/g

Final page for worklist #

7405

See attached for signatures
Analyst Signature Date 4-9-96

 4-9-96
Analyst Signature Date

Reviewed 4/10/96 James M. Egan

Data Entry Comments: ^{80V}
⁴⁻⁹⁻⁹⁶ S96T000545 ⁴⁻⁹⁻⁹⁶ 563 produced one endotherm with the peak at 121.12°C with a delta H of 1716.3 J/g, the shape of the thermogram indicates two distinct compounds one being water the other possibly an organic.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

S96T000563 produced one endotherm at 116.4°C with a delta H of 1800.8 J/g

worklistrpt Version 2.1 05/15/95
04/05/96 09:55

WHC-SD-WM-DP-183, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist#

7405

Analyst: SME

Instrument: DSC0

Book # 12N1413

Method: LA-514-113 Rev/Mod

Worklist Comment: C-106 RUN UNDER N2, SAMPLE IS DRY AND FLIGHTY, HIGH ALPHA. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID			N/A	Joules/g
96000082	C-106 GRAB	2 SAMPLE	S96T000545	0	DSC-01	LIQUID	N/A			Joules/g
96000082	C-106 GRAB	3 DUP	S96T000545	0	DSC-01	LIQUID			N/A	Joules/g
96000082	C-106 GRAB	4 SAMPLE	S96T000563	0	DSC-01	LIQUID	N/A			Joules/g
96000082	C-106 GRAB	5 DUP	S96T000563	0	DSC-01	LIQUID			N/A	Joules/g

Final page for worklist #

7405

Susan M. Dutton 7-7-96
Analyst Signature Date_____
Analyst Signature Date

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

Curve 1: DSC
File info: IND040701 Sun Apr 7 06:24:53 1996

Sample Weight: 7.900 mg

12N14-B INDIUM AT 10C/MIN

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 116.9 TO 117.3.

SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Apr 7 06:32:47 1996

N2, EXOTHERM DOWN
TIME 140.0 S TIME 0.0 min RATE 10.0 C/min

Curve 1: DSC
 File Info: SAM040703 Sun Apr 7 10:41:54 1996
 Sample Weight: 12.050 mg
 596000569-DUP SNF 4-7-96
 5967000545

Curve 1: DSC
 File info: SAM040704 Sun Apr 7 13:32:15 1996
 Sample Weight: 11.910 mg
 S96T000545 DUP

SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Apr 7 13:36:47 1996

Curve 1: DSC
 File Info: SAN040701 Sun Apr 7 07:54:13 1996
 Sample Weight: 12.110 mg
 SS6T000553

SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Apr 7 08:59:43 1996

exotherm down, N2 purge gas
 RATE: 10.0 °C/min
 TIME: 0.0 min RATE: 10.0 °C/min

Curve 1: DSC
 File Info: SAM040702 Sun Apr 7 09:34:22 1996
 Sample Weight: 12.450 mg
 S96T000563 DUP

SM FULTON
 PEKIN-ELMER
 7 Series Thermal Analysis System
 Sun Apr 7 09:51:23 1996

exotherm down, N2 purge gas
 TEMPI: 50.0 °C
 THERM: 0.0 mW
 RATE: 10.0 °C/min

WHC-SD-WM-DP-183, REV. 0

worklistrpt Version 2.1 05/15/95

04/08/96 10:22

Page: 1

LABCORE Data Entry Template for Worklist#

7452

Analyst: KK Instrument: DSC0 1 Book # 12/14-BMethod: LA-514-113 Rev/Mod C-1

Worklist Comment: C-106 DSC RUN UNDER N2 SAMPLE DRY AND FLIGHTY, HIGH ALPHA.RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	28.45	26.7	N/A	Joules/g
96000174	C-106 GRAB	2 SAMPLE	S96T001566	0	DSC-01	LIQUID	N/A	118.9		Joules/g
96000174	C-106 GRAB	3 DUP	S96T001566	0	DSC-01	LIQUID	118.9	96.8	N/A	Joules/g
96000174	C-106 GRAB	4 SAMPLE	S96T001679	0	DSC-01	LIQUID	N/A	Ø		Joules/g
96000174	C-106 GRAB	5 DUP	S96T001679	0	DSC-01	LIQUID	Ø	Ø	N/A	Joules/g

Final page for worklist #

7452

Rob King 4/8/96
Analyst Signature Date

Jan V. Smith 4-9-96
Analyst Signature Date

S96T001566 produced a large endotherm at 109.3°C with a delta H of 1574.7 J/g.

S96T001679 produced three endotherms, one at 123.4°C with a delta H of 973.8 J/g, one at 346.7°C with a delta H of 91.7 J/g, and another at 445.3°C with a delta H of 46.0 J/g.

Reviewed 4/12/96 Jan V. Smith

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 135 TO 139

DSC STD 12N14-B N2
14.190 mg
Rate: 10.0 °C/min
File: 00001.001
Ident: 0.0
DSC METTLER 08-Apr-96
222-S Laboratory

Not Nemo 4/3/96

Mod. King 4/9/86

S96T001566 DUP N2
12.033 mg

Rate: 10.0 °C/min

File: 00007.001 DSC METTLER 08-Apr-96
Ident: 0.0 222-S Laboratory

worklistrpt Version 2.1 05/15/95

WHC-SD-WM-OP-183, REV. 0

Page: 1

04/08/96 10:25

LABCORE Data Entry Template for Worklist#

7454

Analyst: POHInstrument: DSC0 DSC01Book # 12NABMethod: LA-514-113 Rev/Mod C-1

Worklist Comment: C-106 DSC RUN UNDER N2, SAMPLE DRY AND FLIGHTY, HIGH ALPHA. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	28.45	32.4	N/A	Joules/g
96000082	C-106 GRAB	2 SAMPLE	S96T001567	0	DSC-01	LIQUID	N/A	215.1		Joules/g
96000082	C-106 GRAB	3 DUP	S96T001567	0	DSC-01	LIQUID	215.1	142.4	N/A	Joules/g
96000174	C-106 GRAB	4 SAMPLE	S96T001553	0	DSC-01	LIQUID	N/A	208.1		Joules/g
96000174	C-106 GRAB	5 DUP	S96T001553	0	DSC-01	LIQUID	208.1	167.9	N/A	Joules/g

Final page for worklist #

7454

Analyst Signature POHDate 4/11/96

Analyst Signature

Date

S96T001553 has endotherm of 970.5 J/g at 103°C + the duplicate has 2 endotherms of 665.4 J/g at 90°C and 52.7 J/g at 347°C. They look very different.

S96T001567 has an endotherm of 140.2 J/g at 109°C and the duplicate has 1395.2 J/g at 107°C.

Entered & Verified 4/12/96 J M Laje

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 181 TO 185.

DSC STD 12N14-B
14.190 mg

Rate: 10.0 °C/min

File: 00015.001 DSC METTLER 09-Apr-96
Ident: 0.0 222-S Laboratory

exo

Blandina Valenzuela for RD Meyers 7-23-96

LABCORE Data Entry Template for Worklist#

7511

Analyst: RJM Instrument: DSC0 3 Book # 12N14B

Method: LA-514-114 Rev/Mod C-1

Worklist Comment: C-106 FOR DSC PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	SOLID	<u>28.45</u>	<u>28.53</u>	<u>N/A</u>	Joules/g
96000174	C-106 GRAB	2 SAMPLE	S96T001559	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96000174	C-106 GRAB	3 DUP	S96T001559	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
96000174	C-106 GRAB	4 SAMPLE	S96T001685	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96000174	C-106 GRAB	5 DUP	S96T001685	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist #

7511

See attached for signatures

Analyst Signature

Date

4-15-96
Bdv

Analyst Signature

Date

Verified by Blandina Valenzuela
4-15-96

Data Entry Comments: S96T001559 produced two endotherms, one at 106.98°C with a delta H of 525.54 J/g and second at 312.5°C with a delta H of 72.61 J/g.

S96T001685 produced two endotherms, one at 120.2°C with a delta H of 816.1 J/g and second at 322.74°C with a delta H of 49.62 J/g.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,

R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

7511

Analyst: RF McCann Instrument: DSC0 _____ Book # 12N14-B

Method: LA-514-¹¹⁴~~113~~ Rev/Mod C-1

Worklist Comment: ^{RFw 4/14/96} C-106 FOR DSC PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	_____	_____	N/A	Joules/g
96000174	C-106 GRAB	2 SAMPLE	S96T001685	0	DSC-01	SOLID	N/A	_____	_____	Joules/g
96000174	C-106 GRAB	3 DUP	S96T001685	0	DSC-01	SOLID	_____	_____	N/A	Joules/g
96000174	C-106 GRAB	4 SAMPLE	S96T001559	0	DSC-01	SOLID	N/A	_____	_____	Joules/g
96000174	C-106 GRAB	5 DUP	S96T001559	0	DSC-01	SOLID	_____	_____	N/A	Joules/g

Final page for worklist #

7511

RF McCann 4/14/96
Analyst Signature Date

Analyst Signature Date

Other instrument
was used.
4-15-96
Bor

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

Curve 1: DSC

File info: IND041301 Sat Apr 13 19: 44: 02 1996

Sample Weight: 7.900 mg

12N14-B INDIUM AT 10C/MIN

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 188 TO 192.

N2, EXOTHERM DOWN

TEMP: 140.0 °C

TIME: 160.0 s

0.0 min RATE: 10.0 °C/min

Temperature (°C)

 PJ MCCOWN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Apr 13 19: 53: 20 1996

Curve 1: DSC

File info: SAM041402 Sun Apr 14 02:09:14 1996

Sample Weight: 8.550 mg

S96T001559 SAM

exotherm down, N2 purge gas
TEMP: 85.0 °C TIME: 0.0 min RATE: 10.0 °C/min
PJ MCCOMB
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Apr 14 02:10:07 1996

Curve 1: DSC
File Info: SA04041403 Sun Apr 14 03:20:32 1996
Sample Weight: 11.920 mg
S96T001559 DUP

PJ MCCOMM
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Apr 14 03:21:20 1996

Curve 1: DSC
 File Info: SAM041301 Set Apr 13 22:15:13 1996
 Sample Weight: 46.030 mg
 S96T001685 SAM

exotherm down, N2 purge gas
 Temp: 35.0 °C Time: 0.0 min Rate: 10.0 °C/min
 PJ MCCOWN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Apr 13 22:28:57 1996

Curve 1: DSC
 File Info: SAM041302 Sat Apr 13 23:30:43 1996
 Sample Weight: 15.050 mg
 S96T001685 DUP

PJ MCCOWN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Apr 13 23:35:51 1996

worklistrpt Version 2.1 05/15/95
04/09/96 10:45

WIC-SD-WM-DP-183, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist#

7515

Analyst: R/K Instrument: DSC0 1 Book # 12014-BMethod: LA-514-113 Rev/Mod C-1

Worklist Comment: C-106 FOR DSC PLEASE RUN UNDER N2

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	<u>28.45</u>	<u>28.7*</u>	<u>N/A</u>	Joules/g
96000174	C-106 GRAB	2 SAMPLE	S96T001034	0	DSC-01	SOLID	<u>N/A</u>	<u>87.4</u>		Joules/g
96000174	C-106 GRAB	3 DUP	S96T001034	0	DSC-01	SOLID	<u>87.4</u>	<u>66.7</u>	<u>N/A</u>	Joules/g

Final page for worklist #

7515

Not-Kim 4/12/96
Analyst Signature Date

Jay Samant 4/18/96
Analyst Signature Date

Verified by Blandina Valenzuela
4-22-96

Data Entry Comments:

Sample produced two endotherms, one at 113.4°C with a delta H of 941.0 J/g and second at 310.8°C with a delta H of 25.5 J/g.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 194 TO 196.

DSC STD 12N14B N2

14.190 mg

Rate: 10.0 °C/min

File: 00060.001

DSC METTLER 12-Apr-96

Ident: 0.0 222-S Laboratory

exo >

10. mW

Integration
Delta H 408 mJ
28.7 J/g
Peak 160.0 °C
-22.8 mW

120. 140. 160. 180. °C

Mod-Ning 4/12/96

Not-Ming 4/12/96

S96T001034 DUP N2

11.055 mg

Rate: 10.0 °C/min

File: 00068.001 DSC METTLER 12-Apr-96

Ident: 0.0 222-S Laboratory

Wolfgang 4/12/96

worklistrpt Version 2.1 05/15/95
04/10/96 10:35

VWC-SD-WM-DP-183, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist#

7555

Analyst: EAL Instrument: DSC0 1 Book # 12/14 BMethod: LA-514-113 Rev/Mod B.T.C-1

Worklist Comment: C-106 Grab. Run under nitrogen. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	28.45	28.9*	N/A	Joules/g
96000174	C-106 GRAB	2 SAMPLE	S96T001681	0	DSC-01	LIQUID	N/A	5.5		Joules/g
96000174	C-106 GRAB	3 DUP	S96T001681	0	DSC-01	LIQUID	5.5	5.5	N/A	Joules/g

Final page for worklist #

7555

Analyst Signature

Date

Analyst Signature

Date

Verified by Blandina

Valenzuela

4/22/96

Data Entry Comments:

S96T001681 produced an endotherm with a delta H of 145.6 J/g

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 195 TO 200.

A. Campbell 04-12-96

DSC STD 12N14B N2

14.190 mg

Rate: 10.0 °C/min

File: 00060.001

Ident: 0.0

DSC METTLER

12-Apr-96

222-S Laboratory

exo

10. mW

Integration
Delta H 410 mJ
28.9 J/g
Peak 160.0°C
-22.6 mW

120. 140. 160. 180. °C

002

worklistrpt Version 2.1 05/15/95
04/10/96 12:38

WHC-SD-WM-DP-183, REV. 1

Page: 1

LABCORE Data Entry Template for Worklist#

7564

Analyst: EAL Instrument: DSC0 DSC01 Book # 12N14BMethod: LA-514-113 Rev/Mod C.1

Worklist Comment: C-106 GRAB. Run under nitrogen. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	<u>28.45</u>	<u>31.9</u>	<u>N/A</u>	Joules/g
96000174	C-106 GRAB	2 SAMPLE	S96T001676	0	DSC-01	SOLID	<u>N/A</u>	<u>146.0</u>		Joules/g
96000174	C-106 GRAB	3 DUP	S96T001676	0	DSC-01	SOLID	<u>146.0</u>	<u>137.2</u>	<u>N/A</u>	Joules/g
96000174	C-106 GRAB	4 SAMPLE	S96T001030	0	DSC-01	SOLID	<u>N/A</u>	<u>180.9</u>		Joules/g
96000174	C-106 GRAB	5 DUP	S96T001030	0	DSC-01	SOLID	<u>180.9</u>	<u>258.9</u>	<u>N/A</u>	Joules/g

Final page for worklist #

7564

A. Lambel 04.10.96
Analyst Signature Date

Analyst Signature Date

The sample S96T001676 has an endotherm of 922.3 J/g at 115°C and the dup has 900.3 J/g at 123°C.

S96T001030 has an endotherm 550.4 J/g at 110.9°C; the duplicate has 578.2 J/g at 102°C.

Entered & Reviewed 4/12/96 Jenn Tye

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 202 TO 206.

A. Lambert 04.10.96

DSC STD
14.190 mg

Rate: 10.0 °C/min

File: 00040.001 DSC METTLER 10-Apr-96
Ident: 0.0 222-S Laboratory

exo

Integration
Delta H 453 mJ
31.9 J/g
Peak 159.2°C
-27.0 mW

10. mW

120. 140. 150. 180. °C

202

203

S96T001676 DUP N2
 11.301 mg
 Rate: 10.0 °C/min
 File: 00048.001 DSC METTLER 10-Apr-96
 Ident: 0.0 222-S Laboratory

S96T001030 SAM N2

21.913 mg

Rate: 10.0 °C/min

File: 00050.001 DSC METTLER 10-Apr-96

Ident: 0.0 222-S Laboratory

S96T001030 DUP N2

11.595 mg

Rate: 10.0 °C/min

File: 00052.001 DSC METTLER 10-Apr-86

Ident: 0.0 222-S Laboratory

exo

10. mW

Integration
Delta H 6705 mJ
578.2 J/g
Peak 102.0°C
-21.6 mW

Integration
Delta H 3002 mJ
258.9 J/g
Peak 333.2°C
5.1 mW

100. 200. 300. 400. °C

LABCORE Data Entry Template for Worklist#

7781

Analyst: BDV Instrument: DSC01 Book #

Method: LA-514-113 Rev/Mod

Worklist Comment: Dry DSC for C-106 liquids. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
96000082	C-106 GRAB	1 SAMPLE	S96T000545	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96000082	C-106 GRAB	2 DUP	S96T000545	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
96000082	C-106 GRAB	3 SAMPLE	S96T001548	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96000082	C-106 GRAB	4 DUP	S96T001548	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
96000082	C-106 GRAB	5 SAMPLE	S96T000563	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96000082	C-106 GRAB	6 DUP	S96T000563	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
96000082	C-106 GRAB	7 SAMPLE	S96T001567	0	DSC-02	LIQUID	N/A	706.4		Joules/g Dry
96000082	C-106 GRAB	8 DUP	S96T001567	0	DSC-02	LIQUID	706.4	467.7	N/A	Joules/g Dry
96000082	C-106 GRAB	9 SAMPLE	S96T000538	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96000082	C-106 GRAB	10 DUP	S96T000538	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
96000174	C-106 GRAB	11 SAMPLE	S96T001553	0	DSC-02	LIQUID	N/A	754.0		Joules/g Dry
96000174	C-106 GRAB	12 DUP	S96T001553	0	DSC-02	LIQUID	754.0	608.3	N/A	Joules/g Dry
96000174	C-106 GRAB	13 SAMPLE	S96T001679	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96000174	C-106 GRAB	14 DUP	S96T001679	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
96000174	C-106 GRAB	15 SAMPLE	S96T001023	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96000174	C-106 GRAB	16 DUP	S96T001023	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
96000174	C-106 GRAB	17 SAMPLE	S96T001566	0	DSC-02	LIQUID	N/A	490.5		Joules/g Dry
96000174	C-106 GRAB	18 DUP	S96T001566	0	DSC-02	LIQUID	490.5	399.3	N/A	Joules/g Dry

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

7781

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
-------	---------	--------	---------	-----	----------------	--------	--------	-------	----	------

Final page for worklist #

7781

Data entered & verified by
Blandina Valenzuela 4/22/96
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

7782

Analyst: BDV Instrument: DSC01 Book #

Method: LA-514-113 Rev/Mod

Worklist Comment: Dry DSC for C-106 solids. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
96000082	C-106 GRAB	1 SAMPLE	S96T000543	0		DSC-02	SOLID	N/A	Ø		Joules/g Dry
96000082	C-106 GRAB	2 DUP	S96T000543	0		DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
96000082	C-106 GRAB	3 SAMPLE	S96T000551	0		DSC-02	SOLID	N/A	328.9		Joules/g Dry
96000082	C-106 GRAB	4 DUP	S96T000551	0		DSC-02	SOLID	328.9	320.9	N/A	Joules/g Dry
96000082	C-106 GRAB	5 SAMPLE	S96T000558	0		DSC-02	SOLID	N/A	Ø		Joules/g Dry
96000082	C-106 GRAB	6 DUP	S96T000558	0		DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
96000082	C-106 GRAB	7 SAMPLE	S96T000560	0		DSC-02	SOLID	N/A	Ø		Joules/g Dry
96000082	C-106 GRAB	8 DUP	S96T000560	0		DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
96000082	C-106 GRAB	9 SAMPLE	S96T000567	0		DSC-02	SOLID	N/A	391.6 93.87	326.46 127.5	Joules/g Dry
96000082	C-106 GRAB	10 DUP	S96T000567	0		DSC-02	SOLID	391.6 7.5	532.0 7.25	N/A	Joules/g Dry
96000174	C-106 GRAB	11 SAMPLE	S96T001676	0		DSC-02	SOLID	N/A	242.4		Joules/g Dry
96000174	C-106 GRAB	12 DUP	S96T001676	0		DSC-02	SOLID	242.4	237.0	N/A	Joules/g Dry
96000174	C-106 GRAB	13 SAMPLE	S96T001685	0		DSC-02	SOLID	N/A	Ø		Joules/g Dry
96000174	C-106 GRAB	14 DUP	S96T001685	0		DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
96000174	C-106 GRAB	15 SAMPLE	S96T001559	0		DSC-02	SOLID	N/A	Ø		Joules/g Dry
96000174	C-106 GRAB	16 DUP	S96T001559	0		DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

7782

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
-------	---------	--------	---------	-----	----------------	--------	--------	-------	----	------

Data entered + verified by **Final page for worklist #**

7782

Blandina Valenzuela

Analyst Signature

Date

4/22/96

Analyst Signature

Date

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

7985

Analyst: Jols Instrument: DSC01 Book # 12N14-8

Method: LA-514-113 Rev/Mod C-1

Worklist Comment: C-106 DSC RUN UNDER N2. RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	SOLID	<u>28.45</u>	<u>27.8</u> [*]	N/A	Joules/g
									<u>19.7</u>			
96000174	C-106 GRAB	2	SAMPLE	S96T001674	0		DSC-01	SOLID	N/A	<u>33.5</u>	<u>was 27.4</u>	Joules/g
96000174	C-106 GRAB	3	DUP	S96T001674	0		DSC-01	SOLID	<u>19.7</u>	<u>109.6</u>	N/A	Joules/g
96000174	C-106 GRAB	4	TRIPL	S96T001674	0		DSC-01	SOLID	<u>19.7</u>	<u>101.7</u>	N/A	Joules/g
96000082	C-106 GRAB	5	SAMPLE	S96T002021	0		DSC-01	SOLID	N/A	<u>33.5</u>		Joules/g
96000082	C-106 GRAB	6	DUP	S96T002021	0		DSC-01	SOLID	<u>33.5</u>	<u>100.6</u>	N/A	Joules/g

Final page for worklist #

7985

See Attached for Signatures
Analyst Signature Date

Analyst Signature Date

Validated by Hhnastn 5.22.96

S96T002021 high RPD noted, however, a rerun will not be done unless requested.

Data Entry Comments:

Units shown for QC (SPE & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

7985

Analyst: ELS Instrument: DSC0 _____ Book # _____

Method: LA-514-113 Rev/Mod _____

Worklist Comment: C-106 DSC RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	_____	_____	N/A	Joules/g
96000174	C-106 GRAB	2 SAMPLE	S96T001674	0	DSC-01	SOLID	N/A	_____	_____	Joules/g
96000174	C-106 GRAB	3 DUP	S96T001674	0	DSC-01	SOLID	_____	_____	N/A	Joules/g
96000082	C-106 GRAB	4 SAMPLE	S96T002021	0	DSC-01	SOLID	N/A	_____	_____	Joules/g
96000082	C-106 GRAB	5 DUP	S96T002021	0	DSC-01	SOLID	_____	_____	N/A	Joules/g

Final page for worklist # 7985

DL Sp 5-20-96
Analyst Signature Date

newright 5/21/96
Analyst Signature Date

Data Entry Comments: 1674 Trip ren

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 213 TO 218.

DSC STD 12N14-B

0.480 mg

Rate: 10.0 °C/min

File: 00100.001 DSC METTLER 20-May-86

Ident: 0.0 222-S Laboratory

EXO

20. mW

Integration

Delta H 236 mJ

27.8 J/g

Peak 159.2 °C

-14.2 mW

Allylacetate for JN Spillman 5-22-86

180. °C

150.

140.

120.

S96T001674 N2

7.056 mg

Rate: 10.0 °C/min

File: 00001.001 DSC METTLER 20-May-86

Ident: 0.0 222-S Laboratory

Integration

Delta H 1988 mJ

281.8 J/g

Peak

109.6°C

-11.9 mW

Integration

Delta H 2449 mJ

347.0 J/g

Peak

247.2°C

-7.2 mW

Integration

Delta H 793 mJ

112.4 J/g

Peak

401.1°C

-1.8 mW

exo

10. mW

100.

200.

300.

400.

°C

S96T001674 DUP N2

10.820 mg

Rate: 10.0 °C/min

File: 00002.001 DSC METTLER 20-May-96

Ident: 0.0 222-S Laboratory

exo

Integration

Delta H 2795 mJ
258.3 J/g

Peak 111.7°C
-16.3 mW

Integration

Delta H 1505 mJ
139.1 J/g

Peak 255.5°C
-5.1 mW

Integration

Delta H 1186 mJ
109.6 J/g

Peak 296.0°C
4.6 mW

10. mW

S96T001674TRIP N2

File: 00004.001 DSC METTLER 20-May-86

8.180 mg

Rate: 10.0 °C/min

Ident: 0.0 222-S Laboratory

LABCORE Data Entry Template for Worklist#

7987

Analyst: SMF Instrument: DSC0 3 Book # 12N14B

Method: LA-514-114 Rev/Mod C-1

Worklist Comment: C-106 DSC RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	SOLID	<u>28.45</u>	<u>26.18</u>	<u>N/A</u>	Joules/g
96000082	C-106 GRAB	2 SAMPLE	S96T002042	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96000082	C-106 GRAB	3 DUP	S96T002042	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist #

7987

See attached for signatures
Analyst Signature Date 5-3-96

Fendal Conlin 5-7-96
Analyst Signature Date

Verified/Validated by ^{BOY}Blandina Valenzuela

Data Entry Comments:

Sample produced an endotherm at 124.4°C with
a delta H of 1069.4 J/g

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

7987

Analyst:

SAH

Instrument: DSC0

Book #

12N14B

Method: LA-514-113 Rev/Mod

Worklist Comment: C-106 DSC RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID			N/A	Joules/g
96000082	C-106 GRAB	2 SAMPLE	S96T002042	0	DSC-01	SOLID	N/A			Joules/g
96000082	C-106 GRAB	3 DUP	S96T002042	0	DSC-01	SOLID			N/A	Joules/g

Final page for worklist #

7987

Analyst Signature

Date

Analyst Signature

Date

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

Curve 1: DSC
 File Info: IND042904 Mon Apr 29 11:04:54 1996
 Sample Weight: 11.620 mg
 12N14-B INDIUM

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 221 TO 222.

N2, EXOTHERM DOWN
 TEMPERATURE 140.0 8 TIME: 0.0 min RATE: 50.0 °/min
 PJ MCCOWN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Apr 29 11:06:20 1996

Curve 1: DSC
 File info: SAM042901 Mon Apr 29 19:19:09 1996
 Sample Weight: 14.790 mg
 S96T002042

SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Apr 29 20:45:34 1996

exotherm down, N2 purge gas
 RATE: 10.0 °C/min
 TIME: 0.0 min

TEMP: 35.0 °C
 TEMPE: 600.0 °C

Curve 1: DSC

File info: SAM042902 Mon Apr 29 21:21:11 1996

Sample Weight: 12.340 mg

S95T002024 DUP

SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Apr 29 21:21:32 1996

exotherm down, N2 purge gas

TEMP: 35.0 °C

TIME: 0.0 min RATE: 10.0 °C/min

TEMP: 400.0 °C

LABCORE Data Entry Template for Worklist#

8123

Analyst: SMF **Instrument:** DSC03 **Book #** 12N14B

Method: LA-514-114 Rev/Mod C-1

Worklist Comment: C-106 Grab. Run under Nitrogen. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	LIQUID	<u>28.45</u>	<u>28.20*</u>	<u>N/A</u>	Joules/g
96000082	C-106 GRAB	2 SAMPLE	S96T001544	0	DSC-03	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
96000082	C-106 GRAB	3 DUP	S96T001544	0	DSC-03	LIQUID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist #

8123

See Attached for Signatures

Analyst Signature

Date

Analyst Signature

Date

Validated by Anastas 5-13-96

S96T001544 produced a very sharp
endotherm immediately after the water
peak.

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

8123

Analyst: SME Instrument: DSC0 3 Book # 12N14B

Method: LA-514-113 Rev/Mod _____

Worklist Comment: C-106 Grab. Run under Nitrogen. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	_____	_____	N/A	Joules/g
96000082	C-106 GRAB	2 SAMPLE	S96T001544	0	DSC-01	LIQUID	N/A	_____	_____	Joules/g
96000082	C-106 GRAB	3 DUP	S96T001544	0	DSC-01	LIQUID	_____	_____	N/A	Joules/g

Final page for worklist #

8123

Lucie M. Fulton 5-9-96
Analyst Signature Date

new light 5/13/96
Analyst Signature Date

Other Instrument was used.

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

Curve 1: DSC

File Info: IND050901 Thu May 9 04:06:00 1996

Sample Weight: 12.080 mg

12N14-B INDIUM AT 10C/MIN

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 226 TO 228.

226

N2, EXOTHERM DOWN

TIME: 120.8 S

0.0 min RATE: 10.0 C/min

Temperature (°C)

KB MONTEITH
PERKIN-ELMER7 Series Thermal Analysis System
Thu May 9 20:28:30 1996

Curve 1: DSC
 File info: SAM050903 Thu May 9 21:28:53 1996
 Sample Weight: 13.120 mg
 S96T001544

SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Thu May 9 21:31:43 1996

exotherm down, N2 purge gas
 RATE 50.0 °C/min
 TIME 0.0 min RATE: 10.0 C/min

Curve 1: DSC

File Info: SAM050904 Thu May 9 22:21:33 1996

Sample Weight: 12.110 mg

S96T001544 DUP

SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Thu May 9 22:36:56 1996

exotherm down, N2 purge gas
rate 20.0 g/min
flow 0.0 min RATE: 10.0 °C/min

LABCORE Data Entry Template for Worklist#

8140

Analyst: SMF Instrument: DSC0 3 Book # 12N14B

Method: LA-514-114 Rev/Mod C-1

Worklist Comment: C-106 Grab. Run under nitrogen. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	SOLID	<u>28.45</u>	<u>28.20</u> *	<u>N/A</u>	Joules/g
96000082	C-106 GRAB	2 SAMPLE	S96T001526	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96000082	C-106 GRAB	3 DUP	S96T001526	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist #

8140

See Attached In
Analyst Signature Date

Analyst Signature Date

Signatures
Validated by ANASTO 5-14-96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

8140

Analyst: SMF Instrument: DSC0 3 Book # 12N14R

Method: LA-514-113 Rev/Mod _____

Worklist Comment: C-106 Grab. Run under nitrogen. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID			N/A	Joules/g
96000082	C-106 GRAB	2 SAMPLE	S96T001526	0	DSC-01	SOLID	N/A			Joules/g
96000082	C-106 GRAB	3 DUP	S96T001526	0	DSC-01	SOLID			N/A	Joules/g

Final page for worklist #

8140

Susie M. Dutton 5-9-96
Analyst Signature Date

Reu J. Light 5/13/96
Analyst Signature Date

Other Instrument was used.

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

Curve 1: DSC
File info: IND050901 Thu May 9 04:06:00 1996
Sample Weight: 12.080 mg
12N14-B INDIUM AT 10C/MIN

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 231 TO 233.

