

General:

- Survex limitations which have meaningful impact on how the Walls shot data is processed should be more clearly noted and listed near the start of the document. Existing Walls users considering Survex need to easily gauge if their Walls data is suitable for Survex. How Survex handles arcane, but less impactful, syntax ambiguities should be demoted till later in the document.
- Survex ignores IH/TH data, for example, which impacts many older “flat-tape” surveys in Walls. Survex supporting prefixes+StationName strings longer than 127 characters is of little impact.

Chapter 8, first page

- Intro text: Walls is no longer being developed – No longer true. There is active Walls development, and occasional new releases, via Andy Edward’s github repo (<https://github.com/wallscavesurvey/walls/releases>)
- “...focus of support for Walls formats is primarily to help people with existing Walls data to migrate.” – Opinion: Compiling Walls data to .3d format isn’t particularly helpful for Walls migration as one still needs to use Walls to modify the original data. The real benefit, and more common use-case, is use of Survex as a complement to Walls. Survex offers graphical features not available in Walls, and facilitates use of downstream apps which can consume .3d format.
- Survex successfully processed Big Bat Cave, as noted (this statement, in the doc, was based on my feedback to Eric). The same is not true for the Mammoth Cave data; that data contains over 3,000 shots which use IH and/or TH data which Survex ignores. It is not possible to “successfully” process the Mammoth Cave data while ignoring the IH/TH shot data. Lack of errors by cavern, and a result which resembles, at a high-level, what Walls produces does not count as “successful” here.

Chapter 8: Second page

- General: As noted above, non-impactful information, such as LRUD closing delimiter and hanging surveys, should be demoted to end of document
- IGRF section: Mention of newer releases of Walls which support IGRF14 should be front and center, not buried as an add-on last sentence. Not a Survex issue, of course, but folks be encouraged to use the updated version of Walls. In the U.S. the discrepancy between IGRF12 and IGRF14 is nearly half a degree in recent years, which is significant.
- #SEGMENT – FYI: The “common practice” of using Compass-style ‘shot-flags’ for segment names is due to the large number of Compass files which were imported into Walls. Walls’ converts those Compass shot-flags into corresponding #SEGMENT names. More often than not, the Walls users is not actively “practicing” such usage; often they are just artifacts from the Compass import. Survex #SEGMENT name handling, as documented, is appropriate.

- Assumption regarding Walls’ defaulting to 19xx for two-digit year is correct. See Walls32/wall-srv.cpp below. (Incidentally, Walls Compass’ importer handles this differently, year 00-50 results in 20xx while 51-99 results in 19xx. Presumably mirroring Comapss behavior)

```
//Allow mm-dd-yy, mm-dd-yyyy, or yyyy-mm-dd
Strxchg(p, '-', '/');
if ((p1 = strchr(p, '/')) && (p2 = strchr(p1 + 1, '/')) {
    if (p1 - p == 4) { y = atoi(p); m = atoi(p1+1); d = atoi(p2+1); } // yyyy-mm-dd
    else { y = atoi(p2+1); m = atoi(p); d = atoi(p1+1); } // mm-dd-yy(yy)
    if (y < 100) y += 1900;
    if (y >= 1000 && y < 2100 && m>0 && m<13 && d>0 && d<32) { ...accept... }
}
```

- “LRUD data is currently ignored.” This is a significant limitation and as mentioned above, should be noted earlier in this chapter.
- Paragraph starting with “Since Surver 1.4.21, the TAPE= option”: I can’t decipher much of what’s being said here 😊. It’s unclear, when I read this section if IH/TH data is ignored (my Surver testing confirms it is ignored). Lack of IH/TH support needs to be mentioned in clear language near top of document, and not just in the context of dive surveys, as it’s used for C&T surveys as well.

The context of this section is primarily underwater surveys, yet Height (IH) and Target Height (TH) data is extensively used in older “Compass and Tape” surveys. Note we don’t call those “Compass, Tape, and Clinometer” surveys. There’s a reason: Back in the day, cave surveyors often had no clino. Rather, they used what’s colloquially known as the “flat tape” method. They’d measure the shot-distance horizontally (as best they could), then measure then measure, with tape, the vertical offset of the target. The two short sides of a right-triangle. Such data gets entered as IH/TH data in Walls. For hard to shoot stations, it’s also not uncommon, even today, to shoot and record inclination, but to also supplement the incline with a target height value. Walls handles this properly – the IH/TH offset is combined with the inclination based vertical change.

- In “TYPEAB= and TYPEVB=” paragraph its states “Surver uses a threshold based on the specified instrument SDs”. Nowhere is mention made of how one might define instrument SD in Walls data which cavern is processing. Is it possible, for example, to wrap the Walls data with Surver formatted data in order to set such parameters?
- “UV=, UVH= and UVV= are all quietly skipped”: A significant limitation which should be noted at start of chapter. It’s not unusual to set UV/UVH to very high values for error-ridden surveys remain in the dataset as they are needed to connect the network. Ignoring the UV/UVH values will change the geometry of the processed cave data (Am curious why these are ignored, but not variance parm when included on line of shot-data, since they do the same thing).

Chapter 8, third page:

- “Walls explicitly documents that *Unprefixed names*”: Observation/opinion, not an issue with documentation: Some unusual characters in station names possibly ought to generate ‘warnings’ in cavern, because it’s such a bad practice. But I need to think about this, and possibly submit an enhancement request.
- “If a station is used with an explicit Walls prefix...”. Observation/opinion, not an issue with documentation. Regarding statement: “This is currently applied even if the explicit prefix is empty”. Note the so-called ‘empty’ prefixes are often used for stations with project-wide importance. Use of an explicit empty prefix is usually done for a reason.