



Accura Surveys Ltd.

Dimensional Control Consultants

Chartered Surveyors



XXXXXX BestFit Software training

11-13 May 2015

Day 1

- a) Introduction and software review (location of software, folders, tutorial, menus, popup & undo)
- b) Explain coord file, survey file and GSI use (open with notepad)
- c) Circle fitting, levelling, flatness and making vertical - exercises 2 & 3
- d) BestFit configuration (tolerance setting and logging) - exercise 6
- e) Review prisms, spikes, retros, reflectorless. Practical - spike calibration
- f) Basic introduction to codes (start and end). Use of one file for day / project
- g) Download raw co-ordinate file - exercise 5 (explain multiple set-ups in one file)

Lunch break

- h) Practical – survey control, circle fit & download data (provide Leica TS09 set-up sheet).
- i) Explain use of alignment of points (create 2 pts in new file – align to N & level)
- j) Use of multiple alignment – exercise 4 (spool)
- k) Explain point naming (ie P001.1, T01, C001.1) , circle fitting and control
- l) Explain 2D and 3D fit of co-ordinate files. When used. Exercise 9
- m) Practical exercise - instrument checks, calibration, FL/FR readings to tape, linking 2 set-ups.
- n) Fitting to design / creating datums for structure / deviations from BF – first part of exercise 7
- o) Example of jacket surveys (3D fit)

Day 2

- a) Review of previous day
- b) Exercise 10 (independent). Review pt setting and alignment.
- c) Discuss use of compensator (vibration, inclined set-ups, floating vessels)
- d) Discuss surveys on an FPSO (short base line).
- e) Discuss locating errors in fits & transferring control between levels
- f) Discuss flange point naming and basic calculations - exercise 11
- g) Practical – survey spool with flanges from single set-up
- h) Discuss flange angle calculations / presentation of results – exercise 12 & 13
- i) Review use of drawing template – SR draw up previous exercise.

Lunch break

- j) Practical survey of spool with survey widgets and drawing flange angles.
- k) Review use of pipe data pro to find flange type and sizes
- l) First part of exercise 16
- m) Plotting in Cad – exercise 15. Try flange mirror.
- n) Review bearing & distance & grid vertical angles
- o) Reflectorless surveys (explain approach to circle fitting– when to use), fixed rad - exercise 17
- p) Explain use of roll back – exercise 19 (circle fitting, circle fits on line and use as a reference)
- q) Reporting of results – examples folder , deviation arrows, drawing template, report template

Day 3

- a) Review of previous day
- b) Combining all methods – exercises 26
- c) Field work notes, calculations and checking – discuss.
- d) Discuss red-line mark-ups and use of PipeData – exercises 30
- e) Importing raw data as H, V, Slope Distance – exercise 23 (why use?)
- f) Reflectorless pipework surveys – exercise 27 & 28
- g) Reflectorless practical outside.

Lunch break

- h) Discuss shrinkage, standard temperature and scaling.
- i) Use of BestFit line – data file in tutorial folder. Show examples of results – alignment radii
- j) Explain bundle fit – why use. Exercises 21 & 22
- k) Structure inclination & pitch & roll. Exercise 8 (time pending).
- l) Discuss weighted BestFit briefly.
- m) Recap and any questions.