N2, EXOTHERM DOWN
TIME: 142.8 s
RATE: 0.0 min RATE: 10.0 C/min
KR MONTEITH
PERKIN-ELMER
7 Series Thermal Analysis System
Fri May 10 03:34 1996

Curve 1: DSC
 File Info: SAM050905 Fri May 10 01:19:57 1996
 Sample Weight: 26.580 mg
 S96T001526

SH FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri May 10 01:25:16 1996

exotherm down, N2 purge gas
 RATE: 50.0 °C/min
 TIME: 0.0 min
 RATE: 10.0 C/min

Curve 1: DSC
 File info: SAM050506 Fri May 10 02:17:58 1996
 Sample Weight: 18.040 mg
 SS6T001526 DUP

SM FILTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri May 10 03:17:44 1996

exotherm down, N2 purge gas
 TEMP: 88.8 °C TIME: 0.0 min RATE: 10.0 °C/min

LABCORE Data Entry Template for Worklist#

8141

Analyst: ADP Instrument: DSC03 Book # 12N14BMethod: LA-514-114 Rev/Mod C-1

Worklist Comment: C-106 Grab. Run under nitrogen. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	SOLID	28.45	28.91*	N/A	Joules/g
96000082	C-106 GRAB	2 SAMPLE	S96T001530	0	DSC-03	SOLID	N/A	Ø		Joules/g
96000082	C-106 GRAB	3 DUP	S96T001530	0	DSC-03	SOLID	Ø	Ø	N/A	Joules/g
96000082	C-106 GRAB	4 SAMPLE	S96T001537	0	DSC-03	SOLID	N/A	Ø		Joules/g
96000082	C-106 GRAB	5 DUP	S96T001537	0	DSC-03	SOLID	Ø	Ø	N/A	Joules/g

Final page for worklist #

8141

See Attached for Signatures

Analyst Signature

Date

Analyst Signature

Date

Validated by Hanasth 51396

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

8141

Analyst: ADD Instrument: DSC0 3 Book # 12N14B

Method: LA-514-113 Rev/Mod C-1

Worklist Comment: C-106 Grab. Run under nitrogen. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID			N/A	Joules/g
96000082	C-106 GRAB	2 SAMPLE	S96T001530	0	DSC-01	SOLID	N/A			Joules/g
96000082	C-106 GRAB	3 DUP	S96T001530	0	DSC-01	SOLID			N/A	Joules/g
96000082	C-106 GRAB	4 SAMPLE	S96T001537	0	DSC-01	SOLID	N/A			Joules/g
96000082	C-106 GRAB	5 DUP	S96T001537	0	DSC-01	SOLID			N/A	Joules/g

Final page for worklist #

8141

Anthony Paruta 5-12-96
Analyst Signature Date

new light 5/13/96
Analyst Signature Date

Other instrument was used.

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

File info: IN051201 Sun May 12 05:48:54 1996

Sample Weight: 12.080 mg

12N14-B INDIUM AT 10C\MIN

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 231 TO 236

N₂, EXOTHERM DOWN

TIME:	TIME:
149:00	149:00
150:00	150:00

Temperature (°C)

**AD PURINTON
PERKIN-ELMER**

7 Series Thermal Analysis System
Sun May 12 05:52:05 1996

Curve 1: DSC

File Info: SAK051204 Sun May 12 07:53:20 1996

Sample Weight: 37.120 mg

S96T004250-SAK

1530

WIC-SD-WM-DP-183, REV. 9

exotherm down, N2 purge gas

TIME 38.8 s

0.0 min RATE: 10.0 °C/min

AD PURINTON

PERKIN-ELMER

7 Series Thermal Analysis System
Sun May 12 08:57 1996

Curve 1: DSC

File Info: SAN051205 Sun May 12 09:06:13 1996

Sample Weight: 59.300 mg

S95T004250 DUP 7/18/94

1530

exotherm down, N2 purge gas

TEMP: 35.8 °C TIME: 0.0 min RATE: 10.0 °C/min

AD PURINTON
PERKIN-ELMER

7 Series Thermal Analysis System
Sun May 12 09:47:49 1996

Curve 1: DSC
 File Info: SAM051206 Sun May 12 10:49:36 1996
 Sample Weight: 18.020 mg
 886T001537 SAM

AD PURINTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon May 13 09:35:21 1996

exotherm down, N2 purge gas
 rate 50.0 ml/min
 time 0.0 min
 time 0.0 min

Curve 1: DSC
 File Info: SAM051207 Sun May 12 13:06:53 1996
 Sample Weight: 26.280 mg
 996T001537 DUP

AD PURINTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun May 12 13:06:44 1996

LABCORE Data Entry Template for Worklist#

8321

Analyst: SMF Instrument: DSC0 1 Book # 12N14B

Method: LA-514-113 Rev/Mod C-1

Worklist Comment: C-106 Grab. DSC-01.Run under Nitrogen. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	<u>28.45</u>	<u>31.7</u> *	<u>N/A</u>	Joules/g
96000082	C-106 GRAB	2 SAMPLE	S96T001527	0	DSC-01	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96000082	C-106 GRAB	3 DUP	S96T001527	0	DSC-01	SOLID	<u>Ø</u>	<u>1000</u>	<u>N/A</u>	Joules/g
96000082	C-106 GRAB	4 TRIPL	S96T001527	0	DSC-01	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
96000174	C-106 GRAB	5 SAMPLE	S96T002350	0	DSC-01	SOLID	<u>N/A</u>	<u>29.8</u>		Joules/g
96000174	C-106 GRAB	6 DUP	S96T002350	0	DSC-01	SOLID	<u>29.8</u>	<u>61.1</u>	<u>N/A</u>	Joules/g

Final page for worklist #

8321

See Attached for Signatures
Analyst Signature

May Hammett 5-13-96
Analyst Signature Date

Validated by Hanash 5-14-96

S96T001527 will be rerun due to differences in thermograms. Sample also shows no water.

S96T002350 SAM + DUP exotherms have different shapes, however, due to the low value, no rerun will be done.

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

8321

Analyst: SME Instrument: DSC0 _____ Book # 12A14B

Method: LA-514-113 Rev/Mod _____

Worklist Comment: C-106 Grab. DSC-01.Run under Nitrogen. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID			N/A	Joules/g
96000082	C-106 GRAB	2 SAMPLE	S96T001527	0	DSC-01	SOLID	N/A			Joules/g
96000082	C-106 GRAB	3 DUP	S96T001527	0	DSC-01	SOLID			N/A	Joules/g
96000174	C-106 GRAB	4 SAMPLE	S96T002350	0	DSC-01	SOLID	N/A			Joules/g
96000174	C-106 GRAB	5 DUP	S96T002350	0	DSC-01	SOLID			N/A	Joules/g

Final page for worklist #

8321

Suzie M. Jullien 5-9-96
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 243 TO 248.

DSC STD 12N14-B

10.500 mg

Rate: 10.0 °C/min

File: 00062.001 DSC METTLER 08-May-96

Ident: 0.0 222-S Laboratory

exo

10. mW

Integration
Delta H 333 mJ
31.7 J/g
Peak 158.5°C
-21.4 mW

120.

140.

160.

180. °C

James M. Dutton, 5/09/96

S96T001527 DUP N2

16.507 mg

Rate: 10.0 °C/min

File: 00068.001

DSC METTLER

10-May-96

Ident: 0.0

222-S Laboratory

<OXE

20. mW

Integration

Delta H16507 mJ

1000.0 J/g

Peak

342.0°C

22.2 mW

100.

200.

300.

400.

°C

S96T001527 TRP N2

19.511 mg

Rate: 10.0 °C/min

File: 00069.001

DSC METTLER

10-May-96

Ident: 0.0

222-S Laboratory

ENDO

10. mW

Integration
Delta H 4194 mJ
215.0 J/g
Peak 321.3°C
-16.4 mW

100. 200. 300. 400. °C

S96T002350 DUP N2

7.205 mg

Rate: 10.0 °C/min

File: 00066.001 DSC METTLER 08-May-96

Ident: 0.0 222-S Laboratory

Exo

Integration

Delta H 136 mJ

18.9 J/g

Peak 248.7°C

-1.1 mW

Integration

Delta H 440 mJ

61.1 J/g

Peak 312.9°C

2.2 mW

Integration

Delta H 9227 mJ

1280.6 J/g

Peak 100.3°C

-58.9 mW

100. 200. 300. 400. °C

LABCORE Data Entry Template for Worklist#

8323

Analyst: SME Instrument: DSC0 1 Book # 12114B

Method: LA-514-113 Rev/Mod C-1

Worklist Comment: C-106 Grab. Run under AIR. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	<u>2845.32.1</u>		<u>N/A</u>	Joules/g
96000174	C-106 GRAB	2 SAMPLE	S96T002351	0	DSC-01	SOLID	<u>N/A</u>	<u>180.6</u>		Joules/g
96000174	C-106 GRAB	3 DUP	S96T002351	0	DSC-01	SOLID	<u>180.6</u>	<u>218.1</u>	<u>N/A</u>	Joules/g

Final page for worklist #

8323

Sinfulton 5-13-96
Analyst Signature Date

RDD 5-14-96
Analyst Signature Date

Validated by Hanestn 5-7-96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 250 TO 252.

DSC STD 12N14B Rate: 10.0 °C/min File: 00016.001 DSC METTLER 13-May-98
10.500 mg Ident: 0.0 222-8 Laboratory

S96T002351 AIR

22.671 mg

Rate: 10.0 °C/min

File: 00018.001 DSC METTLER 13-May-96

Ident: 0.0 222-8 Laboratory

<OX>

50. mW

100. 200. 300. 400. °C

LABCORE Data Entry Template for Worklist#

8617

Analyst: SMF Instrument: DSC01 Book # 12014R

Method: LA-514-113 Rev/Mod C-1

Worklist Comment: Rerun. Please run C-106 DSCs under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	28.45	32.1	N/A	Joules/g
96000082	C-106 GRAB	2 SAMPLE	S96T001527	1	DSC-01	SOLID	N/A	13.5		Joules/g
96000082	C-106 GRAB	3 DUP	S96T001527	1	DSC-01	SOLID	13.5	25.5	N/A	Joules/g

Final page for worklist #

8617

Lusie M. Tutton 5-13-96
Analyst Signature Date

Jay Hammett 5-15-96
Analyst Signature Date

Validated by Hanasto 5-16-96

Data Entry Comments:

Sample is very dry, powdery, with small clumps and light brown color. The end of the thermogram did show a strong drift in the exotherm direction, however, the run completed prior to it returning to a baseline. Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 254 TO 256.

S96T001527 N2

17.991 mg

Rate: 10.0 °C/min

File: 00020.001

Ident: 0.0

DSC METTLER

13-May-96

222-S Laboratory

<exo>

10. mW

S95T001527 DUP N2

15.956 mg

Rate: 10.0 °C/min

File: 00021.001

Ident: 0.0

DSC METTLER

13-May-86

222-S Laboratory

exo >

10. mW

LABCORE Data Entry Template for Worklist#

8827

Analyst: RDM Instrument: DSC0 3 Book # 12N14B

Method: LA-514-114 Rev/Mod C-1

Worklist Comment: C-106 FOR DSC01 CONTACT BLONDIE PRIOR TO RUN RTS!

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-03	LIQUID	<u>28.45</u>	<u>28.63</u> *	<u>N/A</u>	Joules/g
96000638	C-106 GRAB	2	SAMPLE	S96T002766	0		DSC-03	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
96000638	C-106 GRAB	3	DUP	S96T002766	0		DSC-03	LIQUID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
96000648	C-106 GRAB	4	SAMPLE	S96T002825	0		DSC-03	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
		5	STD				DSC-03	LIQUID	<u>28.45</u>	<u>28.86</u>	<u>N/A</u>	Joules/g
96000648	C-106 GRAB	6	DUP	S96T002825	0		DSC-03	LIQUID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist #

8827

See Attached In Signatures
Analyst Signature

Date

[Signature] 5-22-96
Analyst Signature Date

Validated by H. Anastos 5-22-96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

8827

Analyst:

JP

Instrument:

DSC0 3

Book #

12N14B

Method: LA-514-113 Rev/Mod

C-1

Worklist Comment: C-106 FOR DSC01 CONTACT BLONDIE PRIOR TO RUN RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID			N/A	Joules/g
96000638	C-106 GRAB	2 SAMPLE	S96T002766	0	DSC-01	LIQUID	N/A			Joules/g
96000638	C-106 GRAB	3 DUP	S96T002766	0	DSC-01	LIQUID			N/A	Joules/g
96000648	C-106 GRAB	4 SAMPLE	S96T002825	0	DSC-01	LIQUID	N/A			Joules/g
96000648	C-106 GRAB	5 DUP	S96T002825	0	DSC-01	LIQUID			N/A	Joules/g

Final page for worklist #

8827

Analyst Signature

Date

Analyst Signature

Date

JP 5/17/96
gm ful 5-18-96

Other Instrument was used.

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Curve 1: DSC

File Info: IND051701 Fri May 17 05:51:20 1996

Sample Weight: 11.620 mg

12N14-B INDIUM AT 10C/MIN

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 259 TO 264.

N2, EXOTHERM DOWN

TIME 120.8 g TIME: 0.0 min RATE: 10.0 C/min

Temperature (°C)

RW KING

PERKIN-ELMER

7 Series Thermal Analysis System
Fri May 17 15:32:23 1996

Curve 1: DSC

File Info: SAM051705 Fri May 17 22:12:21 1996

Sample Weight: 24.210 mg

S96T002766

RO MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri May 17 22:46:11 1996

Curve 1: DSC
 File Info: qsav2 Sat May 18 01:18:44 1996
 Sample Weight: 21.500 mg
 996T002765DUP

RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat May 18 03:04:25 1996

Curve 1: DSC

File Infor: SAM051802 Sat May 18 04:04:42 1996

Sample Weight: 22.050 mg

S96T002825

RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Sat May 18 04:17:40 1996

exotherm down, N2 purge gas
TIME: 55.8 s TIME: 0.0 min RATE: 10.0 °C/min

Curve 1: DSC

File Info: IND061801 Sat May 18 06:34:12 1996

Sample Weight: 11.620 mg

12N14-B INDIUM AT 10C/MIN

N2, EXOTHERM DOWN

140.0 g THERM: 0.0 min RATE: 10.0 C/min

SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sat May 18 06:36:14 1996

Curve 1: DSC
 File Info: SAK051801 Sat May 18 07:25:38 1996
 Sample Weight: 9.860 mg
 S96T002825 DUP

SN FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat May 18 08:25:08 1996

exotherm down, N2 purge gas
 RATE 20.0 °C/min
 TIME 00:08:58

LABCORE Data Entry Template for Worklist#

8908

Analyst: RPM Instrument: DSC0 _____ Book # 12014B

Method: LA-514-113 Rev/Mod C-1

Worklist Comment: C-106 DSC RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	_____	_____	N/A	Joules/g
96000638	C-106 GRAB	2 SAMPLE	S96T002770	0	DSC-01	LIQUID	N/A	_____	_____	Joules/g
96000638	C-106 GRAB	3 DUP	S96T002770	0	DSC-01	LIQUID	_____	_____	N/A	Joules/g
96000648	C-106 GRAB	4 SAMPLE	S96T002829	0	DSC-01	LIQUID	N/A	_____	_____	Joules/g
96000648	C-106 GRAB	5 DUP	S96T002829	0	DSC-01	LIQUID	_____	_____	N/A	Joules/g

Final page for worklist #

8908

RPM 5/17/96
Analyst Signature Date

Analyst Signature Date

gm-fulton 5-18-96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 267 TO 272.

DSC STD 12N14-B
8.148 mg
Rate: 10.0 °C/min
File: 00065.001 DSC METTLER 17-May-86
Ident: 0.0 222-S Laboratory

S96T002770 N2

10.082 mg

Rate: 10.0 °C/min

File: 00068.001 DSC METTLER 17-May-98

Ident: 0.0 222-S Laboratory

Exo

100. 200. 300. 400. °C

S96T002829 N2
20.200 mg
Rate: 10.0 °C/min
File: 00072.001 DSC METTLER 18-May-86
Ident: 0.0 222-S Laboratory

DSC STD 12N14B

8.148 mg

Rate: 10.0 °C/min

File: 00074.001 DSC METTLER 18-May-96

Ident: 0.0 222-S Laboratory

LABCORE Data Entry Template for Worklist#

9139

Analyst: BDV Instrument: DSC01 _____ Book # _____

Method: LA-514-113 Rev/Mod _____

Worklist Comment: Dry DSC for C-106. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
96000174	C-106 GRAB	1 SAMPLE	S96T001681	0	DSC-02	LIQUID	N/A	10.27		Joules/g Dry
96000174	C-106 GRAB	2 DUP	S96T001681	0	DSC-02	LIQUID	10.27	10.27	N/A	Joules/g Dry
96000082	C-106 GRAB	3 SAMPLE	S96T001544	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96000082	C-106 GRAB	4 DUP	S96T001544	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
96000174	C-106 GRAB	5 SAMPLE	S96T002350	0	DSC-02	SOLID	N/A	83.15		Joules/g Dry
96000174	C-106 GRAB	6 DUP	S96T002350	0	DSC-02	SOLID	83.15	1705	N/A	Joules/g Dry
96000174	C-106 GRAB	7 SAMPLE	S96T002351	0	DSC-02	SOLID	N/A	404.0		Joules/g Dry
96000174	C-106 GRAB	8 DUP	S96T002351	0	DSC-02	SOLID	404.0	487.9	N/A	Joules/g Dry

Final page for worklist #

9139

Blandina Valenzuela 5-22-96
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

WHC-SD-WM-DP-183, REV. 6

[illegible]

LABCORE Data Entry Template for Worklist#

9140

Analyst: BDV Instrument: DSC01 Book #

Method: LA-514-113 Rev/Mod

Worklist Comment: Dry DSC for C-106. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
96000082	C-106 GRAB	1	SAMPLE	S96T001526	0		DSC-02	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g Dry
96000082	C-106 GRAB	2	DUP	S96T001526	0		DSC-02	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g Dry
96000082	C-106 GRAB	3	SAMPLE	S96T001527	0		DSC-02	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g Dry
96000082	C-106 GRAB	4	DUP	S96T001527	0		DSC-02	SOLID	<u>Ø</u>	<u>1037</u>	<u>N/A</u>	Joules/g Dry
96000082	C-106 GRAB	5	TRIPL	S96T001527	0		DSC-02	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g Dry
96000082	C-106 GRAB	6	SAMPLE	S96T001537	0		DSC-02	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g Dry
96000082	C-106 GRAB	7	DUP	S96T001537	0		DSC-02	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g Dry
96000082	C-106 GRAB	8	SAMPLE	S96T000542	0		DSC-02	SOLID	<u>N/A</u>	<u>122.1</u>		Joules/g Dry
96000082	C-106 GRAB	9	DUP	S96T000542	0		DSC-02	SOLID	<u>122.1</u>	<u>97.14</u>	<u>N/A</u>	Joules/g Dry
96000174	C-106 GRAB	10	SAMPLE	S96T001030	0		DSC-02	SOLID	<u>N/A</u>	<u>199.6</u>		Joules/g Dry
96000174	C-106 GRAB	11	DUP	S96T001030	0		DSC-02	SOLID	<u>199.6</u>	<u>285.6</u>	<u>N/A</u>	Joules/g Dry
96000174	C-106 GRAB	12	SAMPLE	S96T001674	0		DSC-02	SOLID	<u>N/A</u>	<u>21.66</u>		Joules/g Dry
96000174	C-106 GRAB	13	DUP	S96T001674	0		DSC-02	SOLID	<u>21.66</u>	<u>120.5</u>	<u>N/A</u>	Joules/g Dry
96000174	C-106 GRAB	14	TRIPL	S96T001674	0		DSC-02	SOLID	<u>21.66</u>	<u>111.8</u>	<u>N/A</u>	Joules/g Dry
96000174	C-106 GRAB	15	SAMPLE	S96T001034	0		DSC-02	SOLID	<u>N/A</u>	<u>126.9</u>		Joules/g Dry
96000174	C-106 GRAB	16	DUP	S96T001034	0		DSC-02	SOLID	<u>126.9</u>	<u>96.81</u>	<u>N/A</u>	Joules/g Dry
96000082	C-106 GRAB	17	SAMPLE	S96T001530	0		DSC-02	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g Dry
96000082	C-106 GRAB	18	DUP	S96T001530	0		DSC-02	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g Dry

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

9140

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
96000082	C-106 GRAB	19	SAMPLE	S96T002021	0		DSC-02	SOLID	N/A	71.10		Joules/g Dry
96000082	C-106 GRAB	20	DUP	S96T002021	0		DSC-02	SOLID	71.10	213.5	N/A	Joules/g Dry
96000082	C-106 GRAB	21	SAMPLE	S96T002042	0		DSC-02	SOLID	N/A	Ø		Joules/g Dry
96000082	C-106 GRAB	22	DUP	S96T002042	0		DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry

Final page for worklist #

9140

Blandina Valenzuela
Analyst Signature

5-22-96
Date

Analyst Signature

Date

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

C-106

WHC-SD-WM-DP-183, REV. C

CALCULATED DRY DSC			
SAMPLE NO.	DSC RESULT (J/g)	TGA RESULT (% water)	DRY DSC RESULT
S96T001526	Ø	3.18	Ø
1526D	Ø	3.18	Ø
1527	Ø	3.59	Ø
1527D	1000	3.59	1037
1537	Ø	—	Ø
1537D	Ø	—	Ø
542	112	8.28	122.1
542D	89.1	8.28	97.14
1030	180.9	9.36	199.6
1030D	258.9	9.36	285.6
1674	19.7	9.03	21.66
1674D	109.6	9.03	120.5
1034	87.4	31.10	126.9
1034D	66.7	31.10	96.81
1530	Ø	—	Ø
1530D	Ø	—	Ø
2021	33.5	52.88	71.10
2021D	100.6	52.88	213.5
2042	Ø		Ø
2042D	Ø		Ø
* 1527 T	Ø	3.59	Ø
1527	2250-13.5	3.59	14.0

1527 D 25.5

3.59

26.45

1674T ~~1674D~~ ⁷⁻²³⁻⁹⁶ 101.7

9.03

111.8

LABCORE Data Entry Template for Worklist#

9142

Analyst: ADP/CAE Instrument: DSC0 1 Book #

Method: LA-514-113 Rev/Mod C-1

Worklist Comment: C-106 DSC Rerun. Run under N2.

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	28.45	32.5	N/A	Joules/g
96000648	C-106 GRAB	2 SAMPLE	S96T002829	1	DSC-01	LIQUID	N/A	0		Joules/g
96000648	C-106 GRAB	3 DUP	S96T002829	1	DSC-01	LIQUID	0	77.8	N/A	Joules/g

Anthony Purcell

5-23-96

Final page for worklist #

9142

J. Rambel

5-23-96

Analyst Signature

Date

7/1/96

5-28-96

Analyst Signature

Date

Validated by *J. Hnaster* 5-31-96

14668

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 239 TO 281

DSC STD 12N14-B N2

11.620 mg

Rate: 10.0 °C/min

File: 00014.001

Ident: 0.0

DSC METTLER

23-May-88

222-B Laboratory

Exo

20. mW

Integration
Delta H 377 mJ
32.5 J/g
Peak 158.4°C
-25.7 mW

Anthony J. Dwyer 5-23-98

120.

140.

160.

180.

°C

S96T002829 DUP N2

21.923 mg

Rate: 10.0 °C/min

File: 00111.001 DSC METTLER 23-May-96

Ident: 0.0 222-S Laboratory

EXO

50. mW

Integration
Delta H17207 mJ
799.5 J/g
Peak 93.3°C
-63.0 mW

Integration
Delta H 1675 mJ
77.8 J/g
Peak 388.5°C
2.8 mW

100. 200. 300. 400. °C

LABCORE Data Entry Template for Worklist#

9143

Analyst: BDV Instrument: DSC01 _____ Book # _____

Method: LA-514-113 Rev/Mod _____

Worklist Comment: Dry DSC for C-106. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
96000082	C-106 GRAB	1 SAMPLE	S96T001527	1	DSC-02	SOLID	N/A	14.0		Joules/g Dry
96000082	C-106 GRAB	2 DUP	S96T001527	1	DSC-02	SOLID	14.0	26.45	N/A	Joules/g Dry

Final page for worklist #

9143

Analyst Signature

Date

5-22-96

Analyst Signature

Date

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

6223

Analyst: DPB Instrument: TGA0 1 Book # 75N84

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: C-106 TGA-01 RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	<u>59.2</u>	<u>60.99</u>	<u>N/A</u>	%
96000082	C-106 GRAB	2 SAMPLE	S96T000538	0	TGA-01	LIQUID	<u>N/A</u>	<u>80.91</u>		%
96000082	C-106 GRAB	3 DUP	S96T000538	0	TGA-01	LIQUID	<u>80.91</u>	<u>80.84</u>	<u>N/A</u>	%

Final page for worklist # 6223

Daniel P. Bromley 3/9/96 1650
Analyst Signature Date

[Signature] 3-14-96
Analyst Signature Date

Verified by Blandina Valenzuela
3/18/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 284 TO 286.

Fairfield Bromley 3/10/96

LABCORE Data Entry Template for Worklist#

6334

Analyst: DPB Instrument: TGA0 1 Book # 75N8A

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: C-106 TGA RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	<u>59.2</u>	<u>60.48</u>	<u>N/A</u>	%
96000174	C-106 GRAB	2 SAMPLE	S96T001023	0	TGA-01	LIQUID	<u>N/A</u>	<u>79.05</u>		%
								<u>79.49</u>		
96000174	C-106 GRAB	3 DUP	S96T001023	0	TGA-01	LIQUID	<u>79.05</u>	<u>79.46</u>	<u>3/11/96</u>	<u>N/A</u> %

Final page for worklist #

6334

Daniel P. Bromley 7/9/96
Analyst Signature Date

3/18/96 1030

[Signature] 3-14-96
Analyst Signature Date

Verified by Blandina Valenzuela
3/18/96

Data Entry Comments:

The steps seen on the thermogram may correspond
with the split peaks seen on the DSC.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 288 TO 290.

TGA STD 75N8A File: 00006.001 TG METTLER 10-Mar-96
14.397 mg Rate: 10.0 °C/min Ident: 0.0 222-S Laboratory

David P. Bromley 3/10/96

S96T001023 SAM N2
13.523 mg

Rate: 10.0 °C/min

File: 00004.001 TG METTLER 09-Mar-96

Ident: 0.0 222-S Laboratory

Step Analysis
Height-10.69 mg
-79.05 %
ResiC. 2.83 mg
20.95 %
Dpeak 81.0°C

worklistrpt Version 2.1 05/15/95
04/08/96 12:02

WHC-SD-WM-DP-183, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist#

6849

Analyst: VLM Instrument: TGA0 1 Book # 7508AMethod: LA-560-112 Rev/Mod B1

Worklist Comment: Please run C-106 TGAs under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	59.2	60.34	N/A	%
96000082	C-106 GRAB	2 SAMPLE	S96T000855	0	TGA-01	LIQUID	N/A	100.49		%
		3 STD			TGA-01	LIQUID	59.2	60.49	N/A	%
							100.49	99.85	N/A	%
96000082	C-106 GRAB	4 DUP	S96T000855	0	TGA-01	LIQUID	100.49	99.85	N/A	%

Final page for worklist #

6849

See Attached for Signatures
Analyst Signature

Date

 Analyst Signature 4-9-96
 Date

Reviewed 4/15/96 James M. Euge

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

worklistrpt Version 2.1 05/15/95
03/21/96 11:31

WHC-SD-WM-DP-183, REV. C

Page: 1

LABCORE Data Entry Template for Worklist#**6849**Analyst: VUM Instrument: TGA0 1 Book # 95N 8AMethod: LA-560-112 Rev/Mod 8-1

Worklist Comment: Please run C-106 TGAs under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	<u>59.2</u>	<u>60.34</u>	<u>N/A</u>	%
96000082	C-106 GRAB	2 SAMPLE	S96T000855	0	TGA-01	LIQUID	<u>N/A</u>	<u>100.49</u>		%
96000082	C-106 GRAB	3 DUP	S96T000855	0	TGA-01	LIQUID	<u>100.49</u>	<u>99.85</u>	<u>N/A</u>	%

Final page for worklist #**6849**

Analyst Signature _____ Date _____

Valent M. Mazzoli 03-22-96
Analyst Signature DateData Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 293 TO 296.

File: 00091.001 TG METTLER 21-Mar-96
Ident: 0.0 222-S Laboratory

S96T000855 SAM N2
9.805 mg Rate: 10.0 °C/min

Step Analysis
Height -9.85 mg
-100.49 %
ResidC. -0.05 mg
-0.49 %

WHC-SD-WM-DP-183, REV. 0

WHC-SD-WM-DP-183, REV. C

worklistrpt Version 2.1 05/15/95
03/29/96 12:58

WHC-SD-WM-DP-183, REV. C

Page: 1

LABCORE Data Entry Template for Worklist#

7134

Analyst: RMM

Instrument: TGA01

Book # 100CN2Method: LA-560-112 Rev/Mod B-1

Worklist Comment: C-106 FOR TGA-01 PLEASE RUN UNDER N2 RUSH RUSH RTS

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	LIQUID	<u>59.4</u>	<u>61.71</u>	<u>N/A</u>	%
96000082	C-106 GRAB	2	SAMPLE	S96T001548	0		TGA-01	LIQUID	<u>N/A</u>	<u>34.16</u>		%
96000082	C-106 GRAB	3	DUP	S96T001548	0		TGA-01	LIQUID	<u>34.16</u>	<u>35.78</u>	<u>N/A</u>	%

Final page for worklist #

7134

RMM 3/29/96
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

Sample produced a ^{part} 4/15/96 third weight loss step at approximately 420°C with 31.01% weight loss. The results given are the sum of two weight loss steps.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

04/18/96 11:04 509 372 2929 WESTINGHOUSE +-+ MO-924 2004 0022

File: 00077.001 TG METTLER 29-Mar-96

Rate: 10.0 °C/min

Ident: 0.0 222-S Laboratory

Step Analysis

Height -7.71 mg

-61.71 %

Resic. 4.78 mg

38.29 %

Dpeak 189.2°C

Blandina Valenzuela for RD Meyers 7-23-96

worklistpt Version 2.1 05/15/95
04/23/96 09:20

WHC-SD-WM-DP-183, REV. C

Page: 1

LABCORE Data Entry Template for Worklist#**7259**Analyst: PJM Instrument: TGA0 3 Book # 82N8AMethod: LA-514-114 Rev/Mod C-1Worklist Comment: C-106 TGA RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	59.2	58.85	N/A	%
96000082	C-106 GRAB	2 SAMPLE	S96T000543	0	TGA-03	SOLID	N/A	29.76		%
96000082	C-106 GRAB	3 DUP	S96T000543	0	TGA-03	SOLID	29.76	32.47	N/A	%

Final page for worklist # 7259

See Attached for Signatures.

Analyst Signature

Date

Analyst Signature

Date

Verified by Blandina Valenzuela
 The sample also produced a second
 weight loss step of 6.2937

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
 R = Replicate Number, A = Aliquot Code.

worklistrpt Version 2.1 05/15/95
04/02/96 09:38

WHC-SD-WM-DP-183, REV. C

Page: 1

LABCORE Data Entry Template for Worklist#

7259

Analyst: RS McCown Instrument: TGA0 Book # 8248A

Method: LA-560-112 Rev/Mod C-1
Rev 4/18/96

Worklist Comment: C-106 TGA RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID			N/A	%
96000082	C-106 GRAB	2 SAMPLE	S96T000543	0	TGA-01	SOLID	N/A			%
96000082	C-106 GRAB	3 DUP	S96T000543	0	TGA-01	SOLID			N/A	%

Final page for worklist #

7259

RS McCown 4/18/96
Analyst Signature Date

RC Wright 4/24/96
Analyst Signature Date

Other Instrument was used.

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Curve 1: TBA
 File info: TER041705 Wed Apr 17 18:57:55 1996
 Sample Weight: 20.559 mg
 TBA STD 829B-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 303 TO 305.

