



DIGITAL CONE CLEANUP Users Guide

A Program for Data Editing of .cpt files

This program should only be used by professionals who understand the impact and reason for the changes that can be made using it.

It is strongly recommended to save the original data as captured and to save edited files clearly identified as such.





1. Introduction

The Digital Cone Cleanup program is designed to allow users to edit sounding files produced with the VERTEK HT Series Digital CPT system.

Using Cleanup, users can edit the header information and individual data points. Users can also delete depth counts that were recorded erroneously and change units for each individual channel.

Data files can also be exported to the old Hogentogler analog cone format. This can be useful if the user has spreadsheets or programs that are geared to the old analog format.

Figure 1 shows the opening screen.

Digital Cone Cleanup Shift Channel(c) Edit Donth (Elevation 1	Centh Significant Digits About	×
File Shift Channel(s) Edit Depth / Elevation E	WELCOME TO DIGITAL CONE CLEANUP	GPS DATA
Company Name	Date and Time	
Operator	Header	
Cone Number	Footnote 1	
Location	Footnote 2	EDIT GPS DATA
Job Number	Water Table Depth	
Hole Number		
	No file selected	



2. Opening a *.CPT Data File

To open a file, click on File on the menu bar and then click on Open. The Open File dialog box in figure 2 will appear. Choose a sounding file and click open.

Organize 🔻 New folder							?
🚅 Sales & Marketing (\\ago-f 🔦	Name	Date modified	Туре	Size			
🙀 deltek mfg (\\ago-fileshare		0/ 5/ 2017 0.22 AIVI	CETTIC	T KD			
😡 geotechnical (\\vtkga) (W:)	CPT TEST(004)	8/3/2017 8:22 AM	CPT File	1 KB			
Deltek MFG (\\ago-fileshar	CPT TEST(005)	8/3/2017 8:22 AM	CPT File	1 KB			
Drawings (\\AGO-FILESHA	CPT TEST(006)	8/3/2017 8:22 AM	CPT File	1 KB			
software releases (\\vtkga)	CPT TEST(007)	8/3/2017 8:22 AM	CPT File	8 KB			
Network	CPT009Ryan	8/4/2017 4:28 PM	CPT File	18 KB			
Control Panel	CPTTSP06	8/3/2017 8:22 AM	CPT File	2 KB			
	CPTTSP06(001)	8/3/2017 8:22 AM	CPT File	88 KB			
	CPTTSP07(001)	8/3/2017 8:22 AM	CPT File	5 KB			
	CPTTSP07(002)	8/3/2017 8:22 AM	CPT File	10 KB			l
	CPTTSP07(003)	8/3/2017 8:22 AM	CPT File	28 KB			
	CPTTSP07(004)	8/3/2017 8:22 AM	CPT File	5 KB			
	CPTTSP07(006)	8/3/2017 8:22 AM	CPT File	45 KB			
CPT_Install 64 Bit	CPTTSP07B(007)	8/3/2017 8:22 AM	CPT File	80 KB			
D CP lest	CPT009A	8/4/2017 4:28 PM	DIS File	16 KB			
DCP MISC	CPT009Rvan	8/4/2017 4:28 PM	DIS File	11 KB			
ADCP PrGM -0092		0/4/2017 4.20 PMA	DIC Fil-	15 1/0			
File name:					ata (*.*)		•
				Open	▼ Ca	ancel	



3. Main Screen

Once a file is loaded, the header information and the data will be displayed on the screen (figure 3). The header information and the individual data points can be edited. To do so, click on the text of the header information or the data point and enter the new data. There are two exceptions, however. The depth of a reading cannot be edited. The depth cannot be edited because ConePlot (VERTEK's CPT plotting program) expects each depth to follow sequentially from the previous. The GPS data can be edited using the EDIT GPS DATA button





However, individual depth counts can be deleted. To select a depth count, click on the depth. The depth and the associated readings (tip, friction, pressure, etc...) will be highlighted. Notice that the highlighted friction reading is normally a few readings back. This is because of the friction delay. If the depth is not shown, click on the depth column and use the up or down arrow keys to navigate. If a depth is red, it is because Cleanup believes that it may have been taken in error. A depth will be flagged if the speed is either 0 or greater than 10 cm/sec. This does not necessarily mean that the depth count is erroneous, however if there is more than one in a row, there is a strong possibility.

NOTE: to navigate put the cursor on a depth entry and use up/down arrows. To change a specific data point move the cursor to the entry and double click to highlight (speed and depth can not be edited)



4. Changing Units

When a file is loaded, the applicable units are loaded too. Units can be changed by clicking on the dropdown box at the top of each channel (figure 4). When the file is saved, it will be saved with the new units. The depth units can be changed between meters and feet, however the file can only be saved in meters.

