



CHECKING INTEGRITY

Running an Integrity Check

1. An Integrity Check will identify errors in each of the tables in a particular module (e.g. Chemistry).
2. To run an integrity check, open up the database (from Scout, double click the "Database" icon), select "Utility – Check Integrity", then select the module you'd like to check (e.g. "Chemistry").

Integrity Check Reports

1. If the Integrity Check finds any problems in a particular database file (i.e., table), it will generate error reports to your c:\GISTEMP directory or to the printer. The reports will be named with the corresponding database file name (e.g. csample - for chemistry samples) and will have one of the following extensions:
 - a) .icd This indicates that duplicate records were encountered in this file.
 - b) .icp Indicates that record(s) in this file have error(s) with primary key field(s). These errors are likely important and need to be resolved.
 - c) .icr Indicates that record(s) in this file have error(s) with secondary relationship(s). These errors may be important and may need to be resolved. The user must review the report and the corresponding table to identify whether these must be repaired.
2. For example, if a compound.icp file is created, at least one of the records in your compound table has an error in at least one of the primary key fields (in this case, CAS_NUM or ALIAS_NUM). The compound.icp file shows the affected records and the corresponding field or relationship error.
3. These error reports can be viewed with any text editor (e.g., Notepad). These reports show the error records (displayed by their record number) with the corresponding reason for the error (see the Legend Key at the bottom of the report for an explanation of the error). See Page 2 of this document for a detailed Example and Explanation of one of these integrity check reports.

Definitions

Primary Key – The primary key identifies all the fields required to identify a unique record for each database file. For example, the primary key for compound.dbf is CAS_NUM + ALIAS KEY. That is, every record in the compound table has a different CAS Number and Alias Key. You can identify the primary key of each table by opening the database, selecting Help – Table Information, then the module, then the file).

Secondary Relationship – A secondary relationship refers to fields in this database file that relate to primary key fields in other database files.

Duplicate Records – Records that have the same data in the all of the primary key fields. For example, if there are duplicate records in csample.dbf, they have the same data in SAMP_TYPE, SITE_ID, SAMP_DATE, SAMP_TIME, and SAMP_DEPTH (these are the primary key fields for csample.dbf).



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Example

Integrity Check Rejections

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Record#	IPR	Unknown Site Well	Check	Invalid Secondary Relationship
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File: CTESTD - Chemistry Tests - Dups/Splits

461	X	X	2	EF
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Integrity Check Legend

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1 = No Primary Test (P01) for Duplicate

2 = No Primary Test (P01) for Split

A = samp_type invalid (S or W)

B = samp_date: invalid date

C = samp_time: invalid time

D = samp_depth precision

E = pt_code -> PTCODE.pt_code

F = lab_id -> LAB.lab_id

G = prime_lab -> LAB.lab_id

H = samp_type+meth_id -> METHOD

I = samp_type+lab_id+meth_id+lm_code -> LMETHOD

J = pf_code -> PFCODE.pf_code

K = res_type invalid (D11 - D99 or S11 - S99)

L = filtered invalid (Y, N, or U)

M = iced invalid (Y, N, or U)

N = preserved invalid (H, N, S, O, U, or < >)

O = extract_id -> EXTRACT.extract_id

P = dilution is 0 or negative

Q = basis invalid (D or W)

R = moisture is negative

S = received &/or rec_time: invalid date &/or time

T = prepared &/or prep_time: invalid date &/or time

U = tested &/or test_time: invalid date &/or time

V = approved: invalid date

W = reported: invalid date

Explanation: This report indicates that record number 461 (of ctestd) has the following errors (from left to right):

1. An Invalid Primary Relationship (indicated by the "X" under "IPR")
2. Has an Unknown Site Id (indicated by the "X"s under "Unknown Site/Well")
3. Has no corresponding Primary Test for this Split record (indicated by the "2" under "Check" – see the Legend for the corresponding reason for a "2").
4. The LAB_ID used for this record is not in the lab.dbf table (indicated by the "F" under the last column – see the Legend for the corresponding reason for a "F").