P. MacLean 4/18/96

PJ MCCOWN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Thu Apr 18 01:33:37 1996

N2 10C/MIN
 TIME 20.8
 0.0 MIN RATE 10.0 C/MIN

Curve 1: TBA
 File Info: SAM041801 Thu Apr 18 00:15:08 1996
 Sample Weight: 9.951 mg
 SSST000543 SAM

PJ MCCOY
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Thu Apr 18 01:06:00 1996

100/MIN N2
 TIME: 00:08.8
 0.0 min RATE: 10.0 C/min

Curve 1: TGA
 File Info: SAM041802 Thu Apr 18 02:18:16 1996
 Sample Weight: 19.255 mg
 S96T000543 DUP

PJ MCCOWN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Thu Apr 18 02:20:25 1996

100.0 MIN N2
 0.0 MIN RATE
 10.0 O/min
 TIME: 00:08.8

worklistrpt Version 2.1 05/15/95

WHC-SD-WM-DP-183, REV. C

Page: 1

04/04/96 14:46

LABCORE Data Entry Template for Worklist#

7386

Analyst: SMF Instrument: TGA0 1 Book # 75N8AMethod: LA-560-112 Rev/Mod B-1

Worklist Comment: C-106 RUN UNDER N2 SAMPLE IS DRY AND FLIGHTY, HIGH ALPHA. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	<u>59.2</u>	<u>60.49</u>	*	N/A %
96000082	C-106 GRAB	2 SAMPLE	S96T000551 0		TGA-01	SOLID	<u>N/A</u>	<u>9.44</u>		%
96000082	C-106 GRAB	3 DUP	S96T000551 0		TGA-01	SOLID	<u>9.44</u>	<u>16.11</u>		N/A %
96000082	C-106 GRAB	4 SAMPLE	S96T000560 0		TGA-01	SOLID	<u>N/A</u>	<u>13.39</u>		%
96000082	C-106 GRAB	5 DUP	S96T000560 0		TGA-01	SOLID	<u>13.39</u>	<u>13.59</u>		N/A %

Final page for worklist #

7386

Susan M. Dutton 4-7-96
Analyst Signature Date

David A. Hannon 4-9-96
Analyst Signature Date

Verified by Hannon 4-11-96

S96T000551 produced a second weight loss step of 7.14%
at approximately 310°C.

Data Entry Comments:

S96T000560 - dip on graph caused by hood
being pumped. SMF

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 307 TO 311.

TGA STD 75N8A

16.211 mg

Rate: 10.0 °C/min

File: 00086.001 TG METTLER 07-Apr-96

Ident: 0.0 222-S Laboratory

Step Analysis

Height -9.61 mg

-60.49 %

Resid. 6.40 mg

39.51 %

Dpeak 93.3°C

SM FULTON

S96T000551 N2
 14.144 mg
 Rate: 10.0 °C/min
 File: 00092.001 TG METTLER 07-Apr-88
 Ident: 0.0 222-S Laboratory

Step Analysis
 Height -1.34 mg
 -9.44 %
 Resid. 12.81 mg
 90.56 %
 Dpeak 45.0 °C

Step Analysis
 Height -1.01 mg
 -7.14 %
 Resid. 11.79 mg
 83.38 %
 Dpeak 303.0 °C

1. mg

100. 200. 300. 400. °C

S96T000551 DUP N2

10.228 mg

Rate: 10.0 °C/min

File: 00084.001

TG METTLER 07-Apr-96

Ident: 0.0 222-S Laboratory

Step Analysis

Height -1.65 mg

-16.11 %

Resid. 8.58 mg

83.89 %

Dpeak 47.0 °C

Step Analysis

Height -1.35 mg

-13.20 %

Resid. 7.22 mg

70.57 %

Dpeak 305.0 °C

1. mg

100. 200. 300. 400. °C

S96T000560 DUP N2

10.181 mg

Rate: 10.0 °C/min

File: 00090.001

T6 METTLER 07-Apr-86

Ident: 0.0 222-8 Laboratory

Step Analysis

Height -1.38 mg

-13.59 %

Resid. 8.81 mg

86.41 %

Dpeak 47.0 °C

worklistrpt Version 2.1 05/15/95

WHC-SD-WM-DP-183, REV. C

Page: 1

04/04/96 14:53

LABCORE Data Entry Template for Worklist#

7387

Analyst: SMF Instrument: TGA0 1 Book # 75N8AMethod: LA-560-112 Rev/Mod B-1

Worklist Comment: C-106 RUN UNDER N2, SAMPLE IS DRY AND FLIGHTY, HIGH ALPHA. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	59.2	60.18	N/A	%
96000082	C-106 GRAB	2 SAMPLE	S96T000567	0	TGA-01	SOLID	N/A	26.22		%
96000082	C-106 GRAB	3 DUP	S96T000567	0	TGA-01	SOLID	26.22	25.27	N/A	%

Final page for worklist #

7387

Smfukm 4-5-96
 Analyst Signature Date

[Signature] 4-9-96
 Analyst Signature Date

Verified by HAnastn 4-11-96

Data Entry Comments:

Sample produced a second weight loss step of 13.07%
 at approximately 300°C

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
 R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 313 TO 315.

TGA STD 75N8A

16.962 mg

File: 00065.001 TG METTLER 05-Apr-96

Ident: 0.0 222-8 Laboratory

Rate: 10.0 °C/min

Step Analysis

Height-10.20 mg

-60.18 %

Res1C. 6.75 mg

39.82 %

Dpeak 86.7 °C

WHC-SD-WM-DP-183, REV. 0

worklistrpt Version 2.1 05/15/95
04/09/96 09:06

Page: 1

LABCORE Data Entry Template for Worklist#

7404

Analyst: SME Instrument: TGA0 3 Book # 75N8-AMethod: LA-514-114 Rev/Mod C-1

Worklist Comment: C-106 RUN UNDER N2, SAMPLE DRY AND FLIGHTY, HIGH ALPHA. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	LIQUID	<u>59.2</u>	<u>60.40</u>	<u>N/A</u>	%
96000082	C-106 GRAB	2 SAMPLE	S96T000545	0	TGA-03	LIQUID	<u>N/A</u>	<u>34.27</u>		%
96000082	C-106 GRAB	3 DUP	S96T000545	0	TGA-03	LIQUID	<u>34.27</u>	<u>36.53</u>	<u>N/A</u>	%

Final page for worklist #

7404

See attached for signatures
Analyst Signature Date 4-9-96 4-9-96
Analyst Signature Date Verified by Blandina
Valenzuela
4-11-96Data Entry Comments: ⁴⁻⁹⁻⁹⁶ Sample produced ~~two~~ another distinct weight loss
step which the chemist does not believe it is water therefore
it did not get added together. The sample produced 37.91% weight loss
at 150°C.Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

worklistrpt Version 2.1 05/15/95
04/05/96 09:52

WHC-SD-WM-DP-183, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist#

7404

Analyst: SME Instrument: TGA0 Book # 75N8A

Method: LA-560-112 Rev/Mod _____

Worklist Comment: C-106 RUN UNDER N2, SAMPLE DRY AND FLIGHTY, HIGH ALPHA. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID			N/A	%
96000082	C-106 GRAB	2 SAMPLE	S96T000545	0	TGA-01	LIQUID	N/A			%
96000082	C-106 GRAB	3 DUP	S96T000545	0	TGA-01	LIQUID			N/A	%

Final page for worklist #

7404

Susie M. Julton 4-7-96
Analyst Signature Date

Analyst Signature Date

Other instrument
was used.
4/11/96
BOR

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

Curve 1: TGA

File Info: TER040701 Sun Apr 7 06:39:17 1996

Sample Weight: 17.389 mg

TGA STD 75N8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 318 TO 320. N2 10C/MIN
TEMP: 300.8 °C
TIME: 300.8 s

TIME: 0.0 min RATE: 10.0 °C/min

Temperature (°C)

SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Apr 7 06:45:33 1996

Curve 1: TGA
 File info: SAM040701 Sun Apr 7 10:46:20 1996
 Sample Weight: 10.598 mg
 S96T000545

SM FULION
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Apr 7 12:44:57 1996

Temperature (°C)

10.0 C/min

0.0 min RATE

TIME

10C/MIN N2

TEMP: 35.0 °C
 TIME: 000.0 S

Curve 1: TGA
 File Info: SAM040704 Sun Apr 7 13:35:12 1996
 Sample Weight: 9.159 mg
 S96T000545 DUP

SH FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Apr 7 13:45:10 1996

Temperature (°C)

10C/MIN N2
 TEMPI: 35.0 °C
 TIME: 000.0 s
 0.0 min RATE: 10.0 C/min

worklistrpt Version 2.1 05/15/95

WHC-SD-WM-DP-183, REV. (

Page: 1

04/08/96 10:37

LABCORE Data Entry Template for Worklist#

7455

Analyst: PK Instrument: TGA0 1 Book # 7548-AMethod: LA-560-112 Rev/Mod B-1

Worklist Comment: C-106 TGA RUN UNDER N2, SAMPLE DRY AND FLIGHTY, HIGH ALPHA. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	<u>59.2</u>	<u>59.9</u>	<u>N/A</u>	%
96000174	C-106 GRAB	2 SAMPLE	S96T001566	0	TGA-01	LIQUID	<u>N/A</u>	<u>74.92</u>		%
96000174	C-106 GRAB	3 DUP	S96T001566	0	TGA-01	LIQUID	<u>74.92</u>	<u>76.6</u>	<u>N/A</u>	%
96000174	C-106 GRAB	4 SAMPLE	S96T001679	0	TGA-01	LIQUID	<u>N/A</u>	<u>28.37</u>		%
96000174	C-106 GRAB	5 DUP	S96T001679	0	TGA-01	LIQUID	<u>28.37</u>	<u>31.34</u>	<u>N/A</u>	%

Final page for worklist #

7455

John Kinn 4/8/96
Analyst Signature Date

John Kinn 4-9-96
Analyst Signature Date

S96T001566 is the sum of two weight loss steps (51.67% + 23.25%). The dup has three weight loss steps (25.50%, 1.92%, + 18.12%).

S96T001679 is the sum of two weight loss steps (11.12% + 17.25%). The sample also had two additional weight loss steps of 18.51% and 17.35.60%. The sample duplicate had ⁴⁻⁹⁻⁹⁶ is the sum of three weight loss steps (10.01%, 6.83%, + 14.50%).

Verified 4/12/96 John Kinn

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Wb King 4/8/96

Vol King 4/8/96

Vol. 183 4/18/96

Not Along 4/8/96

S96T001679 DUP N2

20.061 mg

Rate: 10.0 °C/min

Step Analysis

Height -2.01 mg

-10.01 %

Resid. 18.05 mg

89.99 %

Step Analysis

Height -1.37 mg

-6.83 %

Resid. 16.68 mg

83.15 %

Step Analysis

Height -2.91 mg

-14.50 %

Resid. 13.77 mg

68.65 %

Step Analysis

Height -3.24 mg

-16.17 %

Resid. 10.53 mg

52.48 %

Step Analysis

Height -6.74 mg

-33.58 %

Resid. 3.79 mg

18.91 %

Dpeak 365.0 °C

100. 200. 300. 400. °C

John King 4/19/98

worklistrpt Version 2.1 05/15/95
04/10/96 09:30

WHC-SD-WM-DP-183, REV. C

Page: 1

LABCORE Data Entry Template for Worklist#

7456

Analyst: KRM Instrument: TGA0 TGA01 Book # 75NBAMethod: LA-560-112 Rev/Mod B-1

Worklist Comment: C-106 TGA RUN UNDER N2, SAMPLE DRY AND FLIGHTY, HIGH ALPHA.RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	<u>59.21</u>	<u>61.40</u>	<u>N/A</u>	%
96000082	C-106 GRAB	2 SAMPLE	S96T001567	0	TGA-01	LIQUID	<u>N/A</u>	<u>71.58</u>		%
96000082	C-106 GRAB	3 DUP	S96T001567	0	TGA-01	LIQUID	<u>71.58</u>	<u>67.52</u>	<u>N/A</u>	%
96000174	C-106 GRAB	4 SAMPLE	S96T001553	0	TGA-01	LIQUID	<u>N/A</u>	<u>72.40</u>		%
96000174	C-106 GRAB	5 DUP	S96T001553	0	TGA-01	LIQUID	<u>72.40</u>	<u>30.11</u>	<u>N/A</u>	%

Final page for worklist #

7456

Analyst Signature KRM Date 4/14/96

Analyst Signature _____ Date _____

S96T001567 has a second weight loss step at 320°C of 5.14%, the duplicate had 8.70% loss.

S96T001553 has two weight loss steps, the second step on the sample is 4.29% at 375°C. The duplicate has a second step of 53.78% at 375°C. Sample & duplicate look very different.

Entered & Reviewed 4/12/96 J. McIntyre

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 328 TO 332.

TGA STD 75NB-A

6.019 mg

Rate: 10.0 °C/min

File: 00016.001 TG METTLER 09-Apr-96

Ident: 0.0 222-S Laboratory

Step Analysis
Height -3.70 mg
-61.40 %
ResiC. 2.32 mg
38.50 %
Dpeak 59.2°C

2. mg

Blandina Valenzuela for RD Meyers

7-23-96

50. 100. 150. 200. °C

S96T001567 SAM N2
10.692 mg

Rate: 10.0 °C/min

File: 00022.001 TG

09-Apr-96

Ident: 0.0 222-S Laboratory

S96T001567 DUP N2

10.165 mg

Rate: 10.0 °C/min

File: 00024.001 TG METTLER 09-Apr-96

Ident: 0.0 222-S Laboratory

5. mg

Step Analysis

Height -6.86 mg

-67.52 %

ResiC. 3.27 mg

32.13 %

Dpeak 71.0 °C

Step Analysis

Height -0.88 mg

-8.70 %

ResiC. 2.38 mg

23.43 %

Dpeak 373.0 °C

100. 200. 300. 400. °C

S96T001553 DUP N2

5.228 mg

Rate: 10.0 °C/min

Step Analysis

Height -1.57 mg

-30.11 %

Resic. 3.65 mg

69.89 %

File: 00045.001 TG METTLER 10-Apr-96
Ident: 0.0 222-S Laboratory

Step Analysis
Height -2.81 mg
-53.78 %
Resic. 0.84 mg
16.12 %
Dpeak 375.0 °C

2. mg

100. 200. 300. 400. °C

LABCORE Data Entry Template for Worklist#

7512

Analyst: RJM Instrument: TGA0 3 Book # 82N8-A

Method: LA-514-114 Rev/Mod C-1

Worklist Comment: C-106 FOR TGA PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	<u>59.2</u>	<u>58.84</u>	<u>N/A</u>	%
96000174	C-106 GRAB	2 SAMPLE	S96T001559	0	TGA-03	SOLID	<u>N/A</u>	<u>21.28</u>		%
96000174	C-106 GRAB	3 DUP	S96T001559	0	TGA-03	SOLID	<u>21.28</u>	<u>26.12</u>	<u>N/A</u>	%
96000174	C-106 GRAB	4 SAMPLE	S96T001685	0	TGA-03	SOLID	<u>N/A</u>	<u>32.54</u>		%
96000174	C-106 GRAB	5 DUP	S96T001685	0	TGA-03	SOLID	<u>32.54</u>	<u>31.29</u>	<u>N/A</u>	%

Final page for worklist #

7512

See attached for signatures

Analyst Signature Date 4-15-96 ^{BPV}

Analyst Signature Date

Verified by Blandina Valenzuela

Data Entry Comments: S96T001559 produced a second weight loss step of 9.52%
at approximately 325°C.

S96T001685 produced a second weight loss step of 8.245% at approximately 8.25%

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

7512

Analyst: R. McCown Instrument: TGA0 3 Book # 82N5-A

Method: LA 514-114 Rev/Mod C-1
2nd 4/14/96

Worklist Comment: C-106 FOR TGA PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	<u>59.2</u>	<u>58.84</u>	<u>N/A</u>	%
96000174	C-106 GRAB	2 SAMPLE	S96T001685	0	TGA-01	SOLID	<u>N/A</u>			%
96000174	C-106 GRAB	3 DUP	S96T001685	0	TGA-01	SOLID			<u>N/A</u>	%
96000174	C-106 GRAB	4 SAMPLE	S96T001559	0	TGA-01	SOLID	<u>N/A</u>			%
96000174	C-106 GRAB	5 DUP	S96T001559	0	TGA-01	SOLID			<u>N/A</u>	%

Final page for worklist #

7512

R. McCown 4/14/96
Analyst Signature Date

Analyst Signature Date

Other instrument
was used
4/15/96
BOW

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

Curve 1: T6A
 File Info: TER041301 Sat Apr 13 20:10:46 1996
 Sample Weight: 19.813 mg
 T6A STD 82NB-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 335 TO 339.

N2 10C/MIN
 TEMP: 350.0 °C
 TIME: 0.0 min RATE: 10.0 °C/min
 PJ MCCOWN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Apr 13 21:12:43 1996

Curve 1: T6A
 File Info: SAM041401 Sun Apr 14 02:11:26 1996
 Sample Weight: 4.578 mg
 S96T001559 SAM

PJ MCCOMB
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Apr 14 02:15:47 1996

10C/MIN N2
 TIME: 00:08
 RATE: 0.0 min RATE: 10.0 C/min

Curve 1: TGA
 File Info: SAM041402 Sun Apr 14 03:20:30 1996
 Sample Weight: 10.603 mg
 S96T001559 DUP

PJ MCCOWN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Apr 14 03:27:53 1996

10C/MIN N2
 TEMP: 25.0 °C
 TIME: 0.0 min RATE: 10.0 C/min

Curve 1: TGA
 File Info: SAM041301 Sat Apr 13 22:15:07 1996
 Sample Weight: 14.892 mg
 S96T001685 SAM

PJ MCCOWN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Apr 13 22:35:01 1996

10C/MIN N2
 TEMPS 35.0 & 55.0
 TIME: 0.0 min RATE: 10.0 C/min

Curve 1: T6A
 File Info: SAH041302 Sat Apr 13 23:30:39 1996
 Sample Weight: 18.515 mg
 S96T001685 DUP

10C/MIN N2
 TEMP: 35.0 °C
 TIME: 0.0 min RATE: 10.0 C/min
 PJ MCCOWN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Apr 13 23:41:35 1996

worklistrpt Version 2.1 05/15/95
04/09/96 10:44

WHC-SD-WM-DP-183, REV. C

Page: 1

LABCORE Data Entry Template for Worklist#

7513

Analyst: RK Instrument: TGA0 1 Book # 8228-AMethod: LA-560-112 Rev/Mod B-1

Worklist Comment: C-106 FOR TGA PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	<u>59.2</u>	<u>58.86*</u>	<u>N/A</u>	%
96000174	C-106 GRAB	2 SAMPLE	S96T001034	0	TGA-01	SOLID	<u>N/A</u>	<u>31.29</u>		%
96000174	C-106 GRAB	3 DUP	S96T001034	0	TGA-01	SOLID	<u>31.29</u>	<u>30.91</u>	<u>N/A</u>	%

Final page for worklist #

7513

RK 4/12/96
Analyst Signature Date

L. Jones 4-18-96
Analyst Signature Date

Verified by Blandina Valenzuela
4-22-96

Data Entry Comments:

Sample produced an additional weight loss steps ^{of} approximately 280°C at 11.16%.
4/18/96

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 341 TO 343.

TGA STD 62NB-A N2

17.812 mg

Rate: 10.0 °C/min

File: 00061.001 TG METTLER 12-Apr-96

Ident: 0.0 222-S Laboratory

Step Analysis
Height-10.48 mg
-58.86 %
Resid. 7.33 mg
41.14 %
Dpeak 90.0 °C

5 mg

50. 100. 150. 200. °C

Not Recd 4/12/96

Noting 4/12/86

W.C. Wang 4/12/96

worklistrpt Version 2.1 05/15/95
04/10/96 12:43

WHC-SD-WM-DP-183, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist#

7565

Analyst: EAL Instrument: TGA0 Book # 75NBA

Method: LA-560-112 Rev/Mod B.1

Worklist Comment: C-106 GRAB. Run undet nitrogen. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	<u>59.2</u>	<u>60.57</u>	N/A	%
96000174	C-106 GRAB	2 SAMPLE	S96T001676	0	TGA-01	SOLID	N/A	<u>47.70</u>	<u>40.05</u>	% <u>GMF 4/12/96</u>
96000174	C-106 GRAB	3 DUP	S96T001676	0	TGA-01	SOLID	<u>40.95</u>	<u>39.47</u>	N/A	% <u>GMF 4/12/96</u>

Final page for worklist # 7565

A. Lambel 04.10.96
Analyst Signature Date

Analyst Signature Date

There is a second weight loss step of 7.64% + 7.09% in the dig.

Entered +
Reviewed 4/12/96 Jm Leger

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 345 TO 347.

C. Lander 04-10-96

TGA STD
29.271 mg

Rate: 10.0 °C/min

File: 00041.001 TG METTLER 10-Apr-96
Ident: 0.0 222-S Laboratory

Step Analysis
Height-17.73 mg
-60.57 %
ResidC. 11.51 mg
39.31 %
Dpeak 95.0 °C

10. mg

°C

150.

100.

50.

200.

346

File: 00049.001 TG METTLER 10-Apr-96
 Ident: 0.0 222-S Laboratory

S96T001676 DUP N2
 17.725 mg Rate: 10.0 °C/min

Step Analysis
 Height -7.00 mg
 -39.47 %
 Resic. 10.73 mg
 60.53 %
 Dpeak 115.0 °C

Step Analysis
 Height -1.26 mg
 -7.09 %
 Resic. 9.47 mg
 53.43 %
 Dpeak 301.0 °C

LABCORE Data Entry Template for Worklist#

7774

Analyst: SMF Instrument: TGA0 3 Book # 82N8A

Method: LA-514-114 Rev/Mod C-1

Worklist Comment: C-106. Run TGA under nitrogen. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	58.4 ^{59.2} 58.42	58.42	N/A	%
96000082	C-106 GRAB	2 SAMPLE	S96T000542	0	TGA-03	SOLID	N/A	8.04		%
96000082	C-106 GRAB	3 DUP	S96T000542	0	TGA-03	SOLID	8.04	8.51	N/A	%
96000082	C-106 GRAB	4 SAMPLE	S96T000558	0	TGA-03	SOLID	N/A	11.71		%
96000082	C-106 GRAB	5 DUP	S96T000558	0	TGA-03	SOLID	11.71	14.0	N/A	%

Final page for worklist #

7774

See attached for signatures
Analyst Signature Date 5/8/96

Jay Korman 5-8-96
Analyst Signature Date

Validated by Anastos 5-10-96

S96T000542 produced a second weight loss step of 11.17%

Data Entry Comments: S96T000558 produced a second weight loss step of 14.86%

LABCORE Data Entry Template for Worklist#

7774

Analyst:

SIF

Instrument: TGA0

Book #

\$2N87

Method: LA-560-112 Rev/Mod

Worklist Comment: C-106. Run TGA under nitrogen. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID			N/A	%
96000082	C-106 GRAB	2 SAMPLE	S96T000542	0	TGA-01	SOLID	N/A			%
96000082	C-106 GRAB	3 DUP	S96T000542	0	TGA-01	SOLID			N/A	%
96000082	C-106 GRAB	4 SAMPLE	S96T000558	0	TGA-01	SOLID	N/A			%
96000082	C-106 GRAB	5 DUP	S96T000558	0	TGA-01	SOLID			N/A	%

Final page for worklist #

7774

Smfulton 4-29-96
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

Curve 1: TGA
 File Info: TER042901 Mon Apr 29 10:36:22 1996
 Sample Weight: 21.042 mg
 TGA STD 82N8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 350 TO 354.

PJ MCCOWN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Apr 29 10:52:24 1996

N2 10C/MIN
 TGA 355.8 g
 TGA 355.8 g
 0.0 min RATE 10.0 g/min

Curve 1: TGA
 File Info: SAM042901 Mon Apr 29 19:21:16 1996
 Sample Weight: 9.976 mg
 S96T000542

SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Apr 29 20:58:01 1996

10C/MIN N2
 TEMP: 50.0 C
 TIME: 500.0 S

Curve 1: TGA
 File info: SAH042902 Mon Apr 29 21:25:18 1996
 Sample Weight: 17.229 mg
 S96T000542 DUP

SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Apr 29 21:36:41 1996

10C/MIN N2
 TEMP: 38.0 °C
 TIME: 0.0 min RATE: 10.0 C/min

Curve 1: TGA
 File info: SAM042903 Mon Apr 29 22:35:09 1996
 Sample Weight: 4.952 mg
 S96T000558

SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Apr 29 22:37:29 1996

10C/MIN N2
 TIME: 55.8 C
 RATE: 0.0 min RATE: 10.0 C/min

Curve 1: TGA
 File Info: SAM042904 Tue Apr 30 01:26:21 1996
 Sample Weight: 7.824 mg
 S96T000558 DUP

100/MIN N2
 TEMP 350.0 °C
 TIME: 00:00
 0.0 min RATE: 10.0 °C/min
 Temperature (°C)
 SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue Apr 30 01:29:49 1996

LABCORE Data Entry Template for Worklist#

7775

Analyst: RNK Instrument: TGA0 3 Book # 82N8A

Method: LA-514-114 Rev/Mod C-1

Worklist Comment: C-106. Run TGA under nitrogen. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	<u>59.2</u>	<u>58.70*</u>	<u>N/A</u>	%
96000174	C-106 GRAB	2 SAMPLE	S96T001030	0	TGA-03	SOLID	<u>N/A</u>	<u>9.24</u>		%
96000174	C-106 GRAB	3 DUP	S96T001030	0	TGA-03	SOLID	<u>9.24</u>	<u>9.48</u>	<u>N/A</u>	%

Final page for worklist #

7775

See attached for signatures
Analyst Signature 5/8/96

Kathy Anastas 5-15-96
Analyst Signature Date

Validated by H Anastas 5-15-96

Data Entry Comments: Sample produced two additional weight loss one of
6.61% and 3.80%

LABCORE Data Entry Template for Worklist#

7775

Analyst: JK **Instrument:** TGA0 **Book #** 8228-A

Method: LA-560-112 Rev/Mod C-1

Worklist Comment: C-106. Run TGA under nitrogen. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID			N/A	%
96000174	C-106 GRAB	2 SAMPLE	S96T001030	0	TGA-01	SOLID	N/A			%
96000174	C-106 GRAB	3 DUP	S96T001030	0	TGA-01	SOLID			N/A	%

Final page for worklist #

7775

Rob King 5/4/96
Analyst Signature **Date**

Analyst Signature **Date**

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

Curve 1: TGA
 File Info: TERO50403 Sat May 4 21:07:13 1996
 Sample Weight: 23.139 mg
 TGA STD 82N8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 357 TO 359.

N2 10C/MIN
 TIME: 359.8
 0.0 min RATE: 10.0 C/min
 Temperature (°C)
 RW KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat May 4 21:09:19 1996

Curve 1: TBA
 File Info: SAK050405 Sat May 4 22:20:26 1996
 Sample Weight: 10.246 mg
 S98T001030

RM KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat May 4 22:25:37 1996

Temperature (°C)

10.0 min RATE: 10.0 °C/min

100/MIN N2
 100.0 g
 100.0 g

Curve 1: TGA
 File info: SAK050406 Sat May 4 23:32:24 1996
 Sample Weight: 6.666 mg
 SS6T001030 DUP

RM KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun May 5 00:43:51 1996

10C/MIN N2
 THERM: 55.8 8
 TIME: 0.0 MIN RATE: 10.0 C/min

LABCORE Data Entry Template for Worklist#

7907

Analyst: KK Instrument: TGA0 1 Book # 8218-A

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: C-106 for tga please run under N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	59.2	59.16*	N/A	%
96000082	C-106 GRAB	2 SAMPLE	S96T002021	0	TGA-01	SOLID	N/A	59.60		%
96000082	C-106 GRAB	3 DUP	S96T002021	0	TGA-01	SOLID	59.60	46.16	N/A	%
96000174	C-106 GRAB	4 SAMPLE	S96T001674	0	TGA-01	SOLID	N/A	9.63		%
96000174	C-106 GRAB	5 DUP	S96T001674	0	TGA-01	SOLID	9.63	8.43	N/A	%

Final page for worklist #

7907

Nick King 5/5/96
Analyst Signature Date

[Signature] 5-8-96
Analyst Signature Date

Validated by H Anastas 5-8-96

S96T002021 produced a second weight loss step of 10.86%
however the chemist questioned whether it was due to %
moisture.

Data Entry Comments:

S96T001674 produced a second and a third weight loss steps
totaling 14.29%. The vibrations on the thermogram is due to vibrations
of the lab.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 361 TO 365.

Not King 5/5/96

S96T002021 DUP N2

7.704 mg

Rate: 10.0 °C/min

File: 00014.001 T6 METTLER 04-May-96

Ident: 0.0 222-S Laboratory

Step Analysis
 Height -3.56 mg
 -46.16 %
 ResidC. 4.15 mg
 53.84 %

Step Analysis
 Height -0.97 mg
 -12.57 %
 ResidC. 3.18 mg
 41.27 %

Step Analysis
 Height -0.24 mg
 -3.09 %
 ResidC. 2.64 mg
 34.26 %

Handwritten:
 7/22/96
 5/5/96

LABCORE Data Entry Template for Worklist#

7909

Analyst: EDM Instrument: TGA0 1 Book # 92NBA

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: C-106 for tga-01 please run under N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	59.2	58.7	N/A	%
96000082	C-106 GRAB	2 SAMPLE	S96T002042	0	TGA-01	SOLID	N/A	60.45		%
96000082	C-106 GRAB	3 DUP	S96T002042	0	TGA-01	SOLID	60.45	60.55	N/A	%

Final page for worklist #

7909

Analyst Signature EDM Date 4/20/96

Analyst Signature [Signature] Date 4-29-96

Verified by Blandina Valenzuela 4/30/96
Sample produced a second weight
loss step of 5.27%

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

366

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 367 TO 369.

TGA STD 82N8-A

21.828 mg

Rate: 10.0 °C/min

File: 00044.001

TG

METTLER

28-Apr-86

Ident: 0.0

222-S Laboratory

Step Analysis
Height-12.81 mg
-58.70 %
Resid. 9.02 mg
41.30 %
Dpeak 91.0 °C

5. mg

Blandina Valenzuela for RD Meyers 7-23-96

100.

200.

300.

400.

°C

LABCORE Data Entry Template for Worklist#

8124

Analyst: R/K Instrument: TGA0 1 Book # 8278-A

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: C-106 Grab. Run under Nitrogen. new

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	LIQUID	59.2	59.24*	N/A	X
96000082	C-106 GRAB	2	SAMPLE	S96T001544	0		TGA-01	LIQUID	N/A	58.94		X
96000082	C-106 GRAB	3	DUP	S96T001544	0		TGA-01	LIQUID	58.94	57.09	N/A	X

Final page for worklist #

8124

Rob King 5/6/96
Analyst Signature Date

Shirley Hammett 5-7-96
Analyst Signature Date

Validated by JHnewton 5-8-96

Data Entry Comments: The sample produced a second weight loss step of 16.23%, however due to how the past samples performed the chemist did not take it into account with % moisture.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 577 TO 373.