TI	Р	FRIC	TION	PRESSL		
TSF	•	TSF	•	PSI	12	
KPA MDA			0.343		.1	
MPA TCE			0.343		1	
PSI			0.040		-1	
BAB			0.331		-1	
KSC			0.323		-1	
KIPS			0.331		-1	
141 0	19.8		0.322		-1	
	20.4		0.461		-1	
	~~~~		~ • • •		-	
	Fig	gure 4				

#### 5. Shift Channels

Entire channels can be shifted by clicking the SHIFT CHANNELS tab on the tool bar and entering the appropriate data in the block for the channel you want to shift and then clicking on shift readings. This is normally used to correct for an incorrect baseline or to remove a negative section of test while keeping the relationship of all the datapoints the same.

This same function allows the trained user to simply remove a series of negative readings without shifting the entire column. See figure 5



Figure 5

ONLY TRAINED DATA INTERPRETERS SHOULD MAKE THESE CHANGES and any changed files should be saved as such. It is important to always maintain the raw data files for future reference.

#### 6. Edit Depth/Elevation

The Start Depth/Elevation function (shown in figure 6) allows you to correct the depth readings by simply entering a new start depth. This function changes all the readings in the column in one edit. Very useful for test sites requiring CPT tests to start in predrilled holes.





) D	) Digital Cone Cleanup													
ile Shift Channel(s) [Edit Depth / Elevation] Depth Significant Digits About														
	Start	Depth / E	levation	n		1	F	II E I	CPTTS	P07/	(006) cot			
	Dept	h / Elevati	ion Incr	ement			•							
	Dept	h Format			•	<u> </u>				D	ate and Time	8/1/2017 12:15:45 PM		
		_		Operator	someon	e					Header	Auto Enhance On		
			Cone	Number		08					Footnote 1	Eilter On		
				Location	Durch	-					Ecotrote 2			
				LUCAUUN	Unii She	p								
			Job	Number	Today						GPS Data			
			Hole	Number	CPTTes	st 12	12 Water Table I					0		
	DEPTH	SPE	FD	TIP	FF	RICTION	PRESS	URE	X Incl		Y Incl	TEMP		
m	•	(cm/:	sec)	TSF	▼ TS	SF 💌	PSI	-	deg 🗨	• de	g 🔽 C	•		
	6.99		.76	-	11.2	0.343		13.43	-0.3	38	1.88	30.31		
	7.01		.66	1	12.1	0.340	ſ	CHAI	NGE STAF	RT DE	PTH	1.30		
	7.03		.71	1	15.3	0.331						1.26		
	7.05		.76	2	20.5	0.323			Current Sta	rt Dept	h 6.99	m 1.29		
_	7.07		1.17	1	19.8	0.331			New Sta	rt Dept	h 6.99	m 1.27		
	7.09		1.82		19.0	0.322						1.29		
	7.11		2.02		20.4 20.0	0.461					o	1.25		
	7.13		1.52	-	20.3 10.7	0.444			OK		Cancel	1.26		
	7.10		.03 41	-	14.9	0.400	L	2 L DIP		14	1.04	1.24		
	7.17		.40	-	11.1	0.335		21.00	.1	 11	1.86	30.23		
	7.13		.40 20		70	0.020	-	21.70	1.	nc	1 00	20.27		

Figure 6

The Depth/Elevation Increment function (figure 7) allows the interpreter to change the distance between each depth reading and should only be used when it is known that the original setup in the CPT Data Acquisition software was improper.

🔊 Digita	al Cone C	leanup									
File Sł	hift Chani	nel(s) Edit	Depth / El	evation	Depth Si	ignificant Digits	About				
	Start De	pth / Elevati	on		1	EILE:0	PDTTSD07	(006) ent			
Depth / Elevation Increment						TILL.	51115107	(000).001			
	Donth F	ormat			L			Date and Time	0/1/2017 12:1	EVE DM	
_	Deptili	onnac			<u> </u>				0/1/2017 12.1	3.43 FM	
			Uperator	someon	e			Header	Auto Enhance	On	
		Cor	ne Number	DDG14	08			Footnote 1	Filter On		
			Location	Drill Shr	חו			Footnote 2			
			ob Number	Teday				GPS Data			
			ob realliber	roday				ur 5 Dala			Data Index: 6
		Ho	ole Number	CPTTes	at 12		Wate	er Table Depth	0		# of Readings: 329
DEE	этн	SPEED	TIP	FI	RICTION	-DEPTH/E	LEVATION	INCREMEN	1T	1	
m.		(cm/sec)	TSE	<b>• T</b> 9	E T	WADN			TION		
1	<u>·</u>		1101		"	INCREME	NT SHOULD B	E CHANGED	ONLY IF		
	6.99	.76		11.2	0.343	IT WAS	SET INCORR	RECTLY IN C	PTSND		
	7.01	.66		12.1	0.340	USE ON	ILY POSITIVE	VALUES FOR	3 THE		
	7.03	.71		15.3	0.331	DEP	TH / ELEVATI	ON INCREME	ENT		
	7.05	.76		20.5	0.323						
	7.07	1.17		19.8	0.331	CUBBE					
	7.09	1.82		19.0	0.322	conne	AT INCILME	0.020			
	7.11	2.02		20.4	0.461	N	EW INCREMEN	NT 0.020 r	n		