S96T001544 N2

12.391 mg

Rate: 10.0 °C/min

File: 00022.001 TG METTLER 08-May-96

Ident: 0.0 222-S Laboratory

Step Analysis

Height -7.30 mg
-58.94 %
Res1C. 5.09 mg
41.06 %

Step Analysis

Height -2.01 mg
-16.22 %
Res1C. 3.08 mg
24.84 %
Dpeak 109.0 °C

S96T001544 DUP N2

11.749 mg

Rate: 10.0 °C/min

File: 00023.001 TG METTLER 06-May-96

Ident: 0.0 222-S Laboratory

Step Analysis

Height -6.71 mg
-57.09 %
ResidC. 5.02 mg
42.72 %

Step Analysis

Height -2.10 mg
-17.90 %
ResidC. 2.92 mg
24.81 %
Dpeak 109.0 °C

LABCORE Data Entry Template for Worklist#

8142

Analyst: ADP Instrument: TGA0 1 Book # 82N8A

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: C-106 Grab. Run under nitrogen. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	^{59.2} 58.34	58.67*	N/A	%
96000082	C-106 GRAB	2 SAMPLE	S96T001526	0	TGA-01	SOLID	N/A	3.54		%
96000082	C-106 GRAB	3 DUP	S96T001526	0	TGA-01	SOLID	3.54	2.82	N/A	%

Final page for worklist #

8142

Anthony Puro 5-6-96
Analyst Signature Date

John Puro 5-7-96
Analyst Signature Date

Validated by Anastas 5.8.96

Data Entry Comments:

^{5/7/96}
^{88%}
S96T001526 produced 3 additional weight loss steps totalling 9.24%. The sample continued to lose weight steadily throughout the run.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 375 TO 377.

TGA STD 82N8-A

17.510 mg

Rate: 10.0 °C/min

File: 00024.001 T6 METTLER 06-May-96

Ident: 0.0 222-S Laboratory

Step Analysis

Height-10.27 mg

-58.67 %

Resid. 7.24 mg

41.33 %

Dpeak 83.0 °C

LABCORE Data Entry Template for Worklist#

8143

Analyst: RDM/ADP **Instrument:** TGA0 3 **Book #** 82N8A

Method: LA-514-114 Rev/Mod C-1

Worklist Comment: C-106 Grab. Run under nitrogen. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	<u>59.2</u>	<u>58.75</u>	<u>N/A</u>	X
96000082	C-106 GRAB	2 SAMPLE	S96T001530	0	TGA-03	SOLID	<u>N/A</u>	<u>32.71</u>		X
96000082	C-106 GRAB	3 DUP	S96T001530	0	TGA-03	SOLID	<u>32.71</u>	<u>34.32</u>	<u>N/A</u>	X
96000082	C-106 GRAB	4 SAMPLE	S96T001537	0	TGA-03	SOLID	<u>N/A</u>	<u>22.14</u>		X
96000082	C-106 GRAB	5 DUP	S96T001537	0	TGA-03	SOLID	<u>22.14</u>	<u>26.07</u>	<u>N/A</u>	X

Final page for worklist #

8143

See attached for signatures
Analyst Signature

Date

5-7-96

R. H. H. H.
Analyst Signature

Date

5-17-96

Verified by
Validated

Blandina

Valenzuela

5-20-96

Data Entry Comments:

S96T001530 produced a second weight loss step of 9.19%
at approximately 350°C.

S96T001537 produced an additional weight loss step of 9.26% at approx
350°C.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

8143

Analyst: COO/AD Instrument: TGA0 _____ Book # 82N8A

Method: LA-560-112 Rev/Mod C-1

Worklist Comment: C-106 Grab. Run under nitrogen. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	_____	_____	N/A	%
96000082	C-106 GRAB	2 SAMPLE	S96T001530	0	TGA-01	SOLID	N/A	_____	_____	%
96000082	C-106 GRAB	3 DUP	S96T001530	0	TGA-01	SOLID	_____	_____	N/A	%
96000082	C-106 GRAB	4 SAMPLE	S96T001537	0	TGA-01	SOLID	N/A	_____	_____	%
96000082	C-106 GRAB	5 DUP	S96T001537	0	TGA-01	SOLID	_____	_____	N/A	%

Final page for worklist # 8143

[Signature]
Analyst Signature _____ Date _____

[Signature] 050696
Analyst Signature _____ Date _____

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

Curve 1: TGA

File Info: ter050601 Mon May 6 06:17:22 1996

Sample Weight: 21.206 mg

TGA STD B2V8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 380 TO 384.

Curve 1: TGA
 File info: SAM050601 Mon May 6 08:38:51 1996
 Sample Weight: 9.493 mg
 S96T001530

RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue May 7 14:43:52 1996

10C/MIN N2
 TIME: 00:08
 RATE: 0.0 min RATE: 10.0 C/min

Curve 1: TGA
 File Info: SAM050602 Mon May 6 10:31:20 1996
 Sample Weight: 20.913 mg
 996T001530DUP

RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue May 7 14:48:29 1996

10C/MIN N2
 THERM: 200.0 g
 TIME: 0.0 min RATE: 10.0 g/min

Curve 1: TGA
 File info: SAM050605 Mon May 6 21:38:52 1996
 Sample Weight: 14.464 mg
 S96T001537 SAM

AD PURINTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon May 6 21:50:17 1996

Temperature (°C)

10.0 °C/min

0.0 min MATHE

TIME

100/MIN N2
 TGA 50.8 8
 TGA 50.8 8

Curve 1: TGA
 File Info: SAM050606 Mon May 6 23:03:44 1996
 Sample Weight: 14.308 mg
 S95T001537 DUP

AD PURINTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue May 7 00:17:52 1996

10C/MIN N2
 TIME 00:08
 0.0 min RATE: 10.0 g/min

LABCORE Data Entry Template for Worklist#

8149

Analyst: KK Instrument: TGA0 1 Book # 8248-A

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: C-106. Run under nitrogen. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	59.2	59.32*	N/A	%
96000082	C-106 GRAB	2 SAMPLE	S96T000563	0	TGA-01	LIQUID	N/A	61.32		%
96000082	C-106 GRAB	3 DUP	S96T000563	0	TGA-01	LIQUID	61.32	59.37	N/A	%

Final page for worklist #

8149

Rob King 5/4/96
Analyst Signature Date

[Signature] 5-8-96
Analyst Signature Date

Validated by H Anasth 5-8-96

Data Entry Comments:

The sample produced a second weight loss step after the first, however the chemist questioned whether the 14.42% was attributed to % moisture.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 386 TO 388.

S96T000563 N2

12.621 mg

Rate: 10.0 °C/min

File: 00011.001 TG METTLER 04-May-96

Ident: 0.0 222-S Laboratory

Step Analysis

Height -7.74 mg

-61.32 %

Resid. 4.88 mg

38.68 %

Step Analysis

Height -1.82 mg

-14.42 %

Resid. 3.06 mg

24.26 %

Step Analysis

Height -0.29 mg

-2.33 %

Resid. 2.77 mg

21.93 %

S96T000563 DUP N2

12.804 mg

Rate: 10.0 °C/min

File: 00012.001

Ident: 0.0

TG METTLER

04-May-96

222-S

Laboratory

LABCORE Data Entry Template for Worklist#

8220

Analyst: RDM Instrument: TGA0 3 Book # 82N8A

Method: LA-514-114 Rev/Mod C-1

Worklist Comment: C-106. Run under nitrogen. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	LIQUID	<u>59.2</u>	<u>58.77</u>	<u>*</u>	N/A %
96000174	C-106 GRAB	2 SAMPLE	S96T001681	0	TGA-03	LIQUID	<u>N/A</u>	<u>48.47</u>		%
96000174	C-106 GRAB	3 DUP	S96T001681	0	TGA-03	LIQUID	<u>48.47</u>	<u>44.37</u>	<u>N/A</u>	%

Final page for worklist #

8220

See Attached for Signatures
Analyst Signature _____ Date _____

John Hammett
Analyst Signature _____ Date 5-4-96

Verified by H Anastor 5-7-96

Sample also showed a second weight
loss step of 28.20%.

Data Entry Comments:

LABCORE Data Entry Template for Worklist#

8220

Analyst: ROM **Instrument:** TGA0 **Book #** 92W8A

Method: LA-560-112 Rev/Mod C-1

Worklist Comment: C-106. Run under nitrogen. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID			N/A	%
96000174	C-106 GRAB	2 SAMPLE	S96T001681	0	TGA-01	LIQUID	N/A			%
96000174	C-106 GRAB	3 DUP	S96T001681	0	TGA-01	LIQUID			N/A	%

Final page for worklist #

8220

ROM 5/2/96
Analyst Signature **Date**

Analyst Signature **Date**

Other Instrument was used.

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Curve 1: TGA

File Info: TER050202 Thu May 2 06:30:07 1996

Sample Weight: 22.115 mg

TGA STD 82NB-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 391 TO 393.

N2 10C/MIN

TIME: 55.8 8

0.0 min RATE: 10.0 C/min

Temperature (°C)

PJ MCCOMB

PERKIN-ELMER

7 Series Thermal Analysis System
Thu May 2 16:28:28 1996

Curve 1: TBA
 File Info: SAM050206 Thu May 2 19:54:04 1996
 Sample Weight: 11.746 mg
 S96T001681

10C/MIN N2
 THERM 88.8 8
 TIME: 0.0 min RATE: 10.0 C/min

RO MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri May 3 13:35:42 1996

Curve 1: TGA
 File Info: SAM050207 Thu May 2 22:28:56 1996
 Sample Weight: 12.417 mg
 S96T001661DUP

RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri May 3 13:43:35 1996

10C/MIN N2
 TIME: 55.8 S
 RATE: 0.0 min RATE: 10.0 C/min

LABCORE Data Entry Template for Worklist#

8322

Analyst:

Ron

Instrument: TGA0

1

Book # 92 N9A

Method: LA-560-112 Rev/Mod

B-1

Worklist Comment: C-106 Grab. Run under Nitrogen. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	59.2	58.79	N/A	%
96000082	C-106 GRAB	2 SAMPLE	S96T001527	0	TGA-01	SOLID	N/A	3.63		%
96000082	C-106 GRAB	3 DUP	S96T001527	0	TGA-01	SOLID	3.63	3.54	N/A	%
96000174	C-106 GRAB	4 SAMPLE	S96T002350	0	TGA-01	SOLID	N/A	65.05		%
96000174	C-106 GRAB	5 DUP	S96T002350	0	TGA-01	SOLID	65.05	63.26	N/A	%

Final page for worklist #

8322

Analyst Signature

Date

5-6-96

Analyst Signature

Date

5-7-96

Validated by Hanastis 5-8-96

Data Entry Comments:

S96T001527 produced a second weight loss step of 17.38%
The sample continued to lose weight steadily throughout the run.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 323 TO 322.

TGA STD 82N8-A

17.510 mg

Rate: 10.0 °C/min

File: 00024.001

TG METTLER

06-May-96

Ident: 0.0 222-S Laboratory

Step Analysis

Height-10.29 mg

-58.79 %

Resid. 7.22 mg

41.21 %

Dpeak 83.0 °C

Rate: 10.0 °C/min

S96T001527 N2
28.043 mg

S96T002350 N2
12.998 mg

Rate: 10.0 °C/min

File: 00027.001 TG

Ident: 0.0 222-S Laboratory

06-May-96

Step Analysis
Height -8.46 mg
Resic. -65.05 %
4.54 mg
34.95 %
Dpeak 75.0 °C

S96T002350DUP N2

51.039 mg

Rate: 10.0 °C/min

File: 00028.001

TG

METTLER

06-May-96

Ident: 0.0

222-S Laboratory

Step Analysis

Height-32.29 mg

-63.26 %

Resid. 18.75 mg

36.74 %

Dpeak 143.0 °C

LABCORE Data Entry Template for Worklist#

8324

Analyst: SMF Instrument: TGA0 3 Book # 02N8A

Method: LA-514-114 Rev/Mod C-1

Worklist Comment: C-106 Grab. Run under AIR. new

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-03	SOLID	<u>59.2</u>	<u>57.68</u>	<u>*</u>	%
96000174	C-106 GRAB	2	SAMPLE	S96T002351	0		TGA-03	SOLID	<u>N/A</u>	<u>56.03</u>		%
96000174	C-106 GRAB	3	DUP	S96T002351	0		TGA-03	SOLID	<u>56.03</u>	<u>54.56</u>	<u>N/A</u>	%

Final page for worklist # 8324

See attached for signatures
Analyst Signature SMF Date 5-3-96

SMF 5-4-96
Analyst Signature Date

Verified by H. Anaston 5-7-96

Data Entry Comments:

Sample produced a second weight loss step of 2.49% at approximately 300°C. The sample result is the sum of two weight loss steps.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

8324

Analyst: SME Instrument: TGA0 Book # 82N8A

Method: LA-560-112 Rev/Mod _____

Worklist Comment: C-106 Grab. Run under AIR. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	_____	_____	N/A	%
96000174	C-106 GRAB	2 SAMPLE	S96T002351	0	TGA-01	SOLID	N/A	_____	_____	%
96000174	C-106 GRAB	3 DUP	S96T002351	0	TGA-01	SOLID	_____	_____	N/A	%

Final page for worklist #

8324

Lusie M. Dutton 5-3-96
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

Curve 1: TGA

File Info: TER050301 Fri May 3 06:52:59 1996

Sample Weight: 20.907 mg

TGA STD 82NB-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 502 TO 504.

KR MONTEITH
PERKIN-ELMER
7 Series Thermal Analysis System
Fri May 3 06:54 1996

100/MIN N2
TIME: 00:08.8
RATE: 10.0 C/min

Curve 1: TGA
 File Info: SAM050303 Fri May 3 10:30:33 1996
 Sample Weight: 11.149 mg
 996T002951

Curve 1: TGA
 File Info: SAN050304 Fri May 3 11:44:58 1996
 Sample Weight: 22.422 mg
 986T002351 DUP

LABCORE Data Entry Template for Worklist#

8333

Analyst: SMF Instrument: TGA0 1 Book # 82N8A

Method: LA-560-112 Rev/Mod B1

Worklist Comment: Please run C-106 TGAs under AIR. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	<u>59.2</u>	<u>59.1</u>	<u>N/A</u>	%
96000082	C-106 GRAB	2 SAMPLE	S96T002042	1	TGA-01	SOLID	<u>N/A</u>	<u>56.10</u>		%
96000082	C-106 GRAB	3 DUP	S96T002042	1	TGA-01	SOLID	<u>56.10</u>	<u>54.50</u>	<u>N/A</u>	%

Final page for worklist # 8333

Susie M. Fulton 5-3-96
Analyst Signature Date

Jay Hammett 5-4-96
Analyst Signature Date

Verified by HAnastn 5-7-96

Data Entry Comments:

Sample produced another weight loss step of 4.55%
at approximately 280°C.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES SEE TO 408.

S96T002042 DUP AIR

File: 00001.001 TG METTLER 03-May-96

10.458 mg

Rate: 10.0 °C/min

Ident: 0.0

222-S Laboratory

LABCORE Data Entry Template for Worklist#

8826

Analyst: RDM Instrument: TGA0 3 Book # 82N8A

Method: LA-514-114 Rev/Mod C-1

Worklist Comment: C-106 FOR TGA01 CONTACT BLONDIE PRIOR TO RUN RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	LIQUID	<u>59.2</u>	<u>57.94</u>	<u>N/A</u>	%
96000638	C-106 GRAB	2 SAMPLE	S96T002766	0	TGA-03	LIQUID	<u>N/A</u>	<u>96.24</u>		%
96000638	C-106 GRAB	3 DUP	S96T002766	0	TGA-03	LIQUID	<u>96.24</u>	<u>96.16</u>	<u>N/A</u>	%
96000648	C-106 GRAB	4 SAMPLE	S96T002825	0	TGA-03	LIQUID	<u>N/A</u>	<u>95.78</u>		%
		5 STD			TGA-03	LIQUID	<u>59.2</u>	<u>58.97</u>	<u>N/A</u>	%
96000648	C-106 GRAB	6 DUP	S96T002825	0	TGA-03	LIQUID	<u>95.78</u>	<u>90.16</u>	<u>N/A</u>	%

Final page for worklist #

8826

See Attached for Signatures
Analyst Signature Date

Rthh 5-21-96
Analyst Signature Date

Validated by Hhnasto 5-22-96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

8826

Analyst: PM Instrument: TGA0 3 Book # 02N0A

Method: LA-560-112 Rev/Mod C-1

Worklist Comment: C-106 FOR TGA01 CONTACT BLONDIE PRIOR TO RUN RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID			N/A	%
96000638	C-106 GRAB	2 SAMPLE	S96T002766	0	TGA-01	LIQUID	N/A			%
96000638	C-106 GRAB	3 DUP	S96T002766	0	TGA-01	LIQUID			N/A	%
96000648	C-106 GRAB	4 SAMPLE	S96T002825	0	TGA-01	LIQUID	N/A			%
		STD								
96000648	C-106 GRAB	5 DUP	S96T002825	0	TGA-01	LIQUID			N/A	%

Final page for worklist #

8826

Analyst Signature PM Date 5-18-96

Analyst Signature _____ Date _____

Other Instrument was used.

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Curve 1: TGA
 File info: tar-051701 Fri May 17 18:38:59 1996
 Sample Weight: 25.872 mg
 TGA STD 82N8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES ~~446~~ TO 446.

N2 10C/MIN
 TGA 25.872 mg
 TGA 25.872 mg
 0.0 min RATE: 10.0 C/min
 rd Meyers
 PEKIN-ELMER
 7 Series Thermal Analysis System
 Fri May 17 18:43:52 1996

Curve 1: TGA

File Info: SAK051701 Fri May 17 22:18:08 1996

Sample Weight: 11.651 mg

995T002766

10C/MIN N2

TIME: 00:08.0

0.0 min RATE: 10.0 C/min

Temperature (°C)

RD MEYERS
PERKIN-ELMER

7 Series Thermal Analysis System
Fri May 17 22:18:55 1996

Curve 1: TGA
 File Info: SAM051801 Sat May 18 01:24:00 1996
 Sample Weight: 12.140 mg
 S95T002766DUP

RO MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat May 18 03:19:32 1996

Curve 1: TGA
 File info: SAM051802 Sat May 18 04:10:54 1996
 Sample Weight: 11.487 mg
 S96T002825

100/MIN N2
 THERM 25.8 g
 TIME: 0.0 MIN RATE: 10.0 C/min
 RD MEYERS
 PEKIN-ELMER
 7 Series Thermal Analysis System
 Sat May 18 04:12:09 1996

Curve 1: T6A
 File Info: TEP051801 Sat May 18 05:48:09 1996
 Sample Weight: 21.407 mg
 T6A STD 82NB-A

SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat May 18 05:43:24 1996

Temperature (°C)

TIME: 0.0 min RATE: 10.0 °C/min

N2 10C/MIN
 TIME: 30.8 s

Curve 1: TGA
 File Info: SAM0561801 Sat May 18 07:29:33 1996
 Sample Weight: 10.248 mg
 996T002625

SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat May 18 08:11 1996

100/MIN N2
 TIME: 05.8 g
 0.0 min RATE: 10.0 C/min

LABCORE Data Entry Template for Worklist#

8836

Analyst: ROM Instrument: TGA0 1 Book # 92NBA

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: C-106 FOR TGA-01 RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	<u>59.2</u>	<u>61.38</u>	<u>N/A</u>	%
96000648	C-106 GRAB	2 SAMPLE	S96T002827	0	TGA-01	SOLID	<u>N/A</u>	<u>95.08</u>		%
96000648	C-106 GRAB	3 DUP	S96T002827	0	TGA-01	SOLID	<u>95.08</u>	<u>93.40</u>	<u>N/A</u>	%

Final page for worklist # 8836

ROM 5/17/96
Analyst Signature Date

RE Wright 5/21/96
Analyst Signature Date

Validated by HAnastor 5-22-96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 418 TO 420.

TGA STD 82N8-A

18.114 mg

Rate: 10.0 °C/min

File: 00091.001

TG

METTLER

19-May-96

Ident: 0.0

222-S Laboratory

Step Analysis

Height-11.12 mg

-61.36 %

ResidC. 7.00 mg

38.62 %

Dpeak 89.2 °C

5. mg

File: 00095.001 TG METTLER 19-May-98
 Ident: 0.0 222-S Laboratory

S96T002827DUP N2
 21.265 mg Rate: 10.0 °C/min

Step Analysis
 Height-19.86 mg
 -93.40 %
 ResidC. 1.40 mg
 6.60 %

LABCORE Data Entry Template for Worklist#

8909

Analyst: RDM Instrument: TGA0 1 Book # 82N8A

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: C-106 TGA RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	<u>59.2</u>	<u>58.93</u>	<u>N/A</u>	%
96000638	C-106 GRAB	2 SAMPLE	S96T002770	0	TGA-01	LIQUID	<u>N/A</u>	<u>96.86</u>		%
96000638	C-106 GRAB	3 DUP	S96T002770	0	TGA-01	LIQUID	<u>96.86</u>	<u>97.03</u>	<u>N/A</u>	%
96000648	C-106 GRAB	4 SAMPLE	S96T002829	0	TGA-01	LIQUID	<u>N/A</u>	<u>95.69</u>		%
		5 STD			TGA-01	LIQUID	<u>59.2</u>	<u>58.95</u>	<u>N/A</u>	%
96000648	C-106 GRAB	6 DUP	S96T002829	0	TGA-01	LIQUID	<u>95.69</u>	<u>96.02</u>	<u>N/A</u>	%

Final page for worklist #

8909

See Attached for Signatures

Analyst Signature

Date

Analyst Signature

Date

Validated by Hlnastos 5.22.96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

8909

Analyst:

Rom

Instrument: TGA0

1

Book # 02N0A

Method: LA-560-112 Rev/Mod

B-1

Worklist Comment: C-106 TGA RUN UNDER N2. RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	LIQUID			N/A	%
96000638	C-106 GRAB	2	SAMPLE	S96T002770	0		TGA-01	LIQUID	N/A			%
96000638	C-106 GRAB	3	DUP	S96T002770	0		TGA-01	LIQUID			N/A	%
96000648	C-106 GRAB	4	SAMPLE	S96T002829	0		TGA-01	LIQUID	N/A			%
96000648	C-106 GRAB	5	DUP	S96T002829	0		TGA-01	LIQUID			N/A	%

Final page for worklist #

8909

Rom 5/17/96
Analyst Signature Date
Smullen 5-18-96

K. Wright 5/21/96
Analyst Signature Date

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 423 TO 428.

TGA STD 82N8-A

23.884 mg

File: 00087.001

TG METTLER 17-May-96

Rate: 10.0 °C/min

Ident: 0.0 222-8 Laboratory

Step Analysis

Height-14.08 mg

-58.93 %

ResidC. 9.81 mg

41.07 %

Dpeak 92.5°C

File: 00071.001 TG METTLER 17-May-96
 Ident: 0.0 222-S Laboratory

S96T002770DUP N2
 22.044 mg Rate: 10.0 °C/min

Step Analysis
 Height-24.39 mg
 -97.03 %
 Res1C. 0.66 mg
 2.97 %

S96T002829 N2

20.931 mg

Rate: 10.0 °C/min

File: 00073.001 TG METTLER 18-May-96

Ident: 0.0 222-S Laboratory

Step Analysis
Height-20.03 mg
-95.69 %
ResidC. 0.83 mg
3.95 %

S96T002829 DUP N2
12.043 mg

Rate: 10.0 °C/min

File: 00077.001 TG METTLER 18-May-96

Ident: 0.0 222-8 Laboratory

Step Analysis
Height-11.56 mg
-96.02 %
Resid. 0.48 mg
3.98 %

5.0 mg

LABCORE Data Entry Template for Worklist#

8911

Analyst: SALE Instrument: TGA01 _____ Book # 8ZN8/T

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: C-106/AX-102 TGA RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	<u>59.2</u>	<u>58.93*</u>	<u>N/A</u>	%
96000638	C-106 GRAB	2 SAMPLE	S96T002769	0	TGA-01	SOLID	<u>N/A</u>	<u>73.78</u>		%
96000638	C-106 GRAB	3 DUP	S96T002769	0	TGA-01	SOLID	<u>73.78</u>	<u>76.28</u>	<u>N/A</u>	%
96000638	C-106 GRAB	4 SAMPLE	S96T002772	0	TGA-01	SOLID	<u>N/A</u>	<u>79.49</u>		%
96000638	C-106 GRAB	5 DUP	S96T002772	0	TGA-01	SOLID	<u>79.49</u>	<u>78.63</u>	<u>N/A</u>	%

Final page for worklist #

8911

S. Fulton 5-18-96
Analyst Signature Date

newright 5/21/96
Analyst Signature Date

Validated by H. Anas 5-22-96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 430 TO 432.

TGA STD 82N8A

20.838 mg

Rate: 10.0 °C/min

File: 00075.001

TG METTLER 18-May-96

Ident: 0.0 222-S Laboratory

Step Analysis
Height-12.28 mg
-58.93 %
Resid. 8.56 mg
41.07 %
Dpeak 87.5°C

5. mg

50.

100.

150.

Signature 5-18-96

S96T002769 N2

File: 00080.001 TG METTLER 18-May-86

Ident: 0.0 222-S Laboratory

Rate: 10.0 °C/min

10.548 mg

Step Analysis
Height -7.78 mg
-73.78 %
Resid. 2.77 mg
26.22 %
Dpeak 77.0°C

S96T002769 DUP N2
10.665 mg

Rate: 10.0 °C/min

File: 00081.001 TG METTLER 18-May-86
Ident: 0.0 222-S Laboratory

Step Analysis
Height -8.14 mg
-76.28 %
Resid. 2.53 mg
23.72 %
Dpeak 77.0 °C

LABCORE Data Entry Template for Worklist#

8912

Analyst: Smf Instrument: TGA0 3 Book # 82N8A

Method: LA-514-114 Rev/Mod C-1

Worklist Comment: C-106AY-102 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	<u>59.2</u>	<u>58.97</u>	<u>*</u>	N/A %
96000648	C-106 GRAB	2 SAMPLE	S96T002831	0	TGA-03	SOLID	<u>N/A</u>	<u>83.85</u>		%
96000648	C-106 GRAB	3 DUP	S96T002831	0	TGA-03	SOLID	<u>83.85</u>	<u>85.53</u>	<u>N/A</u>	%

Final page for worklist # 8912

See Attached for Signatures
Analyst Signature Date

Analyst Signature Date

Validated by Hhnestor 5.22.96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

8912

Analyst: SMF Instrument: TGA0 3 Book # 92N87

Method: LA-560-112 Rev/Mod C-1

Worklist Comment: C-106\AY-102 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID			N/A	%
96000648	C-106 GRAB	2 SAMPLE	5967002831	0	TGA-01	SOLID	N/A			%
96000648	C-106 GRAB	3 DUP	5967002831	0	TGA-01	SOLID			N/A	%

Final page for worklist #

8912

Smf 5-18-96
Analyst Signature Date

Reed 5/21/96
Analyst Signature Date

Other Instrument was used.

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

File info: TER051801 Sat May 18 05:46:09 1996

Sample Weight: 21.407 mg.

TGA STD 82N8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 435 TO 437.

N2 10C/MIN

다
오
만

TIME: 0.0 min RATE: 10.0 C/min

Temperature (°C)

SM FULTON
PERKIN-ELMER

7 Series Thermal Analysis System
Sat May 18 05:53:55 1996

Curve 1: T8A
 File Info: SAM051803 Sat May 18 09:07:52 1996
 Sample Weight: 9.533 mg
 S96T002831

SH FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue May 21 07:15:36 1996

10C/MIN N2
 T8A
 9.533 g
 T002831
 0.0 min RATE: 10.0 C/min

Curve 1: TGA
 File Info: SAM051804 Sat May 18 10:38:37 1996
 Sample Weight: 16.792 mg
 S96T002831 DUP

SM FLUTION
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat May 18 14:58:37 1996

10C/MIN N2
 THERMO 8
 THERMO 8
 0.0 min RATE: 10.0 C/min

LABCORE Data Entry Template for Worklist#

6119

Analyst: KBN Instrument: BA001 Book # 1352116-A
Method: LA-510-112 Rev/Mod C-3
Worklist Comment: C-106 AND S-102 SPG. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			SPG-01	LIQUID	<u>1.396</u>	<u>1.382</u>	<u>N/A</u>	Sp.G.
96000082	C-106 GRAB	2 SAMPLE	S96T000538	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.155</u>	<u>0.010</u>	Sp.G.
96000082	C-106 GRAB	3 DUP	S96T000538	0	SPG-01	LIQUID	<u>1.155</u>	<u>1.155</u>	<u>N/A</u>	Sp.G.
96000030	S102	4 SAMPLE	S96T000634	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.369</u>	<u>0.010</u>	Sp.G.
96000030	S102	5 DUP	S96T000634	0	SPG-01	LIQUID	<u>1.369</u>	<u>1.464</u>	<u>N/A</u>	Sp.G.
96000030	S102	6 SAMPLE	S96T000773	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.388</u>	<u>0.010</u>	Sp.G.
96000030	S102	7 DUP	S96T000773	0	SPG-01	LIQUID	<u>1.388</u>	<u>1.394</u>	<u>N/A</u>	Sp.G.
96000030	S102	8 SAMPLE	S96T000838	0	SPG-01	LIQUID	<u>N/A</u>	<u>.986</u>	<u>0.010</u>	Sp.G.
96000030	S102	9 DUP	S96T000838	0	SPG-01	LIQUID	<u>.986</u>	<u>.986</u>	<u>N/A</u>	Sp.G.

Final page for worklist #

6119

Analyst Signature

Date

Analyst Signature

Date

Reviewed RW Schneider 3/18/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

BEST AVAILABLE COPY

1.8179 g

2.20807 g

1.50170 g

0.20807 g

JSTO

JSTO

SPECIFIC GRAVITY : LA-510-112 (C-3)

TYPE		STANDARD	STANDARD
STANDARD	Gross Weight (W2)	2.0259	2.0682
Work Order	Tare Weight (W1)	1.8179	1.8612
6119	Weight of Solution (W2-W1)	0.20807	0.20702
Test Code	Volume of Solution μL	150.1700	150.1700
SPG-01	Specific Gravity	1.3856	1.3786
Matrix	Specific Gravity (Average)	1.3821	
LIQUID			
Sample #			
133N16A			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
K. HIGBEE	Specific Gravity = $[(W2-W1) \cdot 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} \cdot 1.000 \text{ g/mL}]$		
Date			
03/12/96	v RESULT v		
Time	Specific Gravity Average =	1.382	

Data Entry by:	RTS	Date:	03/13/96
Approved by:	RW Schroeder	Date:	3/18/96

Form 510112L1 Rev. 1.1

Page 1 of 1

439

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

BEST AVAILABLE COPY

1.85147 g
 ----- CALIBRATION -----
 03/12/96 14:57:57
 CAL BEGIN
 14:57:57
 2.02414 g
 SAH
 896000
 538

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	2.0249	
Worklist	Tare Weight (W1)	1.8515	
6119	Weight of Solution (W2-W1)	0.17347	0
Test Code	Volume of Solution μ L	150.1700	
SPG-01	Specific Gravity	1.1552	NA
Matrix			
LIQUID			
Sample #			
S95T000538			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
K. HIGBEE	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
03/12/96	v RESULT v		
Time	Specific Gravity =	1.155	

Data Entry by:	RTS	Date:	03/13/96
Approved by:	Rw. Schroeder	Date:	3/18/96

Form 510112L1 Rev. 1.1

Page 1 of 1

440

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

BEST AVAILABLE COPY

1.86227 g

2.03577 g

Dup
S95T000
538

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	2.0358	
Worklist	Tare Weight (W1)	1.8623	
6119	Weight of Solution (W2-W1)	0.1735	0
Test Code	Volume of Solution μ L	150.1700	
SPG-01	Specific Gravity	1.1554	NA
Matrix			
LIQUID			
Sample #			
S95T000538/DUP			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
K. HIGBEE			
Date			
03/12/96	∇ RESULT ∇		
Time	Specific Gravity =	1.155	

Data Entry by:	RTS	Date:	03/13/96
Approved by:	Rw Schroeder	Date:	3/13/96

Form 510112L1 Rev. 1.1

Page 1 of 1

441

LABCORE Data Entry Template for Worklist#

6362

Analyst: KH Instrument: BA001 Book # 132116-AMethod: LA-510-112 Rev/Mod C-2

Worklist Comment: AN107 AND C106 SPG. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			SPG-01	LIQUID	1.398	1.376	N/A	Sp.G.
96000108	AN-107 GRAB	2 SAMPLE	S96T000747	0	SPG-01	LIQUID	N/A	1.367	0.010	Sp.G.
96000108	AN-107 GRAB	3 DUP	S96T000747	0	SPG-01	LIQUID	1.367	1.346	N/A	Sp.G.
96000174	C-106 GRAB	4 SAMPLE	S96T001023	0	SPG-01	LIQUID	N/A	1.173	0.010	Sp.G.
96000174	C-106 GRAB	5 DUP	S96T001023	0	SPG-01	LIQUID	1.173	1.247	N/A	Sp.G.

Final page for worklist #

6362

Analyst Signature

Date

Analyst Signature

Date

Reviewed RW Schaeffer 3/18/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

1.90939 g } STD
2.11582 g }
1.87218 g } STD
2.07894 g }

1.87245 g } JAM
2.04863 g } S&T 101023
1.89847 g } Dup
2.07770 g } S&T 101023

BEST AVAILABLE COPY

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		STANDARD	STANDARD
STANDARD	Gross Weight (W2)	2.1158	2.0789
Work List	Tare Weight (W1)	1.9094	1.8722
6362	Weight of Solution (W2-W1)	0.20643	0.20676
Test Code	Volume of Solution μ L	150.1700	150.1700
SPG-01	Specific Gravity	1.3746	1.3768
Matrix	Specific Gravity (Average)	1.3757	
LIQUID			
Sample #			
133N16A			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
K. HIGBEE	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
03/11/96	v RESULT v		
Time	Specific Gravity Average =	1.376	

Data Entry by:	RTS	Date:	03/13/96
Approved by:	RW. Swedlin	Date:	3/18/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

		SAMPLE	REPLICATE
6362	Gross Weight (W2)	2.0486	
	Tare Weight (W1)	1.8725	
	Weight of Solution (W2-W1)	0.17618	0
	Volume of Solution μ L	150.1700	
SPG-01	Specific Gravity	1.1732	NA
LIQUID			
S95T001023			
	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
	Tare Weight (W1) = Wt. of vial + cap + cotton		
K. HIGBEE	Specific Gravity = $[(W2-W1) \cdot 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} \cdot 1.000 \text{ g/mL}]$		
03/11/96	v RESULT v		
	Specific Gravity =	1.173	

Data Entry by:	RTS	Date:	03/13/96
Approved by:	R.W. Schneider	Date:	3/18/96
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445

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Sample	Gross Weight (W2)	Sample	REPLICATE
	Tare Weight (W1)	2.0777	
6362	Weight of Solution (W2-W1)	1.8985	
	Volume of Solution μL	0.1792	0
SpG-01	Specific Gravity	150.1700	
		1.1933	NA
LIQUID			
S95T001023/ DUP			
	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
	Tare Weight (W1) = Wt. of vial + cap + cotton		
K. Higbee	Specific Gravity = $[(W2-W1) \cdot 1000 \mu\text{L}/\text{mL}] / [\text{Vol. of Solution } \mu\text{L} \cdot 1.000 \text{ g/mL}]$		
03/11/96	∇ RESULT ∇		
	Specific Gravity =	1.193	

Data Entry by:	RTS	Date:	03/18/96
Approved by:	RW Schmedin	Date:	3/18/96

LABCORE Data Entry Template for Worklist#

7516

Analyst: Rom Instrument: BA001 _____ Book # 133N16 A

Method: LA-510-112 Rev/Mod C-3

Worklist Comment: C-106 FOR SPG RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			SPG-01	LIQUID	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	Sp.G.
96000174	C-106 GRAB	2 SAMPLE	S96T001032	0	SPG-01	LIQUID	<u>N/A</u>	<u>I.S.</u>	<u>N/A</u>	Sp.G.
96000174	C-106 GRAB	3 DUP	S96T001032	0	SPG-01	LIQUID	<u>I.S.</u>	<u>I.S.</u>	<u>N/A</u>	Sp.G.

Final page for worklist #

7516

Rom 4/10/96
Analyst Signature Date

Frank Condo 4/11/96
Analyst Signature Date

Reviewed RWS Schroeder
4/12/96

Data Entry Comments: Insufficient sample

LABCORE Data Entry Template for Worklist#

7220

Analyst: ADP

Instrument: BA001

Book # 133N16-A

Method: LA-510-112 Rev/Mod C-3

Worklist Comment: SPG FOR C-106 & U-105

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				SPG-01	LIQUID	<u>1.3976</u>	<u>1.413</u>	<u>N/A</u>	Sp.G.
96000082	C-106 GRAB	2	SAMPLE	S96T000544	0		SPG-01	LIQUID	<u>N/A</u>	<u>1.200</u>	<u>0.001</u>	Sp.G.
96000082	C-106 GRAB	3	DUP	S96T000544	0		SPG-01	LIQUID	<u>1.200</u>	<u>1.194</u>	<u>N/A</u>	Sp.G.
96000082	C-106 GRAB	4	SAMPLE	S96T000559	0		SPG-01	LIQUID	<u>N/A</u>	<u>1.156</u>	<u>0.001</u>	Sp.G.
96000082	C-106 GRAB	5	DUP	S96T000559	0		SPG-01	LIQUID	<u>1.156</u>	<u>1.150</u>	<u>N/A</u>	Sp.G.
96000092	U-105 (R)	6	SAMPLE	S96T001018	0		SPG-01	LIQUID	<u>N/A</u>	<u>0.977</u>	<u>0.001</u>	Sp.G.
96000092	U-105 (R)	7	DUP	S96T001018	0		SPG-01	LIQUID	<u>0.977</u>	<u>0.976</u>	<u>N/A</u>	Sp.G.
96000143	U-105 (R)	8	SAMPLE	S96T001232	0		SPG-01	LIQUID	<u>N/A</u>	<u>1.002</u>	<u>0.001</u>	Sp.G.
96000143	U-105 (R)	9	DUP	S96T001232	0		SPG-01	LIQUID	<u>1.002</u>	<u>1.000</u>	<u>N/A</u>	Sp.G.
96000143	U-105 (R)	10	SAMPLE	S96T001234	0		SPG-01	LIQUID	<u>N/A</u>	<u>0.991</u>	<u>0.001</u>	Sp.G.
96000143	U-105 (R)	11	DUP	S96T001234	0		SPG-01	LIQUID	<u>0.991</u>	<u>0.986</u>	<u>N/A</u>	Sp.G.

Final page for worklist #

7220

Anthony Purnell 4-8-96
Analyst Signature Date

Jim Condo 4/11/96
Analyst Signature Date

Reviewed RW Schmitt
4/11/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

STANDARD		STANDARD	STANDARD
	Gross Weight (W2)	2.0364	1.9770
	Tare Weight (W1)	1.8950	1.8355
7220	Weight of Solution (W2-W1)	0.1414	0.1415
	Volume of Solution μL	100.1200	100.1200
SPG-01	Specific Gravity	1.4123	1.4133
	Specific Gravity (Average)	1.4128	
LIQUID			
STD			
BA001	Gross Weight (W2) = Wt. of vial + cap + cotton + solution Tare Weight (W1) = Wt. of vial + cap + cotton		
AD PURINTON	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
04/08/96	v RESULT v		
12:00 AM	Specific Gravity Average =	1.413	

Data Entry by: <i>Dany L...</i>	Date: 04/10/96
Approved by: <i>RW Sch...</i>	Date: 4/11/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.9711	1.9644
	Tare Weight (W1)	1.8506	1.8446
7220	Weight of Solution (W2-W1)	0.1205	0.1198
	Volume of Solution μL	100.1200	100.1200
SPG-01	Specific Gravity	1.2036	1.1966
	Specific Gravity (Average)	1.2001	
LIQUID			
S96T000544			
BA001	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
	Tare Weight (W1) = Wt. of vial + cap + cotton		
AD PURINTON	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
04/08/96	v RESULT v		
	Specific Gravity Average =	1.200	
12:00 AM			

Data Entry by: <i>[Signature]</i>	Date: 04/10/96
Approved by: <i>[Signature]</i>	Date: 4/11/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

		DUPLICATE	REPLICATE
DUPLICATE	Gross Weight (W2)	2.0123	1.9796
	Tare Weight (W1)	1.8930	1.8599
7220	Weight of Solution (W2-W1)	0.1193	0.1197
	Volume of Solution μL	100.1200	100.1200
SPG-01	Specific Gravity	1.1916	1.1956
	Specific Gravity (Average)	1.1936	
LIQUID			
S96T000544 DUP			
BA001	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
	Tare Weight (W1) = Wt. of vial + cap + cotton		
AD PURINTON	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L}/\text{mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g}/\text{mL}]$		
04/08/96	v RESULT v		
12:00 AM	Specific Gravity Average =	1.194	

Data Entry by: *Mary P. Smith*

Date: 04/10/96

Approved by: *R. J. Schneider*

Date: 4/11/96

Form 510112L1 Rev. 1.1

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PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

		SAMPLE	REPLICATE
7220	Gross Weight (W2)	1.9921	1.9596
	Tare Weight (W1)	1.8762	1.8440
	Weight of Solution (W2-W1)	0.1159	0.1156
	Volume of Solution μL	100.1200	100.1200
	SPG-01	Specific Gravity	1.1576
	Specific Gravity (Average)	1.1561	
LIQUID			
S96T000559			
BA001			
AD PURINTON			
04/08/96			
12:00 AM			
Gross Weight (W2) = Wt. of vial + cap + cotton + solution			
Tare Weight (W1) = Wt. of vial + cap + cotton			
Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$			
v RESULT v			
Specific Gravity Average =		1.156	

Data Entry by:

Date:

04/10/96

Approved by:

Date:

4/11/96

Form 510112L1 Rev. 1.1

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PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

		DUPLICATE	REPLICATE
DUPLICATE	Gross Weight (W2)	1.9240	1.9425
	Tare Weight (W1)	1.8087	1.8275
7220	Weight of Solution (W2-W1)	0.1153	0.115
	Volume of Solution μL	100.1200	100.1200
SPG-01	Specific Gravity	1.1516	1.1486
	Specific Gravity (Average)	1.1501	
LIQUID			
S96T000559 DUP			
BA001	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
	Tare Weight (W1) = Wt. of vial + cap + cotton		
AD PURINTON	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L}/\text{mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g}/\text{mL}]$		
04/08/96	v RESULT v		
	Specific Gravity Average =	1.150	
12:00 AM			

Data Entry by: <i>[Signature]</i>	Date: 04/10/96
Approved by: <i>[Signature]</i>	Date: 4/11/96

LABCORE Data Entry Template for Worklist#

7571

Analyst: ADP Instrument: BA001 Book # 133N16A

Method: LA-510-112 Rev/Mod C-3

Worklist Comment: C-106 SPG SAMPLE DRY AND FLIGHTY, USE CAUTION. RCJ

RWS 4/15/96

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			SPG-01	LIQUID	<u>1.3976</u>	<u>1.427</u>	<u>N/A</u>	Sp.G.
96000082	C-106 GRAB	2 SAMPLE	S96T000855	0	<u><50 mRad</u> SPG-01	LIQUID	<u>N/A</u>	<u>.975</u>	<u>0.001</u>	Sp.G.
96000082	C-106 GRAB	3 DUP	S96T000855	0	SPG-01	LIQUID	<u>.975</u>	<u>.974</u>	<u>N/A</u>	Sp.G.
96000174	C-106 GRAB	4 SAMPLE	S96T001675	0	<u>175 mRad</u> SPG-01	LIQUID	<u>N/A</u>	<u>1.153</u>	<u>0.001</u>	Sp.G.
96000174	C-106 GRAB	5 DUP	S96T001675	0	SPG-01	LIQUID	<u>1.153</u>	<u>1.138</u>	<u>N/A</u>	Sp.G.

Final page for worklist #

7571

Anthony Purnell 6-22-96
Analyst Signature Date

RTS 4-23-96
Analyst Signature Date

13676

Reviewed RW Schneider 4/23/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		STANDARD	STANDARD
STANDARD	Gross Weight (W2)	2.0601	2.0438
Work List	Tare Weight (W1)	1.9161	1.9021
7571	Weight of Solution (W2-W1)	0.144	0.1417
Test Code	Volume of Solution μ L	100.1200	100.1200
SPG-01	Specific Gravity	1.4383	1.4153
Matrix	Specific Gravity (Average)	1.4268	
LIQUID			
Sample #			
133N16A			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) \cdot 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} \cdot 1.000 \text{ g/mL}]$		
adp			
Date			
06/22/96	ν RESULT ν		
Time	Specific Gravity Average =	1.427	

Data Entry by:	<i>RTS</i>	Date:	04/23/96
Approved by:	<i>RW Schroeder</i>	Date:	4/23/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.9562	
Worklist	Tare Weight (W1)	1.8586	
7571	Weight of Solution (W2-W1)	0.0976	0
Test Code	Volume of Solution μ L	100.1200	
SPG-01	Specific Gravity	0.9748	NA
Matrix			
LIQUID			
Sample #			
S96T000855			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
adp	Specific Gravity = $[(W2-W1) \cdot 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} \cdot 1.000 \text{ g/mL}]$		
Date			
06/22/96	v RESULT v		
Time	Specific Gravity =	0.975	

Data Entry by:	125	Date:	04/23/96
Approved by:	R.W. Schroeder	Date:	4/25/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	2.0163	
Work List	Tare Weight (W1)	1.9188	
7571	Weight of Solution (W2-W1)	0.0975	0
Test Code	Volume of Solution μ L	100.1200	
SPG-01	Specific Gravity	0.9738	NA
Matrix			
LIQUID			
Sample #			
S96T000355/DUP			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
adp			
Date			
06/22/96	v RESULT v		
Time	Specific Gravity =	0.974	

Data Entry by:	<i>RIS</i>	Date:	04/23/96
Approved by:	<i>Rw. Schroeder</i>	Date:	4/23/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.4991	
Work List	Tare Weight (W1)	1.3837	
7571	Weight of Solution (W2-W1)	0.1154	0
Test Code	Volume of Solution μ L	100.1200	
SPG-01	Specific Gravity	1.1526	NA
Matrix			
LIQUID			
Sample #			
S96T001675			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
adp			
Date			
06/22/96	$\checkmark$ RESULT $\checkmark$		
Time	Specific Gravity =	1.153	

Date Entry by:	<i>RTS</i>	Date:	04/23/96
Approved by:	<i>Raj Schneider</i>	Date:	4/23/96
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PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.4973	
Wt. List	Tare Weight (W1)	1.3834	
7571	Weight of Solution (W2-W1)	0.1139	0
Tr. Code	Volume of Solution μ L	100.1200	
SPG-01	Specific Gravity	1.1376	NA
LIQUID			
Sample #			
S96T001675/DUP			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
adp			
Date			
06/22/96	v RESULT v		
Time	Specific Gravity =	1.138	

Data Entry by:	RTS	Date:	04/23/96
Approved by:	Raj. Schneider	Date:	4/23/96

LABCORE Data Entry Template for Worklist#

8134

Analyst: ADP Instrument: BA001 Book # 133N16-A

Method: LA-510-112 Rev/Mod C-3

Worklist Comment: C-106 FOR SPG-01 RECORD SAMPLE AMOUNT LEFT RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			SPG-01	LIQUID	<u>1.39755</u>	<u>1.366</u>	<u>N/A</u>	Sp.G.
96000082	C-106 GRAB	2 SAMPLE	S96T001528	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.230</u>	<u>0.001</u>	Sp.G.
96000082	C-106 GRAB	3 DUP	S96T001528	0	SPG-01	LIQUID	<u>1.230</u>	<u>1.246</u>	<u>N/A</u>	Sp.G.
96000174	C-106 GRAB	4 SAMPLE	S96T002024	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.195</u>	<u>0.001</u>	Sp.G.
96000174	C-106 GRAB	5 DUP	S96T002024	0	SPG-01	LIQUID	<u>1.195</u>	<u>1.195</u>	<u>N/A</u>	Sp.G.
96000394	S-101	6 SAMPLE	S96T001886	0 D	SPG-01	LIQUID	<u>N/A</u>	<u>1.342</u>	<u>0.001</u>	Sp.G.
96000394	S-101	7 DUP	S96T001886	0 D	SPG-01	LIQUID	<u>1.342</u>	<u>1.350</u>	<u>N/A</u>	Sp.G.

Final page for worklist #

8134

Anthony Puro 5-5-96
Analyst Signature Date

Dany Abumars 5-5-96
Analyst Signature Date

Approved RW Schroeder
5/7/96

Data Entry Comments: S96T001528 20mL Aprox. Left

S96T002024 10mL Left Aprox.

S96T001886 5mL left Aprox.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

STANDARD		STANDARD	STANDARD
	Gross Weight (W2)	2.0245	2.0303
	Tare Weight (W1)	1.8880	1.8932
8134	Weight of Solution (W2-W1)	0.1365	0.1371
	Volume of Solution μL	100.1200	100.1200
SPG-01	Specific Gravity	1.3634	1.3694
	Specific Gravity (Average)	1.3664	
LIQUID			
STD			
BA001	Gross Weight (W2) = Wt. of vial + cap + cotton + solution Tare Weight (W1) = Wt. of vial + cap + cotton		
ADP	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L}/\text{mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
05/05/96	v RESULT v		
	Specific Gravity Average =	1.366	

Data Entry by: <i>[Signature]</i>	Date: 05/05/96
Approved by: <i>[Signature]</i>	Date: 5/7/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.9869	
	Tare Weight (W1)	1.8638	
8134	Weight of Solution (W2-W1)	0.1231	0
	Volume of Solution μ L	100.1200	
SPG-01	Specific Gravity	1.2295	NA
LIQUID			
S96T001528			
BA001	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
	Tare Weight (W1) = Wt. of vial + cap + cotton		
ADP	Specific Gravity = [(W2-W1) * 1000 μ L/mL] / [Vol. of Solution μ L * 1.000 g/mL]		
05/05/96	v RESULT v		
	Specific Gravity =	1.230	

Data Entry by: <i>Thy Hammer</i>	Date: 05/05/96
Approved by: <i>RW Schroeder</i>	Date: 5/7/96
Form 510112L1 Rev. 1.1	Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

		DUPLICATE	REPLICATE
DUPLICATE	Gross Weight (W2)	2.0036	
	Tare Weight (W1)	1.8789	
8134	Weight of Solution (W2-W1)	0.1247	0
	Volume of Solution μL	100.1200	
SPG-01	Specific Gravity	1.2455	NA
LIQUID			
S96T001528 DUP			
BA001	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
	Tare Weight (W1) = Wt. of vial + cap + cotton		
ADP	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
05/05/96	v RESULT v		
	Specific Gravity =	1.246	

Data Entry by: <i>Ray Schmidt</i>	Date: 05/05/96
Approved by: <i>RW Schneider</i>	Date: 5/7/96
Form 510112L1 Rev. 1.1	Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

SAMPLE		SAMPLE	REPLICATE
	Gross Weight (W2)	2.0007	
	Tare Weight (W1)	1.8811	
8134	Weight of Solution (W2-W1)	0.1196	0
	Volume of Solution μ L	100.1200	
SPG-01	Specific Gravity	1.1946	NA
LIQUID			
S96T002024			
BA001	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
	Tare Weight (W1) = Wt. of vial + cap + cotton		
ADP	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
05/05/96	v RESULT v		
	Specific Gravity =	1.195	

Data Entry by: <i>Day</i>	Date: 05/05/96
Approved by: <i>RW Schroeder</i>	Date: 5/7/96
Form 510112L1 Rev. 1.1	Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

		DUPLICATE	REPLICATE
DUPLICATE	Gross Weight (W2)	2.0014	
	Tare Weight (W1)	1.8818	
8134	Weight of Solution (W2-W1)	0.1196	0
	Volume of Solution μL	100.1200	
SPG-01	Specific Gravity	1.1946	NA
LIQUID			
S96T002024 DUP			
BA001	Gross Weight (W2) = Wt. of vial + cap + cotton + solution Tare Weight (W1) = Wt. of vial + cap + cotton		
ADP	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
05/05/96	v RESULT v		
	Specific Gravity =	1.195	

Data Entry by: <i>Ray H. Hunsicker</i>	Date: 05/05/96
Approved by: <i>R. W. Schroeder</i>	Date: 5/7/96

LABCORE Data Entry Template for Worklist#

8917

Analyst: JLF Instrument: BA001 Book # 133N16A

Method: LA-510-112 Rev/Mod C-3

Worklist Comment: C-106 SPG. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			SPG-01	LIQUID	<u>1.39755</u>	<u>1.364</u>	<u>N/A</u>	Sp.G.
96000638	C-106 GRAB	2 SAMPLE	S96T002771	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.002</u>	<u>0.01</u>	Sp.G.
96000638	C-106 GRAB	3 DUP	S96T002771	0	SPG-01	LIQUID	<u>1.002</u>	<u>.991</u>	<u>N/A</u>	Sp.G.
96000648	C-106 GRAB	4 SAMPLE	S96T002830	0	SPG-01	LIQUID	<u>N/A</u>	<u>.996</u>	<u>0.01</u>	Sp.G.
96000648	C-106 GRAB	5 DUP	S96T002830	0	SPG-01	LIQUID	<u>.996</u>	<u>.999</u>	<u>N/A</u>	Sp.G.

Final page for worklist #

8917

Jessie Johnson 5-19-96
Analyst Signature Date

[Signature] 5-19-96
Analyst Signature Date

Approved RW Schoed
5/20/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

Std
X

2056

2042

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		STANDARD	STANDARD
STANDARD	Gross Weight (W2)	2.1309	2.0679
Work List	Tare Weight (W1)	1.9253	1.8637
8917	Weight of Solution (W2-W1)	0.2056	0.2042
Test Code	Volume of Solution μ L	150.1700	150.1700
SPG-01	Specific Gravity	1.3691	1.3598
Matrix	Specific Gravity (Average)	1.3645	
LIQUID			
Sample #			
133N16A			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
JLF	Specific Gravity = $[(W2-W1) \times 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} \times 1.000 \text{ g/mL}]$		
Date			
05/19/96	v RESULT v		
Time	Specific Gravity Average =	1.364	
03:30 AM			

Data Entry by: <i>RF</i>	Date: 05/19/96
Approved by: <i>RW Schneider</i>	Date: 5/20/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

Sg6T002771 SAM

.1487

.1523

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	2.0176	2.0724
Work List	Tare Weight (W1)	1.8689	1.9201
8917	Weight of Solution (W2-W1)	0.1487	0.1523
Test Code	Volume of Solution μ L	150.1700	150.1700
SPG-01	Specific Gravity	0.9902	1.0142
Matrix	Specific Gravity (Average)	1.0022	
LIQUID			
Sample #			
S96T002771			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
JLF	Specific Gravity = $[(W2-W1) \times 1000 \mu\text{L}/\text{mL}] / [\text{Vol. of Solution } \mu\text{L} \times 1.000 \text{ g/mL}]$		
Date	v RESULT v		
05/19/96			
Time	Specific Gravity Average =	1.002	
03:30 AM			

Data Entry by: <i>hly</i>	Date: 05/19/96
Approved by: <i>PW Schneider</i>	Date: 5/20/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

S96T002771 DW

.1480

.1495

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		DUPLICATE	REPLICATE
DUPLICATE	Gross Weight (W2)	2.0279	2.0625
Worklist	Tare Weight (W1)	1.8799	1.9130
8917	Weight of Solution (W2-W1)	0.148	0.1495
Test Code	Volume of Solution μ L	150.1700	150.1700
SPG-01	Specific Gravity	0.9855	0.9955
Matrix	Specific Gravity (Average)	0.9905	
LIQUID			
Sample #			
S96T002771			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
JLF			
Date			
05/19/96	v RESULT v		
Time	Specific Gravity Average =	0.991	
03:30 AM			

Data Entry by:	<i>RJ</i>	Date:	05/19/96
Approved by:	<i>Rw Schneider</i>	Date:	5/20/96
Form 510112L1 Rev. 1.1		Page 1 of 1	

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

S96T002830 SAM

.1497

.1495

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	2.0470	2.0334
Work List	Tare Weight (W1)	1.8973	1.8839
8917	Weight of Solution (W2-W1)	0.1497	0.1495
Test Code	Volume of Solution μ L	150.1700	150.1700
SPG-01	Specific Gravity	0.9969	0.9955
Matrix	Specific Gravity (Average)	0.9962	
LIQUID			
Sample #			
S96T002830			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
JLF	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date	v RESULT v		
05/19/96			
Time	Specific Gravity Average =	0.996	
03:30 AM			

Data Entry by: <i>[Signature]</i>	Date: 05/19/96
Approved by: <i>[Signature]</i>	Date: 5/20/96
Form 510112L1 Rev. 1.1	Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

S96T002830 Dup

.1497

.1502

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		DUPLICATE	REPLICATE
DUPLICATE	Gross Weight (W2)	2.0439	2.0397
Work List	Tare Weight (W1)	1.8942	1.8895
8917	Weight of Solution (W2-W1)	0.1497	0.1502
Test Code	Volume of Solution μ L	150.1700	150.1700
SPG-01	Specific Gravity	0.9969	1.0002
Matrix	Specific Gravity (Average)	0.9985	
LIQUID			
Sample #			
S96T002830			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
JLF	Specific Gravity = $[(W2-W1) \cdot 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} \cdot 1.000 \text{ g/mL}]$		
Date			
05/19/96	∇ RESULT ∇		
Time	Specific Gravity Average =	0.999	
03:30 AM			

Data Entry by: <i>RW</i>	Date: 05/19/96
Approved by: <i>RW Schneider</i>	Date: 5/20/96

Form 510112L1 Rev. 1.1 Page 1 of 1

LABCORE Data Entry Template for Worklist#

8931

Analyst: ADP Instrument: BA001 Book # 133N16A

Method: LA-510-112 Rev/Mod C-3

Worklist Comment: C-106 SPG. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			SPG-01	LIQUID	<u>1.39755</u>	<u>1.414</u>	<u>N/A</u>	Sp.G.
96000638	C-106 GRAB	2 SAMPLE	S96T002765	0	SPG-01	LIQUID	<u>N/A</u>	<u>0.980</u>	<u>0.010</u>	Sp.G.
96000638	C-106 GRAB	3 DUP	S96T002765	0	SPG-01	LIQUID	<u>0.980</u>	<u>0.977</u>	<u>N/A</u>	Sp.G.
96000638	C-106 GRAB	4 SAMPLE	S96T002768	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.005</u>	<u>0.010</u>	Sp.G.
96000638	C-106 GRAB	5 DUP	S96T002768	0	SPG-01	LIQUID	<u>1.005</u>	<u>0.997</u>	<u>N/A</u>	Sp.G.
96000648	C-106 GRAB	6 SAMPLE	S96T002826	0	SPG-01	LIQUID	<u>N/A</u>	<u>0.988</u>	<u>0.010</u>	Sp.G.
96000648	C-106 GRAB	7 DUP	S96T002826	0	SPG-01	LIQUID	<u>0.988</u>	<u>0.972</u>	<u>N/A</u>	Sp.G.
96000648	C-106 GRAB	8 SAMPLE	S96T002833	0	SPG-01	LIQUID	<u>N/A</u>	<u>0.976</u>	<u>0.010</u>	Sp.G.
96000648	C-106 GRAB	9 DUP	S96T002833	0	SPG-01	LIQUID	<u>0.976</u>	<u>0.987</u>	<u>N/A</u>	Sp.G.

Final page for worklist #

8931

Anthony Paruta 052096
Analyst Signature Date

Ray Smith 5-20-96
Analyst Signature Date

Approved RW Schoech 5/21/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

		STANDARD	STANDARD
STANDARD	Gross Weight (W2)	2.0692	1.9744
	Tare Weight (W1)	1.9262	1.8342
8931	Weight of Solution (W2-W1)	0.143	0.1402
	Volume of Solution μL	100.1200	100.1200
SPG-01	Specific Gravity	1.4283	1.4003
	Specific Gravity (Average)	1.4143	
LIQUID			
STD			
BA001	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
	Tare Weight (W1) = Wt. of vial + cap + cotton		
ADP	Specific Gravity = $[(W2-W1) \cdot 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} \cdot 1.000 \text{ g/mL}]$		
05/20/96	∇ RESULT ∇		
11:00 AM	Specific Gravity Average =	1.414	

Data Entry by: <i>Day Hammett</i>	Date: 05/20/96
Approved by: <i>RW Schroeder</i>	Date: 5/21/96

WHC-SD-WM-DP-183, REV. C

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	2.0207	
8931	Tare Weight (W1)	1.9226	
	Weight of Solution (W2-W1)	0.0981	0
	Volume of Solution μ L	100.1200	
SPG-01	Specific Gravity	0.9798	NA
LIQUID			
Sample #			
S95T002765			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
ADP	Specific Gravity = $[(W2-W1) \times 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} \times 1.000 \text{ g/mL}]$		
Date			
05/20/96	$\checkmark$ RESULT $\checkmark$		
Time	Specific Gravity =	0.980	
11:00 AM			

Data Entry by: <i>[Signature]</i>	Date: 05/20/96
Approved by: <i>[Signature]</i>	Date: 5/21/96

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		DUPLICATE	REPLICATE
DUPLICATE	Gross Weight (W2)	2.0033	
	Tare Weight (W1)	1.9055	
8931	Weight of Solution (W2-W1)	0.0978	0
	Volume of Solution μ L	100.1200	
SPG-01	Specific Gravity	0.9768	NA
LIQUID			
Sample #			
S95T002765 DUP			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
ADP	Specific Gravity = $[(W2-W1) \cdot 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} \cdot 1.000 \text{ g/mL}]$		
Date			
05/20/96	∇ RESULT ∇		
Time	Specific Gravity =	0.977	
11:00 AM			

Data Entry by: <i>Ray Schmidt</i>	Date: 05/20/96
Approved by: <i>Paul Schneider</i>	Date: 5/21/96

WHC-SD-WM-DP-183, REV. C

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.9992	
Work List	Tare Weight (W1)	1.8986	
8931	Weight of Solution (W2-W1)	0.1006	0
Test Code	Volume of Solution μ L	100.1200	
SPG-01	Specific Gravity	1.0048	NA
Matrix			
LIQUID			
Sample #			
S95T002768			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
ADP	Specific Gravity = $[(W2-W1) \cdot 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} \cdot 1.000 \text{ g/mL}]$		
Date	v RESULT v		
05/20/96	Specific Gravity =	1.005	
Time			
11:00 AM			

Data Entry by: <i>Ray H. Smith</i>	Date: 05/20/96
Approved by: <i>R. W. Schroeder</i>	Date: 5/21/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		DUPLICATE	REPLICATE
DUPLICATE	Gross Weight (W2)	1.9957	
Work List	Tare Weight (W1)	1.8959	
8931	Weight of Solution (W2-W1)	0.0998	0
Test Code	Volume of Solution μ L	100.1200	
SPG-01	Specific Gravity	0.9968	NA
Matrix			
LIQUID			
Sample #			
S95T002768 DUP			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
ADP	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
05/20/96	$\vee$ RESULT $\vee$		
Time	Specific Gravity =	0.997	
11:00 AM			

Data Entry by: <i>Don Hammond</i>	Date: 05/20/96
Approved by: <i>Elv Schneider</i>	Date: 5/21/96

WHC-SD-WM-DP-183, REV. C

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.9514	
Work List	Tare Weight (W1)	1.8525	
8931	Weight of Solution (W2-W1)	0.0989	0
Test Code	Volume of Solution μ L	100.1200	
SPG-01	Specific Gravity	0.9878	NA
Matrix			
LIQUID			
Sample #			
S95T002826			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
ADP	Specific Gravity = $[(W2-W1) \times 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} \times 1.000 \text{ g/mL}]$		
Date			
05/20/96	∇ RESULT ∇		
Time	Specific Gravity =	0.988	
11:00 AM			

Data Entry by: <i>Dee H...</i>	Date: 05/20/96
Approved by: <i>RW Schneider</i>	Date: 5/21/96

Form 510112L1 Rev. 1.1 Page 1 of 1

WHC-SD-WM-DP-183, REV. C

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

		DUPLICATE	REPLICATE
DUPLICATE	Gross Weight (W2)	1.9659	
	Tare Weight (W1)	1.8686	
8931	Weight of Solution (W2-W1)	0.0973	0
	Volume of Solution μ L	100.1200	
SPG-01	Specific Gravity	0.9718	NA
LIQUID			
S95T002826 DUP			
BA001	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
	Tare Weight (W1) = Wt. of vial + cap + cotton		
ADP	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
05/20/96	v RESULT v		
	Specific Gravity =	0.972	
11:00 AM			

Data Entry by: <i>[Signature]</i>	Date: 05/20/96
Approved by: <i>[Signature]</i>	Date: 5/21/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	2.0046	
Work Lib	Tare Weight (W1)	1.9069	
8931	Weight of Solution (W2-W1)	0.0977	0
Test Code	Volume of Solution μ L	100.1200	
SPG-01	Specific Gravity	0.9758	NA
Matrix			
LIQUID			
Sample #			
S95T002833			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
ADP			
Date	v RESULT v		
05/20/96	Specific Gravity =	0.976	
Time			
11:00 AM			

Data Entry by: <i>John H. Smith</i>	Date: 05/20/96
Approved by: <i>RW Schneider</i>	Date: 5/21/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

		DUPLICATE	REPLICATE
DUPLICATE	Gross Weight (W2)	1.9670	
8931	Tare Weight (W1)	1.8682	
	Weight of Solution (W2-W1)	0.0988	0
	Volume of Solution μL	100.1200	
SPG-01	Specific Gravity	0.9868	NA
LIQUID			
S95T002833 DUP			
BA001	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
	Tare Weight (W1) = Wt. of vial + cap + cotton		
ADP	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
05/20/96	∇ RESULT ∇		
11:00 AM	Specific Gravity =	0.987	

Data Entry by: <i>[Signature]</i>	Date: 05/20/96
Approved by: <i>[Signature]</i>	Date: 5/21/96

WHC-SD-WM-DP-183, REV. 0

**THE FOLLOWING ANALYSES WERE
RERUN AND INCLUDED IN THE DATA
PACKAGE, BUT THE RESULTS HAVE NOT
BEEN REPORTED IN THE FINAL
SUMMARY REPORTS.**

LABCORE Data Entry Template for Worklist#

6890

Analyst: ADP Instrument: BA001 Book # 133 N16-A

Method: LA-510-112 Rev/Mod C-3

Worklist Comment: C-106 FB SPG RUN IN DUPLICATE NOT REPLICATE. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			SPG-01	LIQUID	<u>1.3976</u>	<u>1.423</u>	<u>N/A</u>	Sp.G.
96000082	C-106 GRAB	2 SAMPLE	S96T000855	0	SPG-01	LIQUID	<u>N/A</u>	<u>0.987</u>	<u>0.001</u>	Sp.G.
96000082	C-106 GRAB	3 DUP	S96T000855	0	SPG-01	LIQUID	<u>0.987</u>	<u>0.987</u>	<u>N/A</u>	Sp.G.

Final page for worklist #

6890

Anthony Purnell 4-8-96
Analyst Signature Date

Anthony Purnell 4-10-96
Analyst Signature Date

Reviewed & Rejected

RW Schwedn 4/10/96

DATA
NOT USED
IN PACKAGE

Data Entry Comments:

High STD Recovery 101.8174. Limits 9486 → 101.8. DAT

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

STANDARD		STANDARD	STANDARD
	Gross Weight (W2)	2.0121	1.9799
	Tare Weight (W1)	1.8697	1.8374
6890	Weight of Solution (W2-W1)	0.1424	0.1425
	Volume of Solution μL	100.1200	100.1200
SPG-01	Specific Gravity	1.4223	1.4233
	Specific Gravity (Average)	1.4228	
LIQUID			
STD			
BA001	Gross Weight (W2) = Wt. of vial + cap + cotton + solution Tare Weight (W1) = Wt. of vial + cap + cotton		
AD PURINTON	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
04/08/96	v RESULT v		
10:22 PM	Specific Gravity Average =	1.423	

DATA
NOT USED
IN PACKAGE

Data Entry by: <i>Jan</i>	Date: 04/10/96
Approved by: <i>R. W. Schroeder</i>	Date: 4/10/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.9693	1.9290
	Tare Weight (W1)	1.8706	1.8300
6890	Weight of Solution (W2-W1)	0.0987	0.099
	Volume of Solution μ L	100.1200	100.1200
SPG-01	Specific Gravity	0.9858	0.9888
	Specific Gravity (Average)	0.9873	
LIQUID			
S96T000855			
BA001	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
	Tare Weight (W1) = Wt. of vial + cap + cotton		
AD PURINTON	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
04/08/96	v RESULT v		
10:22 PM	Specific Gravity Average =	0.987	

**DATA
NOT USED
IN PACKAGE**

Data Entry by: <i>[Signature]</i>	Date: 04/10/96
Approved by: <i>[Signature]</i>	Date: 4/10/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

		DUPLICATE	REPLICATE
DUPLICATE	Gross Weight (W2)	1.9602	2.0034
	Tare Weight (W1)	1.8617	1.9043
6890	Weight of Solution (W2-W1)	0.0985	0.0991
	Volume of Solution μL	100.1200	100.1200
SPG-01	Specific Gravity	0.9838	0.9898
	Specific Gravity (Average)	0.9868	
LIQUID			
S96T000855 DUP			
BA001	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
	Tare Weight (W1) = Wt. of vial + cap + cotton		
AD PURINTON	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
04/08/96	v RESULT v		
10:22 PM	Specific Gravity Average =	0.987	

DATA
NOT USED
IN PACKAGE

Data Entry by: <i>[Signature]</i>	Date: 04/10/96
Approved by: <i>[Signature]</i>	Date: 4/10/96

LABCORE Data Entry Template for Worklist#

6117

Analyst: SMF Instrument: BA001 Book # 75N817

Method: LA-564-101 Rev/Mod F/1

Worklist Comment: C-106 % WATER

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				WATER-01	LIQUID	<u>59.2</u>	<u>60.4</u>	<u>N/A</u> %
96000082	C-106 GRAB	2 SAMPLE	S96T000538	0		WATER-01	LIQUID	<u>N/A</u>	<u>81.4</u>	%
96000082	C-106 GRAB	3 DUP	S96T000538	0		WATER-01	LIQUID	<u>81.4</u>	<u>81.4</u>	<u>N/A</u> %

Final page for worklist #

6117

Susie M. Julton 3-14-96
Analyst Signature Date
0245

3/14/96
Analyst Signature Date

Data Entry Comments:

in oven at 0230/3-13-96
out at ~~7230~~ 3-13-96 (± 4 hr) 3-18-96
SMF 3/13-96

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

% WATER : LA-564-101 (F-1)		STANDARD	REPLICATE
	Tare Weight (W1) grams	13.6796	13.8653
STANDARD	Gross Weight (W2) grams	15.0217	15.2045
	First Residue Weight (W3) grams	14.2149	14.3999
6117	Second Residue Weight (W4) grams	14.2118	14.3960
	Percent Difference	0.0219	0.0269
WATER-01	QC Check	Pass	Pass
	Percent Weight Loss	60.35	60.37
LIQUID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
75N8A			
	Sample = W2 - W1	= Gross Weight - Tare Weight	
	Weight = W2 - W4	= Gross Weight - Residue Weight	
S.M. FULTON	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
	QC Check "Pass" if % Difference	= < +/- 0.1500%	
03/14/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT

% H2O (Average) = 60.4

Data Entry by: <i>RTS</i>	Date: 03/14/96
Approved by: <i>Alarasto</i>	Date: 3-18-96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		BLANK	REPLICATE
	Tare Weight (W1) grams	13.6744	
BLANK	Gross Weight (W2) grams	13.6746	
	First Residue Weight (W3) grams	13.6743	
6117	Second Residue Weight (W4) grams	13.6743	
	Percent Difference	0.0005	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	124.00	N/A
LIQUID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
BLNK			
	Sample = W2 - W1	= Gross Weight - Tare Weight	
	Weight = W2 - W4	= Gross Weight - Residue Weight	
S.M. FULTON	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
	QC Check "Pass" if % Difference	= < +/- 0.1500%	
03/14/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT

% H2O = 124.0

Data Entry by:	RTS	Date:	03/14/96
Approved by:	H. H. H. H. H.	Date:	3-18-96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
	Tare Weight (W1) grams	13.7289	
SAMPLE	Gross Weight (W2) grams	14.9020	
	First Residue Weight (W3) grams	13.9475	
6117	Second Residue Weight (W4) grams	13.9473	
	Percent Difference	0.0013	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	81.39	N/A
LIQUID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
S96T000538			
	Sample = W2 - W1	= Gross Weight - Tare Weight	
	Weight = W2 - W4	= Gross Weight - Residue Weight	
S.M. FULTON	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
	QC Check "Pass" if % Difference	= < +/- 0.1500%	
03/14/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT

% H2O = 81.4

Data Entry by:	RJS	Date:	03/14/96
Approved by:	J Anast	Date:	3-18-96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
	Tare Weight (W1) grams	15.2069	
SAMPLE	Gross Weight (W2) grams	16.3801	
	First Residue Weight (W3) grams	15.4256	
6117	Second Residue Weight (W4) grams	15.4254	
	Percent Difference	0.0012	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	81.37	N/A
LIQUID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
S96T000538/DUP			
	Sample = W2 - W1	= Gross Weight - Tare Weight	
	Weight = W2 - W4	= Gross Weight - Residue Weight	
S.M. FULTON	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
	QC Check "Pass" if % Difference	= < +/- 0.1500%	
03/14/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT

% H2O = 81.4

Data Entry by:	RJS	Date:	03/14/96
Approved by:	J. Ameston	Date:	3-18-96

LABCORE Data Entry Template for Worklist#

6363

Analyst: SMF Instrument: BA001 _____ Book # 75N3A

Method: LA-564-101 Rev/Mod F-1

Worklist Comment: C106 %H2O DO NOT RUN IN REPLICATE. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				WATER-01	LIQUID	<u>59.2</u> <u>60.5</u>	<u>N/A</u>	%
96000174	C-106 GRAB	2 SAMPLE	S96T001023	0		WATER-01	LIQUID	<u>N/A</u> <u>79.0</u> <u>79.8</u>		%
96000174	C-106 GRAB	3 DUP	S96T001023	0		WATER-01	LIQUID	<u>79.0</u> <u>79.0</u>	<u>N/A</u>	%

Final page for worklist #

6363

Susie M. Daulton 3-14-96
Analyst Signature Date 6245

elb 3/14/96
Analyst Signature Date

Data Entry Comments:

Approved by

in oven @ 2230/3-13-96

HQnaster 3-18-96

out @ 2230/3-13-96 (±4hr)
SMF 3-13-96

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

	STANDARD	REPLICATE
Tare Weight (W1) grams	13.7366	13.8848
STANDARD Gross Weight (W2) grams	15.0866	15.2302
First Residue Weight (W3) grams	14.2734	14.4193
6363 Second Residue Weight (W4) grams	14.2705	14.4168
Percent Difference	0.0203	0.0171
WATER-01 QC Check	Pass	Pass
Percent Weight Loss	60.45	60.45

LIQUID

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

75N8A

S.M. FULTON

03/14/96

Sample = W2 - W1 = Gross Weight - Tare Weight
 Weight = W2 - W4 = Gross Weight - Residue Weight
 Percent Difference = Absolute Value of [(W3-W4)/W4]*100.00
 QC Check "Pass" if % Difference = < +/- 0.1500%
 Percent Water Weight Loss = [(W2-W4)/(W2-W1)]*100 = % H2O
 Percent Water (Average) = [(% H2O for A) + (% H2O for B)] / 2

RESULT**% H2O (Average) = 60.5**

Data Entry by: *RTS* Date: 03/14/96
 Approved by: *H. Anasta* Date: 3-18-96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		BLANK	REPLICATE
	Tare Weight (W1) grams	13.6744	
BLANK	Gross Weight (W2) grams	13.6446	
	First Residue Weight (W3) grams	13.6743	
6363	Second Residue Weight (W4) grams	13.6743	
	Percent Difference	0.0005	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	99.80	N/A
LIQUID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
BLNK			
	Sample = W2 - W1	= Gross Weight - Tare Weight	
	Weight = W2 - W4	= Gross Weight - Residue Weight	
S.M. FULTON	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
	QC Check "Pass" if % Difference	= < +/- 0.1500%	
03/14/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT**% H2O = 99.8**

Data Entry by: <i>RTS</i>	Date: 03/14/96
Approved by: <i>W. Anastos</i>	Date: 3-18-96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
	Tare Weight (W1) grams	13.7336	
SAMPLE	Gross Weight (W2) grams	14.9484	
	First Residue Weight (W3) grams	13.9886	
6363	Second Residue Weight (W4) grams	13.9884	
	Percent Difference	0.0010	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	79.03	N/A

LIQUID

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

S96T001023

Sample = W2 - W1

= Gross Weight - Tare Weight

Weight = W2 - W4

= Gross Weight - Residue Weight

S.M. FULTON Percent Difference

= Absolute Value of $[(W3-W4)/W4] \times 100.00$

QC Check "Pass" if % Difference

= < +/- 0.1500%

03/14/96

Percent Water Weight Loss

= $[(W2-W4)/(W2-W1)] \times 100 = \% \text{ H}_2\text{O}$

Percent Water (Average)

= $[(\% \text{ H}_2\text{O for A}) + (\% \text{ H}_2\text{O for B})] / 2$

RESULT

% H2O = 79.0

Data Entry by:

Rts

Date:

03/14/96

Approved by:

H. H. H. H.

Date:

3-18-96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
	Tare Weight (W1) grams	13.7928	
SAMPLE	Gross Weight (W2) grams	15.0084	
	First Residue Weight (W3) grams	14.0482	
6363	Second Residue Weight (W4) grams	14.0480	
	Percent Difference	0.0014	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	79.01	N/A
LIQUID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
S96T001023/DUP			
	Sample = W2 - W1	= Gross Weight - Tare Weight	
	Weight = W2 - W4	= Gross Weight - Residue Weight	
S.M. FULTON	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
	QC Check "Pass" if % Difference	= < +/- 0.1500%	
03/14/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT**% H2O = 79.0**

Data Entry by:	RTS	Date:	03/14/96
Approved by:	H Anastn	Date:	3-18-96

LABCORE Data Entry Template for Worklist#

6891

Analyst: ADD/Lds Instrument: BA001 _____ Book # 82N8A

Method: LA-564-101 Rev/Mod F-1

Worklist Comment: C-106 FB RUN IN DUPLICATE NOT REPLICATE. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			WATER-01	LIQUID	<u>59.2</u>	<u>58.5</u>	<u>N/A</u>	%
96000082	C-106 GRAB	2 SAMPLE	S96T000855	0	WATER-01	LIQUID	<u>N/A</u>	<u>100</u>	<u>0.01</u>	%
96000082	C-106 GRAB	3 DUP	S96T000855	0	WATER-01	LIQUID	<u>100</u>	<u>100</u>	<u>N/A</u>	%

Final page for worklist #

6891

Anthony Purno 4-18-96
Analyst Signature Date
John 4-19-96

Kevin Wright 4/24/96
Analyst Signature Date
Reviewed RW Schneider
4/24/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

	STANDARD	REPLICATE
TYPE	Tare Weight (W1) grams	13.5551
STANDARD	Gross Weight (W2) grams	14.8982
WORKED	First Residue Weight (W3) grams	14.1139
6891	Second Residue Weight (W4) grams	14.1122
LOC.	Percent Difference	0.0120 N/A
WATER-01	QC Check	Pass N/A
DATE	Percent Weight Loss	58.52 N/A
LIQUID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)	
82N8A		
ment		
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight
analy	Weight = W2 - W4	= Gross Weight - Residue Weight
ADPWJS	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
DATE	QC Check "Pass" if % Difference	= < +/- 0.1500%
04/18/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
time	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O = 58.5

Data Entry by:

Ed Jones

Date:

04/20/96

Approved by:

RW Schneider

Date:

4/24/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
type	Tare Weight (W1) grams	13.5168	
SAMPLE	Gross Weight (W2) grams	14.5196	
worklist	First Residue Weight (W3) grams	13.5169	
6891	Second Residue Weight (W4) grams	13.5168	
QC	Percent Difference	0.0007	N/A
WATER-01	QC Check	Pass	N/A
attr	Percent Weight Loss	100.00	N/A
LIQUID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
sample			
S96T00855			
ment			
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight	
anals	Weight = W2 - W4	= Gross Weight - Residue Weight	
ADPWDS	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
Date	QC Check "Pass" if % Difference	= < +/- 0.1500%	
04/18/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
time	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT

% H2O = 100.0

Data Entry by:	<i>[Signature]</i>	Date:	04/20/96
Approved by:	<i>[Signature]</i>	Date:	4/24/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
Type	Tare Weight (W1) grams	13.4551	
DUPLICATE	Gross Weight (W2) grams	14.4510	
WORKLIST	First Residue Weight (W3) grams	13.4555	
6891	Second Residue Weight (W4) grams	13.4554	
QC	Percent Difference	0.0007	N/A
WATER-01	QC Check	Pass	N/A
Water	Percent Weight Loss	99.97	N/A
LIQUID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
Sample			
S96T00855DUP			
ment			
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight	
Analys	Weight = W2 - W4	= Gross Weight - Residue Weight	
ADPWJDS	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
Date	QC Check "Pass" if % Difference	= < +/- 0.1500%	
04/18/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
Time	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT

% H2O = 100.0

Data Entry by:	<i>LL Jones</i>	Date:	04/20/96
Approved by:	<i>RW Schmedley</i>	Date:	4/24/96

LABCORE Data Entry Template for Worklist#

7263

Analyst: ADD/5ds Instrument: BA001 _____ Book # 82N8A

Method: LA-564-101 Rev/Mod F-1

Worklist Comment: C-106 %H₂O RUN IN DUPLICATE. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				WATER-01	LIQUID	<u>59.2</u>	<u>58.4</u>	<u>N/A</u> %
96000082	C-106 GRAB	2 SAMPLE	S96T000544	0		WATER-01	LIQUID	<u>N/A</u>	<u>78.8</u>	<u>0.01</u> %
96000082	C-106 GRAB	3 DUP	S96T000544	0		WATER-01	LIQUID	<u>78.8</u>	<u>78.8</u>	<u>N/A</u> %
96000082	C-106 GRAB	4 SAMPLE	S96T000559	0		WATER-01	LIQUID	<u>N/A</u>	<u>79.3</u>	<u>0.01</u> %
96000082	C-106 GRAB	5 DUP	S96T000559	0		WATER-01	LIQUID	<u>79.3</u>	<u>79.3</u>	<u>N/A</u> %

Final page for worklist #

7263

Authur Purnator 4-18-96
Analyst Signature Date

NEWLIGHT 4/24/96
Analyst Signature Date

Isa Sp 4-20-96

Reviewed RW Schmedley 4/24/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

	STANDARD	REPLICATE
Tare Weight (W1) grams	13.4935	
Gross Weight (W2) grams	14.8379	
First Residue Weight (W3) grams	14.0561	
Second Residue Weight (W4) grams	14.0532	
Percent Difference	0.0206	N/A
QC Check	Pass	N/A
Percent Weight Loss	58.37	N/A

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O = 58.4

Data Entry by: <i>Ch Jones</i>	Date: 04/20/96
Approved by: <i>Bill Schneider</i>	Date: 6/11/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
Wp	Tare Weight (W1) grams	13.4957	
SAMPLE	Gross Weight (W2) grams	14.6940	
7263	First Residue Weight (W3) grams	13.7500	
	Second Residue Weight (W4) grams	13.7501	
	Percent Difference	0.0007	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	78.77	N/A
LIQUID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
S96T000544			
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight	
	Weight = W2 - W4	= Gross Weight - Residue Weight	
ADPWDS	Percent Difference	= Absolute Value of $[(W3-W4)/W4]*100.00$	
04/20/96	QC Check "Pass" if % Difference	= < +/- 0.1500%	
	Percent Water Weight Loss	= $[(W2-W4)/(W2-W1)]*100 = \% H_2O$	
	Percent Water (Average)	= $[(\% H_2O \text{ for A}) + (\% H_2O \text{ for B})] / 2$	

RESULT

% H2O = 78.8

Data Entry by: <i>Ed Jones</i>	Date: 04/20/96
Approved by: <i>Phil Schneider</i>	Date: 6/11/96

WHC-SD-WM-DP-183, REV. C

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
	Tare Weight (W1) grams	13.5617	
DUPLICATE	Gross Weight (W2) grams	14.7444	
	First Residue Weight (W3) grams	13.8129	
7263	Second Residue Weight (W4) grams	13.8127	
	Percent Difference	0.0014	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	78.78	N/A
LIQUID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
S96T000544DUP			
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight	
	Weight = W2 - W4	= Gross Weight - Residue Weight	
ADPWDS	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
	QC Check "Pass" if % Difference	= < +/- 0.1500%	
04/20/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT

% H2O = 78.8

Data Entry by:

[Signature]

Date:

04/20/96

Approved by:

[Signature]

Date:

6/11/96

WHC-SD-WM-DP-183, REV. C

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
	Tare Weight (W1) grams	13.4129	
SAMPLE	Gross Weight (W2) grams	14.6038	
	First Residue Weight (W3) grams	13.6592	
7263	Second Residue Weight (W4) grams	13.6592	
	Percent Difference	0.0000	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	79.32	N/A
LIQUID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
S96T000559			
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight	
	Weight = W2 - W4	= Gross Weight - Residue Weight	
ADPJDS	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
Date	QC Check "Pass" if % Difference	= < +/- 0.1500%	
04/20/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
Time	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT

% H2O = 79.3

Data Entry by: *[Signature]* Date: 04/20/96
 Approved by: *[Signature]* Date: 6/11/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
	Tare Weight (W1) grams	13.4492	
DUPLICATE	Gross Weight (W2) grams	14.6104	
	First Residue Weight (W3) grams	13.6896	
7263	Second Residue Weight (W4) grams	13.6895	
	Percent Difference	0.0007	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	79.31	N/A
LIQUID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
S96T000559DUP			
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight	
	Weight = W2 - W4	= Gross Weight - Residue Weight	
ADPWJS	Percent Difference	= Absolute Value of $[(W3-W4)/W4]*100.00$	
Date	QC Check "Pass" if % Difference	= < +/- 0.1500%	
04/20/96	Percent Water Weight Loss	= $[(W2-W4)/(W2-W1)]*100 = \% \text{ H}_2\text{O}$	
Time	Percent Water (Average)	= $[(\% \text{ H}_2\text{O for A}) + (\% \text{ H}_2\text{O for B})] / 2$	

RESULT**% H2O = 79.3**

Data Entry by: <i>RS Jones</i>	Date: 04/20/96
Approved by: <i>RW Schneider</i>	Date: 6/11/96

LABCORE Data Entry Template for Worklist#

7420

Analyst: ADD

Instrument: BA001

Book # 82N8A

Method: LA-564-101 Rev/Mod F-1

Worklist Comment: C-106 %H2O SAMPLE DRY & FLIGHTY, HIGH ALPHA USE CAUTION. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				WATER-01	SOLID	59.2	58.1 44.9 9.8	N/A
96000082	C-106 GRAB	2 SAMPLE	S96T000542	0		WATER-01	SOLID	N/A	90.2 9.8 10.00	N/A
96000082	C-106 GRAB	3 DUP	S96T000542	0		WATER-01	SOLID	90.2	70.0 18.89	N/A
96000082	C-106 GRAB	4 SAMPLE	S96T000553	0		WATER-01	SOLID	N/A	81.1 15.89	N/A
96000082	C-106 GRAB	5 DUP	S96T000553	0		WATER-01	SOLID	81.1	80.8 17.03	N/A
96000082	C-106 GRAB	6 SAMPLE	S96T000558	0		WATER-01	SOLID	N/A	83.0 17.03	N/A
96000082	C-106 GRAB	7 DUP	S96T000558	0		WATER-01	SOLID	83.0	82.0 21.63	N/A
96000082	C-106 GRAB	8 SAMPLE	S96T000569	0		WATER-01	SOLID	N/A	73.7 24.3	N/A
96000082	C-106 GRAB	9 DUP	S96T000569	0		WATER-01	SOLID	73.7	72.7 41.24	N/A

Final page for worklist #

7420

[Signature]
Analyst Signature Date 4-24-96

[Signature]
Analyst Signature Date 4/24/96

Reviewed RWS
4/26/96

Data Entry Comments:

RWS 4/26/96
LCS Failure

Report # 13852

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

	STANDARD	REPLICATE
Tare Weight (W1) grams	13.3869	
Gross Weight (W2) grams	14.7507	
First Residue Weight (W3) grams	13.9611	
Second Residue Weight (W4) grams	13.9584	
Percent Difference	0.0193	N/A
QC Check	Pass	N/A
Percent Weight Loss	58.10	N/A
SOLID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)	
82N8A		
	Sample = W2 - W1	= Gross Weight - Tare Weight
	Weight = W2 - W4	= Gross Weight - Residue Weight
A. PURINTON	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
	QC Check "Pass" if % Difference	= < +/- 0.1500%
04/26/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O = 58.1

Data Entry by: <i>R. Wright</i>	Date: 04/26/96
Approved by: <i>R. W. Schneider</i>	Date: 4/26/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
	Tare Weight (W1) grams	13.9684	
SAMPLE	Gross Weight (W2) grams	14.0226	
	First Residue Weight (W3) grams	14.0175	
7420	Second Residue Weight (W4) grams	14.0173	
	Percent Difference	0.0014	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	9.78	N/A
SOLID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
S96T000542			
	Sample = W2 - W1	= Gross Weight - Tare Weight	
	Weight = W2 - W4	= Gross Weight - Residue Weight	
A. PURINTON	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
	QC Check "Pass" if % Difference	= < +/- 0.1500%	
04/26/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT**% H2O = 9.8**

Data Entry by: *Neu Light* Date: 04/26/96
 Approved by: *Rew. Schmeck* Date: 4/26/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
	Tare Weight (W1) grams	13.5377	
DUPLICATE	Gross Weight (W2) grams	13.5949	
	First Residue Weight (W3) grams	13.5895	
7420	Second Residue Weight (W4) grams	13.5892	
	Percent Difference	0.0022	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	9.97	N/A
SOLID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
S96T000542			
	Sample = W2 - W1	= Gross Weight - Tare Weight	
	Weight = W2 - W4	= Gross Weight - Residue Weight	
A. PURINTON	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
	QC Check "Pass" if % Difference	= < +/- 0.1500%	
04/26/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT

% H2O = 10.0

Data Entry by: *TC Wright* Date: 04/26/96
 Approved by: *RW Schneider* Date: 4/26/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
	Tare Weight (W1) grams	13.9563	
SAMPLE	Gross Weight (W2) grams	14.0394	
	First Residue Weight (W3) grams	14.0874	
7420	Second Residue Weight (W4) grams	14.0237	
	Percent Difference	0.4542	N/A
WATER-01	QC Check	Fail	N/A
	Percent Weight Loss	18.89	ERR
SOLID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
S96T000553			
	Sample = W2 - W1	= Gross Weight - Tare Weight	
	Weight = W2 - W4	= Gross Weight - Residue Weight	
A. PURINTON	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
	QC Check "Pass" if % Difference	= < +/- 0.1500%	
04/26/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT

% H2O = *** QC Check Failure ***

Data Entry by: <i>Re Wright</i>	Date: 04/26/96
Approved by: <i>RW Schroeder</i>	Date: 4/26/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

	SAMPLE	REPLICATE
Tare Weight (W1) grams	13.9916	
DUPLICATE Gross Weight (W2) grams	14.1098	
First Residue Weight (W3) grams	14.0874	
7420 Second Residue Weight (W4) grams	14.0871	
Percent Difference	0.0021	N/A
WATER-01 QC Check	Pass	N/A
Percent Weight Loss	19.20	ERR
SOLID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)	
S96T000553		
Sample = W2 - W1	= Gross Weight - Tare Weight	
Weight = W2 - W4	= Gross Weight - Residue Weight	
A. PURINTON Percent Difference	= Absolute Value of $[(W3-W4)/W4]*100.00$	
QC Check "Pass" if % Difference	= < +/- 0.1500%	
04/26/96 Percent Water Weight Loss	= $[(W2-W4)/(W2-W1)]*100 = \% \text{ H}_2\text{O}$	
Percent Water (Average)	= $[(\% \text{ H}_2\text{O for A}) + (\% \text{ H}_2\text{O for B})] / 2$	

RESULT

% H2O = 19.2

Data Entry by: *NE Wray* Date: 04/26/96
 Approved by: *RW Schneider* Date: 4/26/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

	SAMPLE	REPLICATE
Tare Weight (W1) grams	13.9370	
Gross Weight (W2) grams	14.0110	
First Residue Weight (W3) grams	13.9988	
Second Residue Weight (W4) grams	13.9984	
Percent Difference	0.0029	N/A
QC Check	Pass	N/A
Percent Weight Loss	17.03	ERR

SOLID (If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

S96T000558

Sample = W2 - W1	= Gross Weight - Tare Weight
Weight = W2 - W4	= Gross Weight - Residue Weight
Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
QC Check "Pass" if % Difference	= < +/- 0.1500%
Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT
% H2O = 17.0

Data Entry by: *TE Wright* Date: 04/26/96
Approved by: *RW Schroeder* Date: 4/26/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
	Tare Weight (W1) grams	13.3870	
DUPLICATE	Gross Weight (W2) grams	13.4695	
	First Residue Weight (W3) grams	13.4557	
7420	Second Residue Weight (W4) grams	13.4553	
	Percent Difference	0.0030	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	17.21	ERR
SOLID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
S96T000558			
	Sample = W2 - W1	= Gross Weight - Tare Weight	
	Weight = W2 - W4	= Gross Weight - Residue Weight	
A. PURINTON	Percent Difference	= Absolute Value of $[(W3-W4)/W4]*100.00$	
	QC Check "Pass" if % Difference	= < +/- 0.1500%	
04/26/96	Percent Water Weight Loss	= $[(W2-W4)/(W2-W1)]*100 = \% \text{ H}_2\text{O}$	
	Percent Water (Average)	= $[(\% \text{ H}_2\text{O for A}) + (\% \text{ H}_2\text{O for B})] / 2$	

RESULT

% H2O = 17.2

Data Entry by: <i>R. W. Schmedin</i>	Date: 04/26/96
Approved by: <i>R. W. Schmedin</i>	Date: 4/26/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
	Tare Weight (W1) grams	13.3773	
SAMPLE	Gross Weight (W2) grams	13.5056	
	First Residue Weight (W3) grams	13.4723	
7420	Second Residue Weight (W4) grams	13.4719	
	Percent Difference	0.0030	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	26.27	ERR
SOLID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
S96T000569			
	Sample = W2 - W1	= Gross Weight - Tare Weight	
	Weight = W2 - W4	= Gross Weight - Residue Weight	
A. PURINTON	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
	QC Check "Pass" if % Difference	= < +/- 0.1500%	
04/26/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT**% H2O = 26.3**

Data Entry by: <i>RE Wright</i>	Date: 04/26/96
Approved by: <i>RW Schmeck</i>	Date: 4/26/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
	Tare Weight (W1) grams	13.9084	
DUPLICATE	Gross Weight (W2) grams	13.9955	
	First Residue Weight (W3) grams	13.9722	
7420	Second Residue Weight (W4) grams	13.9717	
	Percent Difference	0.0036	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	27.32	ERR
SOLID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
S96T000569	Sample = W2 - W1	= Gross Weight - Tare Weight	
	Weight = W2 - W4	= Gross Weight - Residue Weight	
A. PURINTON	Percent Difference	= Absolute Value of $[(W3-W4)/W4] \times 100.00$	
	QC Check "Pass" if % Difference	= < +/- 0.1500%	
04/26/96	Percent Water Weight Loss	= $[(W2-W4)/(W2-W1)] \times 100 = \% \text{ H}_2\text{O}$	
	Percent Water (Average)	= $[(\% \text{ H}_2\text{O for A}) + (\% \text{ H}_2\text{O for B})] / 2$	

RESULT% H₂O = 27.3

Data Entry by: *TE Wright* Date: 04/26/96
 Approved by: *RW Schroeder* Date: 4/26/96

LABCORE Data Entry Template for Worklist#

7519

Analyst: ADD Instrument: BA001 _____ Book # 82N8A

Method: LA-564-101 Rev/Mod F-1

Worklist Comment: C-106 FOR %WATER RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A -----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			WATER-01	SOLID	<u>59.2</u>	<u>58.4</u>	<u>N/A</u> %
96000174	C-106 GRAB	2 SAMPLE	S96T001561 0		WATER-01	SOLID	<u>N/A</u>	<u>25.9</u>	<u>0.01</u> %
96000174	C-106 GRAB	3 DUP	S96T001561 0		WATER-01	SOLID	<u>25.9</u>	<u>26.7</u>	<u>N/A</u> %

Final page for worklist #

7519

Anthony P. Smith 4-22-96
Analyst Signature Date

R. H. Smith
Analyst Signature Date

Reviewed RW Schwedler 4/26/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		STANDARD	REPLICATE
STANDARD	Tare Weight (W1) grams	13.5067	
	Gross Weight (W2) grams	14.8828	
	First Residue Weight (W3) grams	14.0792	
7519	Second Residue Weight (W4) grams	14.0785	
	Percent Difference	0.0050	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	58.45	N/A

SOLID

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

STANDARD**BA001**

Sample = W2 - W1

= Gross Weight - Tare Weight

Weight = W2 - W4

= Gross Weight - Residue Weight

adp

Percent Difference

= Absolute Value of $[(W3-W4)/W4] \times 100.00$ **04/22/96**

QC Check "Pass" if % Difference

= < +/- 0.1500%

Percent Water Weight Loss

= $[(W2-W4)/(W2-W1)] \times 100 = \% \text{ H}_2\text{O}$

Percent Water (Average)

= $[(\% \text{ H}_2\text{O for A}) + (\% \text{ H}_2\text{O for B})] / 2$ **RESULT****% H₂O = 58.4**

Data Entry by:	RTS	Date:	04/25/96
Approved by:	RW Johnson	Date:	

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
	Tare Weight (W1) grams	13.4059	
SAMPLE	Gross Weight (W2) grams	13.4913	
	First Residue Weight (W3) grams	13.4692	
7519	Second Residue Weight (W4) grams	13.4692	
	Percent Difference	0.0000	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	25.88	N/A
SOLID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
S96T001561			
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight	
adp	Weight = W2 - W4	= Gross Weight - Residue Weight	
	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
	QC Check "Pass" if % Difference	= < +/- 0.1500%	
04/22/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT

% H2O = 25.9

Data Entry by:	RJS	Date:	04/25/96
Approved by:	RW Schroeder	Date:	4/26/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
	Tare Weight (W1) grams	13.4052	
SAMPLE	Gross Weight (W2) grams	13.4982	
	First Residue Weight (W3) grams	13.4735	
7519	Second Residue Weight (W4) grams	13.4734	
	Percent Difference	0.0007	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	26.67	N/A
SOLID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
S96T001561/DUP			
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight	
adp	Weight = W2 - W4	= Gross Weight - Residue Weight	
	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
	QC Check "Pass" if % Difference	= < +/- 0.1500%	
04/22/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT**% H2O = 26.7**

Data Entry by:	<i>RTS</i>	Date:	04/25/96
Approved by:	<i>RW Schroeder</i>	Date:	4/26/96

LABCORE Data Entry Template for Worklist#

7572

Analyst: ADP Instrument: BA001 _____ Book # 821V8A

Method: LA-564-101 Rev/Mod F-1

Worklist Comment: C-106 %H2O

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			WATER-01	LIQUID	<u>59.2</u>	<u>58.5</u>	<u>N/A</u>	%
96000174	C-106 GRAB	2 SAMPLE	S96T001675	0	WATER-01	LIQUID	<u>N/A</u>	<u>78.2</u>	<u>0.01</u>	%
96000174	C-106 GRAB	3 DUP	S96T001675	0	WATER-01	LIQUID	<u>78.2</u>	<u>78.3</u>	<u>N/A</u>	%

Final page for worklist #

7572

Anthony Puro 4-22-96
Analyst Signature Date

RHH 4-25-96
Analyst Signature Date

Reviewed RW Schroeder
4/26/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		STANDARD	REPLICATE
	Tare Weight (W1) grams	13.4435	
STANDARD	Gross Weight (W2) grams	14.7925	
	First Residue Weight (W3) grams	14.0023	
7572	Second Residue Weight (W4) grams	14.0028	
	Percent Difference	0.0036	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	58.54	N/A
LIQUID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
BLNK			
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight	
	Weight = W2 - W4	= Gross Weight - Residue Weight	
adp	Percent Difference	= Absolute Value of $[(W3-W4)/W4]*100.00$	
	QC Check "Pass" if % Difference	= < +/- 0.1500%	
04/22/96	Percent Water Weight Loss	= $[(W2-W4)/(W2-W1)]*100 = \% \text{ H2O}$	
	Percent Water (Average)	= $[(\% \text{ H2O for A}) + (\% \text{ H2O for B})] / 2$	

RESULT**% H2O = 58.5**

Data Entry by:	RTS	Date:	04/25/96
Approved by:	RW Schroeder	Date:	4/26/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
	Tare Weight (W1) grams	13.4322	
SAMPLE	Gross Weight (W2) grams	13.5436	
	First Residue Weight (W3) grams	13.4558	
7572	Second Residue Weight (W4) grams	13.4564	
	Percent Difference	0.0045	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	78.28	N/A
LIQUID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
S96T001675			
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight	
adp	Weight = W2 - W4	= Gross Weight - Residue Weight	
	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
	QC Check "Pass" if % Difference	= < +/- 0.1500%	
04/22/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT

% H2O = 78.3

Data Entry by:	RTS	Date:	04/25/96
Approved by:	RW Schroeder	Date:	4/26/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
	Tare Weight (W1) grams	13.4066	
SAMPLE	Gross Weight (W2) grams	13.5190	
	First Residue Weight (W3) grams	13.4307	
7572	Second Residue Weight (W4) grams	13.4311	
	Percent Difference	0.0030	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	78.20	N/A
LIQUID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
S96T001675/DUP			
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight	
	Weight = W2 - W4	= Gross Weight - Residue Weight	
adp	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
	QC Check "Pass" if % Difference	= < +/- 0.1500%	
04/22/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT

% H2O = 78.2

Data Entry by:	PTS	Date:	04/25/96
Approved by:	RW Schreeder	Date:	4/26/96

LABCORE Data Entry Template for Worklist#

7573

Analyst: DPB/JAS Instrument: BA001 _____ Book # 82N8-A

Method: LA-564-101 Rev/Mod F-1

Worklist Comment: C-106 %H2O CAUTION, SAMPLE IS DRY AND FLIGHTY. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				WATER-01	SOLID	<u>59.2</u>	<u>58.6</u>	<u>N/A</u> %
96000174	C-106 GRAB	2 SAMPLE	S96T001030	0		WATER-01	SOLID	<u>N/A</u>	<u>19.3</u>	<u>0.01</u> %
96000174	C-106 GRAB	3 DUP	S96T001030	0		WATER-01	SOLID	<u>19.3</u>	<u>22.4</u>	<u>N/A</u> %
96000174	C-106 GRAB	4 SAMPLE	S96T001687	0		WATER-01	SOLID	<u>N/A</u>	<u>34.1</u>	<u>0.01</u> %
96000174	C-106 GRAB	5 DUP	S96T001687	0		WATER-01	SOLID	<u>34.1</u>	<u>34.1</u>	<u>N/A</u> %

Final page for worklist #

7573

See ATTACHED FOR SIGNATURE
Analyst Signature _____ Date 4-20-96

Reviewed RW Schvedin
Analyst Signature _____ Date 4/24/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

7573

Analyst: DPB/jds Instrument: BA001 _____ Book # 82N8-A

Method: LA-564-101 Rev/Mod F-1

Worklist Comment: C-106 %H2O CAUTION, SAMPLE IS DRY AND FLIGHTY. RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				WATER-01	SOLID	_____	_____	N/A	%
		2	STD				WATER-01	SOLID	_____	_____	N/A	%
96000174	C-106 GRAB	3	SAMPLE	S96T001030	0		WATER-01	SOLID	N/A	_____	_____	%
96000174	C-106 GRAB	4	DUP	S96T001030	0		WATER-01	SOLID	_____	_____	N/A	%
96000174	C-106 GRAB	5	SAMPLE	S96T001687	0		WATER-01	SOLID	N/A	_____	_____	%
96000174	C-106 GRAB	6	DUP	S96T001687	0		WATER-01	SOLID	_____	_____	N/A	%

Final page for worklist #

7573

David P. Brandy 4/18/96
Analyst Signature Date
John Spil 4/19/96

Analyst Signature Date

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

WHC-SD-WM-DP-183, REV. C

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		STANDARD	REPLICATE
Type	Tare Weight (W1) grams	15.0698	
STANDARD	Gross Weight (W2) grams	16.4228	
Work	First Residue Weight (W3) grams	15.6302	
7573	Second Residue Weight (W4) grams	15.6299	
QC	Percent Difference	0.0019	N/A
WATER-01	QC Check	Pass	N/A
Lat	Percent Weight Loss	58.60	N/A
SOLID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
Sample			
82B8A			
Instrument			
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight	
Analys	Weight = W2 - W4	= Gross Weight - Residue Weight	
DPB/JDS	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
Date	QC Check "Pass" if % Difference	= < +/- 0.1500%	
04/18/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
Time	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT

% H2O = 58.6

Data Entry by: *[Signature]* Date: 04/20/96
 Approved by: *[Signature]* Date: 4/24/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
Type	Tare Weight (W1) grams	15.1275	
SAMPLE	Gross Weight (W2) grams	15.1555	
Workup	First Residue Weight (W3) grams	15.1502	
7573	Second Residue Weight (W4) grams	15.1501	
St. Code	Percent Difference	0.0007	N/A
WATER-01	QC Check	Pass	N/A
Matrix	Percent Weight Loss	19.29	N/A
SOLID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
Sample			
S96T001030			
Document			
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight	
Analysis	Weight = W2 - W4	= Gross Weight - Residue Weight	
DPB/JDS	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
Date	QC Check "Pass" if % Difference	= < +/- 0.1500%	
04/18/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
Time	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT

% H2O = 19.3

Data Entry by:	<i>R. Jones</i>	Date:	04/20/96
Approved by:	<i>R. W. Schmitt</i>	Date:	4/24/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
Type	Tare Weight (W1) grams	15.1485	
DUPLICATE	Gross Weight (W2) grams	15.1779	
Workfile	First Residue Weight (W3) grams	15.1712	
7573	Second Residue Weight (W4) grams	15.1713	
Test Code	Percent Difference	0.0007	N/A
WATER-01	QC Check	Pass	N/A
Matrix	Percent Weight Loss	22.45	N/A
SOLID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
Sample			
S96T001030DUP			
Instrument			
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight	
Analys	Weight = W2 - W4	= Gross Weight - Residue Weight	
DPB/JDS	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
Date	QC Check "Pass" if % Difference	= < +/- 0.1500%	
04/18/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
Time	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT**% H2O = 22.4**

Data Entry by:	<i>R. Jones</i>	Date:	04/20/96
Approved by:	<i>R. W. Schneider</i>	Date:	4/24/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
Type	Tare Weight (W1) grams	15.1395	
SAMPLE	Gross Weight (W2) grams	15.2160	
Work	First Residue Weight (W3) grams	15.1898	
7573	Second Residue Weight (W4) grams	15.1899	
Step	Percent Difference	0.0007	N/A
WATER-01	QC Check	Pass	N/A
Math	Percent Weight Loss	34.12	N/A
SOLID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
Sample			
S96T001687			
Instrument			
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight	
Analys	Weight = W2 - W4	= Gross Weight - Residue Weight	
DPB/JDS	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
Date	QC Check "Pass" if % Difference	= < +/- 0.1500%	
04/18/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
Time	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT

% H2O = 34.1

Data Entry by:	<i>RL Jones</i>	Date:	04/20/96
Approved by:	<i>RW Schmede</i>	Date:	4/24/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
	Tare Weight (W1) grams	15.1078	
DUPLICATE	Gross Weight (W2) grams	15.2086	
	First Residue Weight (W3) grams	15.1742	
7573	Second Residue Weight (W4) grams	15.1742	
	Percent Difference	0.0000	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	34.13	N/A

SOLID

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

S96T001687DUP

Instrument

BA001

Analys

DPB/JDS

Date

04/18/96

Time

Sample = W2 - W1

Weight = W2 - W4

Percent Difference

QC Check "Pass" if % Difference

Percent Water Weight Loss

Percent Water (Average)

= Gross Weight - Tare Weight

= Gross Weight - Residue Weight

= Absolute Value of $[(W3-W4)/W4]*100.00$

= < +/- 0.1500%

= $[(W2-W4)/(W2-W1)]*100 = \% H2O$ = $[(\% H2O \text{ for A}) + (\% H2O \text{ for B})] / 2$

RESULT

% H2O = 34.1

Data Entry by:

Date:

04/20/96

Approved by:

Date:

4/24/96

LABCORE Data Entry Template for Worklist#

7913

Analyst: ADD

Instrument: BA001

Book # 133416A

Method: LA-564-101 Rev/Mod F-1

82N8A RTS

Worklist Comment: C-106 for %water RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			WATER-01	SOLID	<u>59.2</u>	<u>59.7</u>	<u>N/A</u>	%
96000174	C-106 GRAB	2 SAMPLE	S96T001674	0	WATER-01	SOLID	<u>N/A</u>	<u>12.4</u>	<u>0.01</u>	%
96000174	C-106 GRAB	3 DUP	S96T001674	0	WATER-01	SOLID	<u>12.4</u>	<u>10.9</u>	<u>N/A</u>	%

Final page for worklist #

7913

Anthony Purnell
Analyst Signature

Date

4-25-96
Analyst Signature Date

Reviewed RW Schreder 4/26/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

	STANDARD	REPLICATE
	Tare Weight (W1) grams	13.3796
STANDARD	Gross Weight (W2) grams	14.7828
	First Residue Weight (W3) grams	13.9468
7913	Second Residue Weight (W4) grams	13.9449
	Percent Difference	0.0136 N/A
WATER-01	QC Check	Pass N/A
	Percent Weight Loss	59.71 N/A

SOLID

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

STANDARD**BA001**

Sample = W2 - W1

= Gross Weight - Tare Weight

Weight = W2 - W4

= Gross Weight - Residue Weight

adp

Percent Difference

= Absolute Value of $[(W3-W4)/W4] \times 100.00$

QC Check "Pass" if % Difference

= < +/- 0.1500%

04/22/96

Percent Water Weight Loss

= $[(W2-W4)/(W2-W1)] \times 100 = \% H_2O$

Percent Water (Average)

= $[(\% H_2O \text{ for A}) + (\% H_2O \text{ for B})] / 2$ **RESULT****% H2O = 59.7**

Data Entry by:

RTS

Date:

04/25/96

Approved by:

RW Schroeder

Date:

4/26/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
	Tare Weight (W1) grams	13.4646	
SAMPLE	Gross Weight (W2) grams	13.4895	
	First Residue Weight (W3) grams	13.4866	
7913	Second Residue Weight (W4) grams	13.4864	
	Percent Difference	0.0015	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	12.45	N/A
SOLID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
S96T001674			
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight	
	Weight = W2 - W4	= Gross Weight - Residue Weight	
adp	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
	QC Check "Pass" if % Difference	= < +/- 0.1500%	
04/22/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT**% H2O = 12.4**

Data Entry by:	<i>RTS</i>	Date:	04/25/96
Approved by:	<i>FZW Schroeder</i>	Date:	4/26/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
	Tare Weight (W1) grams	13.4502	
SAMPLE	Gross Weight (W2) grams	13.4822	
	First Residue Weight (W3) grams	13.4790	
7913	Second Residue Weight (W4) grams	13.4787	
	Percent Difference	0.0022	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	10.94	N/A

SOLID (If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

S96T001674/DUP

BA001

Sample = W2 - W1

= Gross Weight - Tare Weight

Weight = W2 - W4

= Gross Weight - Residue Weight

adp

Percent Difference

= Absolute Value of [(W3-W4)/W4]*100.00

QC Check "Pass" if % Difference

= < +/- 0.1500%

04/22/96

Percent Water Weight Loss

= [(W2-W4)/(W2-W1)]*100 = % H2O

Percent Water (Average)

= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O = 10.9

Data Entry by:

RTS

Date:

04/25/96

Approved by:

RW Schroeder

Date:

4/26/96

LABCORE Data Entry Template for Worklist#

8135

Analyst: ROM

Instrument: BA001

Book # 82NBA

Method: LA-564-101 Rev/Mod F-1

Worklist Comment: C-106 FOR WATER-01 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			WATER-01	SOLID	<u>59.2el</u>	<u>58.8</u>	<u>N/A</u>	%
96000082	C-106 GRAB	2 SAMPLE	S96T001539	0	WATER-01	SOLID	<u>N/A</u>	<u>27.1</u>	<u>0.1</u>	%
								<u>23.1</u>		
96000082	C-106 GRAB	3 DUP	S96T001539	0	WATER-01	SOLID	<u>27.1</u>	<u>32.5</u>	<u>N/A</u>	%
								<u>25.96</u>		

Final page for worklist #

8135

ROM 5/2/96
Analyst Signature Date

[Signature] 5-13-96
Analyst Signature Date

approved R. Schrock
5/13/96

Data Entry Comments: In Over 2030 5/2/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

	STANDARD	REPLICATE
	Tare Weight (W1) grams	13.9652
STANDARD	Gross Weight (W2) grams	15.2880
	First Residue Weight (W3) grams	14.5147
8135	Second Residue Weight (W4) grams	14.5106
	Percent Difference	0.0283
WATER-01	QC Check	Pass
	Percent Weight Loss	58.77
LIQUID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)	
STD		
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight
	Weight = W2 - W4	= Gross Weight - Residue Weight
RD MEYERS	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
	QC Check "Pass" if % Difference	= < +/- 0.1500%
05/02/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT**% H2O = 58.8**Data Entry by: *Ray Lambert*

Date: 05/05/96

Approved by: *R. J. Schneider*

Date: 6/11/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
	Tare Weight (W1) grams	13.9746	
SAMPLE	Gross Weight (W2) grams	13.9949	
	First Residue Weight (W3) grams	13.9892	
8135	Second Residue Weight (W4) grams	13.9894	
	Percent Difference	0.0014	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	27.09	N/A
SOLID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
S96T001539			
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight	
	Weight = W2 - W4	= Gross Weight - Residue Weight	
RD MEYERS	Percent Difference	= Absolute Value of $[(W3-W4)/W4] \times 100.00$	
	QC Check "Pass" if % Difference	= < +/- 0.1500%	
05/02/96	Percent Water Weight Loss	= $[(W2-W4)/(W2-W1)] \times 100 = \% \text{ H}_2\text{O}$	
	Percent Water (Average)	= $[(\% \text{ H}_2\text{O for A}) + (\% \text{ H}_2\text{O for B})] / 2$	

RESULT

% H₂O = 27.1

Data Entry by: *[Signature]* Date: 05/05/96
 Approved by: *[Signature]* Date: 6/17/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
	Tare Weight (W1) grams	13.9284	
DUPLICATE	Gross Weight (W2) grams	13.9635	
	First Residue Weight (W3) grams	13.9554	
8135	Second Residue Weight (W4) grams	13.9554	
	Percent Difference	0.0000	N/A
WATER-01	QC Check	Pass	N/A
	Percent Weight Loss	23.08	N/A
SOLID	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
S96T001539 DUP			
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight	
	Weight = W2 - W4	= Gross Weight - Residue Weight	
RD MEYERS	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
	QC Check "Pass" if % Difference	= < +/- 0.1500%	
05/02/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT**% H2O = 23.1**

Data Entry by:	Date: 05/05/96
Approved by:	Date: 6/11/96

LABCORE Data Entry Template for Worklist#

8136

Analyst: RLM

Instrument: BA001

Book # 87469

Method: LA-564-101 Rev/Mod F-1

RUSH

Worklist Comment: C-106 FOR WATER-01 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			WATER-01	LIQUID	59.2	58.1	N/A	%
96000082	C-106 GRAB	2 SAMPLE	S96T001528	0	WATER-01	LIQUID	N/A	76.7	0.1	%
96000082	C-106 GRAB	3 DUP	S96T001528	0	WATER-01	LIQUID	76.7	76.8	N/A	%

Final page for worklist #

8136

RLM
Analyst Signature

5-22-96
Date

SL
Analyst Signature

5-22-96
Date

Approved RWSchoed 5/22/96

Placed in oven 0500 5/22/96

STD-2

S96T001528

S96T001528 DUP

W1 13.55383

13.52030

13.63471

W2 14.92385

14.75245

14.87360

W3 14.1327

13.8087

13.9236

W4 14.1276

13.8076

13.9226

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

WHC-SD-WM-DP-183, REV. C

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		STD	REPLICATE
	Tare Weight (W1) grams	13.5538	
STD	Gross Weight (W2) grams	14.9239	
	First Residue Weight (W3) grams	14.1327	
8163	Second Residue Weight (W4) grams	14.1276	
	Percent Difference	0.0361	N/A
Water-01	QC Check	Pass	N/A
	Percent Weight Loss	58.12	N/A

Liquid

(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)

82N8A

BA001

Sample = W2 - W1

= Gross Weight - Tare Weight

Weight = W2 - W4

= Gross Weight - Residue Weight

PJ McCown

Percent Difference

= Absolute Value of $[(W3-W4)/W4] \times 100.00$

05/22/96

QC Check "Pass" if % Difference

■ < +/- 0.1500%

Percent Water Weight Loss

= $[(W2-W4)/(W2-W1)] \times 100 = \% \text{ H}_2\text{O}$

Percent Water (Average)

= $[(\% \text{ H}_2\text{O for A}) + (\% \text{ H}_2\text{O for B})] / 2$

RESULT

% H2O = 58.1

Data Entry by:

RWS

Date: 05/22/96

Approved by:

RWS, Schweden

Date: 5/22/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

	Sample	REPLICATE
Tare Weight (W1) grams	13.5203	
Sample Gross Weight (W2) grams	14.7525	
First Residue Weight (W3) grams	13.8087	
8163 Second Residue Weight (W4) grams	13.8076	
Percent Difference	0.0080	N/A
Water-01 QC Check	Pass	N/A
Percent Weight Loss	76.68	N/A
Liquid	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)	
S96T001528		
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight
PJ McCown	Weight = W2 - W4	= Gross Weight - Residue Weight
	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00
	QC Check "Pass" if % Difference	= < +/- 0.1500%
05/22/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O
	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2

RESULT

% H2O = 76.7

Data Entry by:	RWS	Date:	05/22/96
Approved by:	RW Schneider	Date:	5/23/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
	Tare Weight (W1) grams	13.6347	
Duplicate	Gross Weight (W2) grams	14.8736	
	First Residue Weight (W3) grams	13.9236	
8163	Second Residue Weight (W4) grams	13.9226	
	Percent Difference	0.0072	N/A
Water-01	QC Check	Pass	N/A
	Percent Weight Loss	76.76	N/A
Liquid	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
S96T001528			
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight	
	Weight = W2 - W4	= Gross Weight - Residue Weight	
PJ McCown	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
	QC Check "Pass" if % Difference	= < +/- 0.1500%	
05/22/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT

% H2O = 76.8

Data Entry by:	RWS	Date:	05/22/96
Approved by:	RW Schmidt	Date:	5/22/96

LABCORE Data Entry Template for Worklist#

8392

Analyst: RLM Instrument: BA001 Book # 82N8A

Method: LA-564-101 Rev/Mod F-1

RUSH

Worklist Comment: C-106, Water-01. new

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			WATER-01	SOLID	<u>59.2</u>	<u>58.6</u>	<u>N/A</u>	%
96000082	C-106 GRAB	2 SAMPLE	S96T001527	0	WATER-01	SOLID	<u>N/A</u>	<u>5.9</u>	<u>0.1</u>	%
96000082	C-106 GRAB	3 DUP	S96T001527	0	WATER-01	SOLID	<u>5.9</u>	<u>5.6</u>	<u>N/A</u>	%

Final page for worklist # 8392

RLM 5-22-96
Analyst Signature Date

Shelley 5-22-96
Analyst Signature Date

Approved RW Schuch 5/22/96

Placed in oven 0500 5/22/96

	STD-1	S96T001527	S96T001527 DUP
W1	13.12194	13.51960	13.42827
W2	14.48385	13.60209	13.54395
W3	13.6905	13.5988	13.5392
W4	13.6863	13.5972	13.5375

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		STD	REPLICATE
	Tare Weight (W1) grams	13.1219	
STD	Gross Weight (W2) grams	14.4839	
	First Residue Weight (W3) grams	13.6905	
8163	Second Residue Weight (W4) grams	13.6863	
	Percent Difference	0.0307	N/A
Water-01	QC Check	Pass	N/A
	Percent Weight Loss	58.56	N/A
Solid	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
82N8A			
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight	
	Weight = W2 - W4	= Gross Weight - Residue Weight	
PJ McCown	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
	QC Check "Pass" if % Difference	= < +/- 0.1500%	
05/22/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT

% H2O = 58.6

Data Entry by:	RWS	Date:	05/22/96
Approved by:	RW Schroeder	Date:	5/22/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

	Sample	REPLICATE
Sample	Tare Weight (W1) grams	13.5196
	Gross Weight (W2) grams	13.6021
	First Residue Weight (W3) grams	13.5988
8163	Second Residue Weight (W4) grams	13.5972
	Percent Difference	0.0118
Water-01	QC Check	Pass
	Percent Weight Loss	5.94
Solid	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)	
S96T001527		
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight
	Weight = W2 - W4	= Gross Weight - Residue Weight
PJ McCown	Percent Difference	= Absolute Value of $[(W3-W4)/W4]*100.00$
	QC Check "Pass" if % Difference	= < +/- 0.1500%
05/22/96	Percent Water Weight Loss	= $[(W2-W4)/(W2-W1)]*100 = \% H2O$
	Percent Water (Average)	= $[(\% H2O \text{ for A}) + (\% H2O \text{ for B})] / 2$

RESULT

% H2O = 5.9

Data Entry by:	<i>RWS</i>	Date:	05/22/96
Approved by:	<i>RWS Schaefer</i>	Date:	5/22/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

% WATER : LA-564-101 (F-1)

		SAMPLE	REPLICATE
	Tare Weight (W1) grams	13.4283	
Duplicate	Gross Weight (W2) grams	13.5440	
	First Residue Weight (W3) grams	13.5392	
8163	Second Residue Weight (W4) grams	13.5375	
	Percent Difference	0.0126	N/A
Water-01	QC Check	Pass	N/A
	Percent Weight Loss	5.58	N/A
Solid	(If it is necessary to do a 3rd heating then substitute the last weight measured for W4 and the second to last weight measured for W3 in the calculations above.)		
S96T001527			
BA001	Sample = W2 - W1	= Gross Weight - Tare Weight	
	Weight = W2 - W4	= Gross Weight - Residue Weight	
PJ McCown	Percent Difference	= Absolute Value of [(W3-W4)/W4]*100.00	
	QC Check "Pass" if % Difference	= < +/- 0.1500%	
05/22/96	Percent Water Weight Loss	= [(W2-W4)/(W2-W1)]*100 = % H2O	
	Percent Water (Average)	= [(% H2O for A) + (% H2O for B)] / 2	

RESULT

% H2O = 5.6

Data Entry by:	<i>RWS</i>	Date:	05/22/96
Approved by:	<i>D.W. Schneider</i>	Date:	5/23/96

LABCORE Data Entry Template for Worklist#

6572

Analyst: R. J. Instrument: PH01 Book # 144N10-A

Method: LA-212-106 Rev/Mod A-O

Worklist Comment: pH C-106 reruns

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STDPH			PH-01	LIQUID	<u>7.00</u>	<u>7.00</u>	<u>N/A</u>	pH
96000082	C-106 GRAB	2 SAMPLE	S96T000538	0	PH-01	LIQUID	<u>N/A</u>	<u>10.095</u>		pH
96000082	C-106 GRAB	3 DUP	S96T000538	0	PH-01	LIQUID	<u>10.095</u>	<u>10.081</u>	<u>N/A</u>	pH
96000174	C-106 GRAB	4 SAMPLE	S96T001023	0	PH-01	LIQUID	<u>N/A</u>	<u>10.241</u>		pH
96000174	C-106 GRAB	5 DUP	S96T001023	0	PH-01	LIQUID	<u>10.241</u>	<u>10.235</u>	<u>N/A</u>	pH

Final page for worklist #

6572

Rae Ann Green 3-18-96
Analyst Signature Date

H. Anactor 3-19-96
Analyst Signature Date
Approved by
H. Anactor 3-19-96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

6872

Analyst: JLF Instrument: PH01 _____ Book # 144N16E

Method: LA-212-106 Rev/Mod A-O

Worklist Comment: C-106 FB PH. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STDPH			PH-01	LIQUID	<u>9.18</u>	<u>9.136</u>	<u>N/A</u>	pH
96000082	C-106 GRAB	2 SAMPLE	S96T000855	0	PH-01	LIQUID	<u>N/A</u>	<u>8.289</u>	<u>0.01</u>	pH
96000082	C-106 GRAB	3 DUP	S96T000855	0	PH-01	LIQUID	<u>8.282</u>	<u>8.239</u>	<u>N/A</u>	pH

Final page for worklist #

6872

Jess. S. Jusby 4-9-96
Analyst Signature Date

Frank Conlin 4/10/96
Analyst Signature Date

Reviewed By Schuch 4/10/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

7414

Analyst: ABR Instrument: PH01 Book # 144N/6-D

Method: LA-212-106 Rev/Mod A-0

RUSH

Worklist Comment: C-106 PH SAMPLE IS DRY AND FLIGHTY, HIGH ALPHA USE CAUTION RJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STDPH			PH-01	LIQUID	<u>8.00</u>	<u>8.04</u>	<u>N/A</u>	PH
96000082	C-106 GRAB	2 SAMPLE	S96T000554	0	PH-02	SOLID	<u>N/A</u>	<u>10.40</u>	<u>0.01</u>	PH
96000082	C-106 GRAB	3 DUP	S96T000554	0	PH-02	SOLID	<u>10.40</u>	<u>10.50</u>	<u>N/A</u>	PH
96000082	C-106 GRAB	4 SAMPLE	S96T000570	0	PH-02	SOLID	<u>N/A</u>	<u>10.56</u>	<u>0.01</u>	PH
96000082	C-106 GRAB	5 DUP	S96T000570	0	PH-02	SOLID	<u>10.58</u>	<u>10.54</u>	<u>N/A</u>	PH

Final page for worklist #

7414

ABR
Analyst Signature Date 5-21-96

W. H. H. H. H.
Analyst Signature Date 5-21-96

Approved RW Schaefer
5/22/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

7506

Analyst: DSG Instrument: PH01 _____ Book # 144N16E

Method: LA-212-106 Rev/Mod A-0

Worklist Comment: C-106 FOR PH RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STDPH			PH-01	LIQUID	<u>9.18</u>	<u>9.13</u>	<u>N/A</u>	pH
96000174	C-106 GRAB	2 SAMPLE	S96T001562	0	PH-02	SOLID	<u>N/A</u>	<u>10.67</u>	<u>0.01</u>	pH
96000174	C-106 GRAB	3 DUP	S96T001562	0	PH-02	SOLID	<u>10.67</u>	<u>10.62</u>	<u>N/A</u>	pH

Final page for worklist #

7506

DSG 4-12-96
Analyst Signature Date

DSG 4-15-96
Analyst Signature Date

Reviewed RW Schwoeden 4/15/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

7566

Analyst: dgg Instrument: PH01 Book # 144116-E

Method: LA-212-106 Rev/Mod A-0

Worklist Comment: C-106 SOLID PH SAMPLE DRY AND FLIGHTY. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STDPH			PH-01	LIQUID	<u>9.18</u>	<u>9.13</u>	<u>N/A</u>	pH
96000174	C-106 GRAB	2 SAMPLE	S96T001688	0	PH-02	SOLID	<u>N/A</u>	<u>10.42</u>	<u>0.01</u>	pH

Final page for worklist #

7566

R. S. Snijder 4-12-96
Analyst Signature Date

R. S. Snijder 4-15-96
Analyst Signature Date

Reviewed RWSchneider
4/15/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

8127

Analyst: Jds

Instrument: PH01

Book # 144N16 D

Method: LA-212-106 Rev/Mod A-0

Worklist Comment: C-106 FOR PH(RECORD AMOUNT OF SAMPLE LEFT) RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STDPH			PH-01	LIQUID	<u>8.00</u>	<u>7.98</u>	<u>N/A</u>	pH
96000082	C-106 GRAB	2 SAMPLE	S96T000544	0	PH-01	LIQUID	<u>N/A</u>	<u>10.09</u>	<u>0.01</u>	pH 4 ml
96000082	C-106 GRAB	3 SAMPLE	S96T001544	0	PH-01	LIQUID	<u>N/A</u>	<u>10.10</u>	<u>0.01</u>	pH 3 ml
96000174	C-106 GRAB	4 SAMPLE	S96T002024	0	PH-01	LIQUID	<u>N/A</u>	<u>10.15</u>	<u>0.01</u>	pH 6 ml
96000174	C-106 GRAB	5 SAMPLE	S96T002025	0	PH-01	LIQUID	<u>N/A</u>	<u>10.09</u>	<u>0.01</u>	pH 8 ml

Final page for worklist #

8127

Jds 5-3-96
Analyst Signature Date

Jay Hammett 5-3-96
Analyst Signature Date

Approved RW Schoedon 5/7/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

8133

Analyst: ABP

Instrument: PH01 _____

Book # 144N/6-D

Method: LA-212-¹⁰⁵~~106~~ Rev/Mod A-0

Worklist Comment: C-106 FOR PH RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STDPH			PH-01	LIQUID	<u>8.00</u>	<u>7.99</u>	<u>N/A</u>	pH
96000082	C-106 GRAB	2 SAMPLE	S96T001540 0		PH-02	SOLID	<u>N/A</u>	<u>10.21</u>	<u>0.01</u>	pH
96000082	C-106 GRAB	3 DUP	S96T001540 0		PH-02	SOLID	<u>10.21</u>	<u>10.18</u>	<u>N/A</u>	pH

Final page for worklist #

8133

ABP 5-5-96
Analyst Signature Date

[Signature] 5-5-96
Analyst Signature Date

Approved RW Schuchman 5/7/96

Note: Method should be LA-212-105 A-0, this is a solid sample.

Data Entry Comments:

Solid

RUSH

WHC-SD-WM-DP-183, REV. C

RUSH

LABCORE Data Entry Template for Worklist#

8825

Analyst: AB.B Instrument: PH01 Book # 133 ¹⁴⁴ 144N16-D

Method: LA-212-106 Rev/Mod A-0

Worklist Comment: C-106 GRAB CONTACT ROB SCHROEDER FOR SAMPLE 276002825 ^{11/19/96} ~~276002825~~ RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STDPH			PH-01	LIQUID	<u>8.00</u>	<u>8.02</u>	<u>N/A</u>	pH
96000638	C-106 GRAB	2 SAMPLE	S96T002765	0	PH-01	LIQUID	<u>N/A</u>	<u>11.16</u>	<u>0.01</u>	pH
96000638	C-106 GRAB	3 SAMPLE	S96T002766	0	PH-01	LIQUID	<u>N/A</u>	<u>11.22</u>	<u>0.01</u>	pH
96000638	C-106 GRAB	4 SAMPLE	S96T002768	0	PH-01	LIQUID	<u>N/A</u>	<u>11.10</u>	<u>0.01</u>	pH
96000648	C-106 GRAB	5 SAMPLE	S96T002825	0	PH-01	LIQUID	<u>N/A</u>	<u>11.12</u>	<u>0.01</u>	pH
96000648	C-106 GRAB	6 SAMPLE	S96T002826	0	PH-01	LIQUID	<u>N/A</u>	<u>11.50</u>	<u>0.01</u>	pH
96000648	C-106 GRAB	7 SAMPLE	S96T002833	0	PH-01	LIQUID	<u>N/A</u>	<u>12.52</u>	<u>0.01</u>	pH

Final page for worklist #

8825

AB.B 5-20-96
Analyst Signature Date

[Signature] 5-20-96
Analyst Signature Date

Approved Rob Schroeder 5/21/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

8913

Analyst: KLD Instrument: PH01 Book # RR/L/KLD
Method: LA-212-106 Rev/Mod A-O
Worklist Comment: C-106 AY-102 PH. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STDPH			PH-01	LIQUID	<u>9.00</u>	<u>8.00</u>	<u>N/A</u>	pH
96000422	U-107	2 SAMPLE	S96T001866	0	PH-01	LIQUID	<u>N/A</u>	<u>12.67</u>	<u>0.01</u>	pH
96000422	U-107	3 DUP	S96T001866	0	PH-01	LIQUID	<u>12.67</u>	<u>12.67</u>	<u>N/A</u>	pH
96000638	C-106 GRAB	4 SAMPLE	S96T002770	0	PH-01	LIQUID	<u>N/A</u>	<u>11.71</u>	<u>0.01</u>	pH
96000638	C-106 GRAB	5 DUP	S96T002770	0	PH-01	LIQUID	<u>11.71</u>	<u>11.81</u>	<u>N/A</u>	pH
96000638	C-106 GRAB	6 SAMPLE	S96T002771	0	PH-01	LIQUID	<u>N/A</u>	<u>11.71</u>	<u>0.01</u>	pH
96000638	C-106 GRAB	7 DUP	S96T002771	0	PH-01	LIQUID	<u>11.71</u>	<u>11.81</u>	<u>N/A</u>	pH
96000648	C-106 GRAB	8 SAMPLE	S96T002829	0	PH-01	LIQUID	<u>N/A</u>	<u>11.80</u>	<u>0.01</u>	pH
96000648	C-106 GRAB	9 DUP	S96T002829	0	PH-01	LIQUID	<u>11.80</u>	<u>11.79</u>	<u>N/A</u>	pH
96000648	C-106 GRAB	10 SAMPLE	S96T002830	0	PH-01	LIQUID	<u>N/A</u>	<u>11.91</u>	<u>0.01</u>	pH
96000648	C-106 GRAB	11 DUP	S96T002830	0	PH-01	LIQUID	<u>11.91</u>	<u>11.90</u>	<u>N/A</u>	pH

Final page for worklist #

8913

Analyst Signature

Date

Analyst Signature

Date

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

WHC-SD-WM-DP-183, REV. 0

**THE FOLLOWING ANALYSES WERE
RERUN AND INCLUDED IN THE DATA
PACKAGE, BUT THE RESULTS HAVE NOT
BEEN REPORTED IN THE FINAL
SUMMARY REPORTS.**

LABCORE Data Entry Template for Worklist#

6314

Analyst: ASP Instrument: PH01 77 Book # 144N16-A

Method: LA-212-106 Rev/Mod A0

Worklist Comment: C-106 PH. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STDPH			PH-01	LIQUID	<u>7.00</u>	<u>7.02</u>	<u>N/A</u>	pH
96000174	C-106 GRAB	2 SAMPLE	S96T001023 0		PH-01	LIQUID	<u>N/A</u>	<u>10.23</u>	<u>N/A</u>	pH

Final page for worklist # 6314

Anthony Purnetto 3-9-96
Analyst Signature Date

St. Rita 3/10/96
Analyst Signature Date

Reviewed R. Schuch 3/11/96

DATA
NOT USED
IN PACKAGE

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

WHC-SD-WM-DP-183, REV. 0

**THE FOLLOWING ANALYSES WERE
RERUN AND INCLUDED IN THE DATA
PACKAGE, BUT THE RESULTS HAVE NOT
BEEN REPORTED IN THE FINAL
SUMMARY REPORTS.**

LABCORE Data Entry Template for Worklist#

6207

Analyst: ADP Instrument: PH01 >7 Book # 144N16-A
Method: LA-212-106 Rev/Mod A-D
Worklist Comment: C-106 PH. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STDPH			PH-01	LIQUID	<u>7.00</u>	<u>6.97</u>	<u>N/A</u>	PH
96000082	C-106 GRAB	2 SAMPLE	S96T000538	0	PH-01	LIQUID	<u>N/A</u>	<u>10.03</u>	<u>0.01</u>	PH

Final page for worklist #

6207

[Signature] 3-11-96
Analyst Signature Date

[Signature] 3/11/96
Analyst Signature Date

Reviewed Raj Schindler 3/12/96

DATA
NOT USED
IN PACKAGE

Data Entry Comments: I used 144N16A The > Greater Than 7 Standard
Standard Value 7.00

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

6205

Analyst: JLS2 Instrument: NH301 Book # 145N116C

Method: LA-631-001 Rev/Mod B2

Worklist Comment: C-106 NH3-01. (use 1mL sample size- 0.100mL spike)

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK			NH3-01	LIQUID	<u>1</u>	<u>3.1</u>	<u>N/A</u>	ug/mL
		2 STD			NH3-01	LIQUID	<u>412</u>	<u>399.4</u>	<u>N/A</u>	ug/mL
96000174	C-106 GRAB	3 SAMPLE	S96T001023	0	NH3-01	LIQUID	<u>N/A</u>	<u>3.88</u>	<u>5</u>	ug/mL
96000174	C-106 GRAB	4 DUP	S96T001023	0	NH3-01	LIQUID	<u>45</u>	<u>45</u>	<u>N/A</u>	ug/mL
96000174	C-106 GRAB	5 SPK	S96T001023	0	NH3-01	LIQUID	<u>100</u>	<u>99</u>	<u>N/A</u>	ug/mL
96000082	C-106 GRAB	6 SAMPLE	S96T000538	0	NH3-01	LIQUID	<u>N/A</u>	<u>45</u>	<u>5</u>	ug/mL
96000082	C-106 GRAB	7 DUP	S96T000538	0	NH3-01	LIQUID	<u>45</u>	<u>45</u>	<u>N/A</u>	ug/mL

Final page for worklist #

6205

See attached for signature
Analyst Signature Date

RHP/ah 3/24/96
Analyst Signature Date

Reviewed RW Schmedt 3/21/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist#

6205

Analyst: JLSZ Instrument: NH301 Book # 145N16-C

Method: LA-631-001 Rev/Mod B-2

Worklist Comment: C-106 NH3-01. (use 1mL sample size- 0.100mL spike)

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK			NH3-01	LIQUID	<u>1</u>	<u>3.1</u> <u>124</u>	<u>N/A</u>	<u>ug/mL</u>
		2 STD			NH3-01	LIQUID	<u>4.12e2</u>	<u>16.1</u> <u>4.98</u>	<u>N/A</u>	<u>ug/mL</u>
96000174	C-106 GRAB	3 SAMPLE	S96T001023	0	NH3-01	LIQUID	<u>N/A</u>	<u>277</u> <u>6.98</u>	<u>5</u>	<u>ug/mL</u>
96000174	C-106 GRAB	4 DUP	S96T001023	0	NH3-01	LIQUID	<u>279</u>	<u>6.90</u> <u>276</u>	<u>N/A</u>	<u>ug/mL</u>
96000174	C-106 GRAB	5 SPK	S96T001023	0	NH3-01	LIQUID	<u>100</u>	<u>99</u> <u>7.40</u>	<u>N/A</u>	<u>ug/mL</u>
96000082	C-106 GRAB	6 SAMPLE	S96T000538	0	NH3-01	LIQUID	<u>N/A</u>	<u>286</u> <u>7.40</u>	<u>5</u>	<u>ug/mL</u>
96000082	C-106 GRAB	7 DUP	S96T000538	0	NH3-01	LIQUID	<u>296</u>	<u>7.02</u> <u>281</u>	<u>N/A</u>	<u>ug/mL</u>

Final page for worklist #

6205

Jacqueline 3/18/96
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

Needed for signature

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

DOUBLE KNOWN ADDITION SELECTED
AT 09:17, 03-19-96

SAMPLE VOL= 25.000 AT 09:20, 03-19-96
ENTERED

EMF= 48.1 mV AT 09:21, 03-19-96

EMF= 48.4 mV AT 09:22, 03-19-96

EMF= 48.5 mV AT 09:23, 03-19-96

EMF= 48.5 mV AT 09:23, 03-19-96
ENTERED

STD CONC= 1000 AT 09:21, 03-19-96
ENTERED

STD VOL= .25000 AT 09:24, 03-19-96
ENTERED

EMF= 36.7 mV AT 09:24, 03-19-96

EMF= 36.4 mV AT 09:25, 03-19-96

EMF= 36.8 mV AT 09:25, 03-19-96
ENTERED

STD VOL= 0.5000 AT 09:25, 03-19-96
ENTERED

EMF= 36.8 mV AT 09:27, 03-19-96

EMF= 36.8 mV AT 09:27, 03-19-96

EMF= 36.8 mV AT 09:27, 03-19-96
ENTERED

UNKNOWN SLOPE=-52.3 mV/DEC
AT 09:28, 03-19-96

$$\text{UNKNOWN CONC} = \frac{(10.1 - 0.124) \times 25}{412} = \frac{399.4}{412} \times 100 = 96.9\%$$

STD
145N16-C

1.0ml → 28ml

BEST AVAILABLE COPY

WHC-SD-WM-DP-183, REV. C

SAMPLE VOL= 25.000 AT 09:01, 03-19-96
ENTERED

EMF= 189.9 mV AT 09:02, 03-19-96

EMF= 189.9 mV AT 09:03, 03-19-96

EMF= 189.2 mV AT 09:03, 03-19-96

EMF= 189.2 mV AT 09:03, 03-19-96
ENTERED

STD CONC= 1000 AT 09:03, 03-19-96
ENTERED

STD VOL= .25000 AT 09:10, 03-19-96
ENTERED

EMF= 58.5 mV AT 09:11, 03-19-96

EMF= 58.5 mV AT 09:12, 03-19-96

EMF= 58.6 mV AT 09:13, 03-19-96

EMF= 58.6 mV AT 09:13, 03-19-96
ENTERED

STD VOL= 2.5000 AT 09:14, 03-19-96
ENTERED

EMF= 0.8 mV AT 09:15, 03-19-96

EMF= 0.8 mV AT 09:16, 03-19-96

EMF= 0.9 mV AT 09:16, 03-19-96

EMF= 0.9 mV AT 09:17, 03-19-96
ENTERED

1:NH3 SLOPE=-58.0 mV/DEC
AT 09:17, 03-19-96

1:NH3 CONC= .124

Blank
25ml

BEST AVAILABLE COPY

DOUBLE KNOWN ADDITION SELECTED
AT 10:14, 03-19-96

SAMPLE VOL= 25.000 AT 10:14, 03-19-96
ENTERED

EMF= 153.4 mV AT 10:20, 03-19-96

EMF= 153.8 mV AT 10:21, 03-19-96

EMF= 154.3 mV AT 10:21, 03-19-96

EMF= 154.5 mV AT 10:22, 03-19-96

EMF= 154.8 mV AT 10:22, 03-19-96

EMF= 155.1 mV AT 10:23, 03-19-96

EMF= 155.3 mV AT 10:23, 03-19-96

EMF= 155.7 mV AT 10:24, 03-19-96

EMF= 155.9 mV AT 10:24, 03-19-96

EMF= 155.9 mV AT 10:24, 03-19-96
ENTERED

STD CONC= 1000 AT 10:25, 03-19-96
ENTERED

SAMPLE VOL= 25.000 AT 10:25, 03-19-96
ENTERED

EMF= 86.0 mV AT 10:26, 03-19-96

EMF= 85.9 mV AT 10:27, 03-19-96

EMF= 85.8 mV AT 10:27, 03-19-96
ENTERED

STD VOL= 25.000 AT 10:28, 03-19-96
ENTERED

EMF= 8.6 mV AT 10:29, 03-19-96

EMF= 8.5 mV AT 10:30, 03-19-96

EMF= 8.5 mV AT 10:30, 03-19-96

EMF= 8.6 mV AT 10:31, 03-19-96

EMF= 8.7 mV AT 10:31, 03-19-96
ENTERED

1:1NH3 SLOPE=-57.7 mV/DEC
AT 10:31, 03-19-96

1:1NH3 CONC= .279

$\times 25 = 6.98$ 3.875

S96T001023

1.0ml → 25ml

BEST AVAILABLE COPY

565

AT 10:31, 03-19-96

SAMPLE VOL= 25.000 AT 10:32, 03-19-96
ENTERED

EMF= 154.2 mV AT 10:32, 03-19-96

EMF= 154.6 mV AT 10:39, 03-19-96

EMF= 156.8 mV AT 10:40, 03-19-96

EMF= 157.5 mV AT 10:40, 03-19-96

EMF= 157.8 mV AT 10:41, 03-19-96

EMF= 157.9 mV AT 10:41, 03-19-96
ENTERED

STD CONC= 1000 AT 10:41, 03-19-96
ENTERED

STD VOL= .25000 AT 10:41, 03-19-96
ENTERED

EMF= 67.3 mV AT 10:43, 03-19-96

EMF= 67.2 mV AT 10:43, 03-19-96

EMF= 67.2 mV AT 10:44, 03-19-96

EMF= 67.2 mV AT 10:44, 03-19-96
ENTERED

STD VOL= 2.5000 AT 10:44, 03-19-96
ENTERED

EMF= 10.0 mV AT 10:46, 03-19-96

EMF= 9.7 mV AT 10:46, 03-19-96

EMF= 9.8 mV AT 10:47, 03-19-96

EMF= 9.9 mV AT 10:47, 03-19-96
ENTERED

1:NH3 SLOPE=-57.9 mV/DEC
AT 10:47, 03-19-96

1:NH3 CONC= .276 ^{0.124} x 25 = 6.90 ^{3.80} ~~6.90~~ ^{aka 3.20-96}

WHC-SD-WM-DP-183, REV. C

S96T001023
dup

1.0ml → 25 ml

BEST AVAILABLE COPY

FILE UNKNOWN ADDITION SELECTED
ENTERED

WHC-SD-WM-DP-183, REV. C

S96T001023
spike

1.0ml + .100ml
145N16-C

→ 25ml

FILE VOL= 25.000 AT 10:49, 03-19-96
ENTERED

EMF= 109.2 mV AT 10:52, 03-19-96

EMF= 109.5 mV AT 10:52, 03-19-96

EMF= 109.7 mV AT 10:53, 03-19-96

EMF= 110.3 mV AT 10:55, 03-19-96

EMF= 110.7 mV AT 10:57, 03-19-96

EMF= 110.8 mV AT 10:58, 03-19-96

EMF= 110.9 mV AT 10:57, 03-19-96

EMF= 111.0 mV AT 10:57, 03-19-96
ENTERED

FILE VOL= 1000 AT 10:57, 03-19-96
ENTERED

STI VOL= .25000 AT 10:57, 03-19-96
ENTERED

EMF= 64.9 mV AT 10:59, 03-19-96

EMF= 64.8 mV AT 11:00, 03-19-96

EMF= 64.9 mV AT 11:00, 03-19-96

EMF= 65.0 mV AT 11:00, 03-19-96
ENTERED

STI VOL= 2.5000 AT 11:01, 03-19-96
ENTERED

EMF= 10.6 mV AT 11:02, 03-19-96

EMF= 10.7 mV AT 11:02, 03-19-96

EMF= 10.8 mV AT 11:03, 03-19-96

EMF= 10.8 mV AT 11:03, 03-19-96
ENTERED

EMF SLOPE=-58.2 mV/DEC
AT 11:04, 03-19-96

$$\text{EMF CONC} = \frac{(1.91 - 0.279) \times 250}{412} = 98.97\%$$

BEST AVAILABLE COPY

WHC-SD-WM-DP-183, REV. C

SAMPLE KNOWN ADDITION SELECTED
AT 09:40, 03-19-96

SAMPLE VOL= 25.000 AT 09:40, 03-19-96
ENTERED

EMF= 149.6 mV AT 09:46, 03-19-96

EMF= 150.1 mV AT 09:46, 03-19-96

EMF= 150.7 mV AT 09:47, 03-19-96

EMF= 151.0 mV AT 09:47, 03-19-96

EMF= 151.3 mV AT 09:47, 03-19-96

EMF= 151.5 mV AT 09:48, 03-19-96
ENTERED

STD CONC= 1000 AT 09:48, 03-19-96
ENTERED

STD VOL= .25000 AT 09:48, 03-19-96
ENTERED

EMF= 62.1 mV AT 09:50, 03-19-96

EMF= 62.0 mV AT 09:50, 03-19-96

EMF= 62.1 mV AT 09:51, 03-19-96

EMF= 62.2 mV AT 09:51, 03-19-96

EMF= 62.2 mV AT 09:52, 03-19-96

EMF= 62.6 mV AT 09:52, 03-19-96
ENTERED

STD VOL= 2.5000 AT 09:53, 03-19-96
ENTERED

EMF= 5.7 mV AT 09:54, 03-19-96

EMF= 5.3 mV AT 09:55, 03-19-96

EMF= 5.4 mV AT 09:55, 03-19-96

EMF= 5.4 mV AT 09:56, 03-19-96
ENTERED

EMF3 SLOPE=-57.8 mV/DEC
AT 09:56, 03-19-96

EMF3 CONC= .296 *4.3*
0.124 *25-740* *aka 320-96*

596T000538

1.0ml → 250ml

BEST AVAILABLE COPY

S96T000538 dup
1.0ml → 25ml

FILE KNOWN ADDITIONAL GENERATED
09:57, 03-19-96

FILE VOL= 25.000 AT 09:57, 03-19-96
ENTERED

EMI= 150.9 mV AT 10:02, 03-19-96

EMI= 151.0 mV AT 10:04, 03-19-96

EMI= 152.4 mV AT 10:04, 03-19-96

EMI= 152.6 mV AT 10:05, 03-19-96

EMI= 152.9 mV AT 10:05, 03-19-96

EMI= 153.2 mV AT 10:06, 03-19-96

EMI= 152.2 mV AT 10:06, 03-19-96
ENTERED

FILE VOL= 25.000

FILE KNOWN ADDITIONAL GENERATED
10:07, 03-19-96

EMI= 64.2 mV AT 10:08, 03-19-96

EMI= 64.0 mV AT 10:08, 03-19-96

EMI= 64.0 mV AT 10:09, 03-19-96

EMI= 64.0 mV AT 10:09, 03-19-96
ENTERED

FILE VOL= 25.000 AT 10:09, 03-19-96
ENTERED

EMI= 7.0 mV AT 10:11, 03-19-96

EMI= 7.1 mV AT 10:11, 03-19-96

EMI= 7.2 mV AT 10:12, 03-19-96

EMI= 7.2 mV AT 10:12, 03-19-96

EMI= 7.3 mV AT 10:13, 03-19-96

EMI= 7.4 mV AT 10:13, 03-19-96
ENTERED

FILE SLOPE=-57.2 mV/DEC
AT 10:13, 03-19-96

FILE CONC= .281-0.024 x 25 =

3.925
7.02 dia
3.20.96

BEST AVAILABLE COPY

THE KNOWN ADDITION SELECTED
11:05, 03-19-96

WHC-SD-WM-DP-183, REV. C

FILE VOL= 25.000 AT 11:05, 03-19-96
ENTERED

ME 57.7 mV AT 11:06, 03-19-96

ME 58.0 mV AT 11:07, 03-19-96

ME 58.1 mV AT 11:08, 03-19-96

ME 58.4 mV AT 11:08, 03-19-96
ENTERED

ME CONCEN= 1000 AT 11:08, 03-19-96
ENTERED

FILE VOL= .25000 AT 11:08, 03-19-96
ENTERED

ME 46.6 mV AT 11:09, 03-19-96

ME 46.5 mV AT 11:10, 03-19-96

ME 46.1 mV AT 11:10, 03-19-96

ME 46.4 mV AT 11:10, 03-19-96
ENTERED

FILE VOL= 2.5000 AT 11:11, 03-19-96
ENTERED

ME 9.1 mV AT 11:12, 03-19-96

ME 9.1 mV AT 11:14, 03-19-96

ME 9.1 mV AT 11:14, 03-19-96
ENTERED

ME SLOPE=-57.7 mV/DEC
AT 11:14, 03-19-96

$$\frac{\text{MEK CONCEN} = 15.9 - 0.124}{412} \times 25 = \frac{394.4}{412} \times 100 = 95.77$$

STD

1.0ml
145N116-C → 25ml

BEST AVAILABLE COPY

LABCORE Data Entry Template for Worklist#

6871

Analyst: SRM

Instrument: NH301

Book # 145N16 ~~AD~~

Method: LA-631-001 Rev/Mod B-2

Russ
4/22/96

Worklist Comment: C-106 FB AMMONIA. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK			NH3-01	LIQUID	<u>1</u>	<u>5.75e-2</u>	N/A	ug/mL
		2 STD			NH3-01	LIQUID	<u>4.11e2</u>	<u>4.39e2</u>	N/A	ug/mL
96000082	C-106 GRAB	3 SAMPLE	S96T000855	0	NH3-01	LIQUID	<u>N/A</u>	<u><5.00</u>	<u>5.00</u>	ug/mL
96000082	C-106 GRAB	4 DUP	S96T000855	0	NH3-01	LIQUID	<u><5.00</u>	<u><5.00</u>	N/A	ug/mL
96000082	C-106 GRAB	5 SPK	S96T000855	0	NH3-01	LIQUID	<u>100</u>	<u>103.0</u>	N/A	ug/mL
		6 STD			NH3-01	LIQUID	<u>4.11e2</u>	<u>1079</u>	N/A	ug/mL
							<u>4.436e2</u>			

RHS 4/23/96

Final page for worklist #

6871

SRM 4/16/96
Analyst Signature Date

RHS 4-23-96
Analyst Signature Date

Reviewed Ru Schmedt
4/23/96

Data Entry Comments:

1mL → 25mL

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

W.L.# 6871

DOUBLE KNOWN ADDITION SELECTED
AT 03:01, 01-26-00

BLANK

1 25mL

SAMPLE VOL= 25.000 AT 03:01, 01-26-00
ENTERED

EMF= 28.2 mV AT 03:04, 01-26-00

EMF= 28.6 mV AT 03:04, 01-26-00

EMF= 28.9 mV AT 03:04, 01-26-00

EMF= 29.0 mV AT 03:05, 01-26-00

EMF= 28.9 mV AT 03:05, 01-26-00
ENTERED

WHC-SD-WM-DP-183, REV. C

STD CONC= 1000 AT 03:05, 01-26-00
ENTERED

STD VOL= .25000 AT 03:06, 01-26-00
ENTERED

EMF=-102.2 mV AT 03:06, 01-26-00

EMF=-102.3 mV AT 03:07, 01-26-00

EMF=-102.3 mV AT 03:07, 01-26-00

EMF=-102.3 mV AT 03:07, 01-26-00
ENTERED

STD VOL= 2.5000 AT 03:08, 01-26-00
ENTERED

EMF=-160.8 mV AT 03:08, 01-26-00

EMF=-160.9 mV AT 03:09, 01-26-00

EMF=-160.8 mV AT 03:09, 01-26-00

EMF=-160.8 mV AT 03:10, 01-26-00
ENTERED

1:NH3 SLOPE=-58.6 mV/DEC
AT 03:10, 01-26-00

1:NH3 CONC= .0575 x D.F. = 0.0575

DOUBLE KNOWN ADDITION SELECTED
AT 03:10, 01-26-00

Sonya
Alanis
4-16-96

W.L. # 6871

SAMPLE VOL= 25.000 AT 03:24, 01-26-00
ENTERED

EMF=-116.0 mV AT 03:24, 01-26-00

EMF=-115.8 mV AT 03:24, 01-26-00

EMF=-115.6 mV AT 03:25, 01-26-00

EMF=-115.3 mV AT 03:26, 01-26-00

EMF=-115.2 mV AT 03:26, 01-26-00
ENTERED

STD CONC= 1000 AT 03:26, 01-26-00
ENTERED

STD VOL= .25000 AT 03:26, 01-26-00
ENTERED

EMF=-126.8 mV AT 03:27, 01-26-00

EMF=-126.7 mV AT 03:27, 01-26-00

EMF=-126.7 mV AT 03:28, 01-26-00
ENTERED

STD VOL= 2.5000 AT 03:28, 01-26-00
ENTERED

EMF=-164.4 mV AT 03:29, 01-26-00

EMF=-164.3 mV AT 03:30, 01-26-00

EMF=-164.3 mV AT 03:30, 01-26-00
ENTERED

1:NH3 SLOPE=-60.3 mV/DEC
AT 03:30, 01-26-00

1:NH3 CONC= 17.6 - 0.0575 x 25 D.F. = $438.6 / 411 \times 100 = 106.7\%$

STANDARD
145N16-A

1mL → 25mL

WHC-SD-WM-DP-183, REV. C