	7.13	1.52		20.9	0.444						
	7.15	.83		19.7	0.400	INC	REASE	DECREA	SE		
	7.17	.41		14.9	0.339						
	7.19	.40		11.1	0.326		01	011105			
	μ.21 7.00	.39		1.2	0.315		UK	L'ANCE	L		
	7.23	.32		b. I	0.274						
	7.25	.32		11.5	0.172	-14.41	-1.06	1.00	30.23	-	
	7.27	.26		21.9	0.102	-12.46	-1.07	1.87	30.24		
	7.29	.16		26.2	0.099	-14.21	-1.07	1.85	30.25		
	7.31	.16		∠d.4 20.0	0.098	-14.11	-1.03	1.90	30.21		
	7.33	.59		28.9 20.2	0.061	-13.85	-1.11	1.88	30.22		
	1.30	.53		23.3	0.043	-13.66	-1.08	1.65	30.21		

Figure 7



The last function under Edit Depth/Elevation simply allows the user to change the depth format between depth and elevation. Simply click on the format desired then be sure to update the starting depth/elevation as shown above.

#### 7. Saving a File

Once the file is edited it can be saved. Click on File on the menu bar and then click on Save. The Save File dialog box will open. Select a new filename and press OK to save.

#### 8. Exporting Data

The data can be exported to the old Hogentogler analog cone file format. The exported data can be used with the University of British Columbia's Interpretation program or other programs.

To export the data, click on File on the menu bar and then click on Export. The screen in figure 8 will appear. Choose the units and press OK to save the file. NOTE: There are five analog file formats. Each format has specific units for each channel. If the channel is using units other than the one specified for the selected file format, Cleanup will change that channel's units to fit the analog file format.

-EXPORT DATA	
To export digital cone data to old *.cpd file format, select the desired units and press OK.	
NOTE: The channel units will revert to the default units for the selected analog format.	
<ul> <li>English - Qc in TSF, Fs in TSF, PP in PSI</li> </ul>	
C Metric - Qc in MPA, Fs in KPA, PP in KPA	
C Metric - Qc in MPA, Fs in KPA, PP in BAR	
C Metric - Qc in KSC, Fs in KSC, PP in KSC	
Metric - Qc in KSC, Fs in KSC, PP in BAR	
OK Cancel	

Figure 8

To export the data to other formats use CONEPLOT after saving the files in CLEANUP



### 9. Combining Files

Two files can be combined using "Combine Files" (under FILE in the toolbar) Select the first file normally in cleanup and then click on Combine Files to add in the second. Pop up boxes will advise if the files have differences that need to be fixed (such as one file in depth format and the second in elevation). A pop up will mention if the same or different cones are used and let you know which test baselines will be used, then click okay

Dig	gital Cone Cleanup		
File	Shift Channel(s)	Edit Depth / Ele	
Open			
Сору		Company Name 🖞	
Combine		Operator [	Cleanup
Save		Cone Number [	
Export		Location [	The same cone was used for both tests. The baseline of the first file will be used.
AutoClean For Interp		Job Number [	
Exit	DEPTH SPE	Hole Number [ TIP	ОК
m	(cm/s	ec) MPA	

Once the files have processed (occasionally this will take a minute or so) a box like figure 9 will appear

🕑 Digita	al Cone C	leanup						-	-					Ľ
File Shift Channel(s) Edit Depth / Elevation Depth Significant Digits About														
	FILE:1118106+00_offset.cpt													
	Company Name Drillwell Enterprises Date and Time 4/5/2017 8:31:26 AM													
			Operator	Cass					Heade	Auto En	hance On			
		Cor	ne Number	DDG	1373 MDINE 0	шее			Footnote	1 Filter On				
			Location		MDINE	ILLS								
		Ji	ob Number	d					•				<b>N</b>	
		Ho	le Number	(									# of Readings: 319	
DEF	тн	SPEED	TIP		Depth	TIP	FRICTION	PRESSURE	U2 X Incl	Y Inc	TEMP			
m	-	(cm/sec)	MPA		6.88	9.853	67.869	34.486	-4.552	-4.901	10.780	*		
	0.30	4.55	(		6.90	11.632	71.986 46.545	34.952	-4.341	-5.041	10.800	-		
	0.32	4.04	(	D	6.94	17.148	59.987	33.833	-4.512	-5.028	10.790	=		
	0.34	2.14	(	)	6.96	21.107	174.683	33.777	-4.524	-4.796	10.808			
	0.36	2.27	(	)	6.98	24.310	186.269	35.810	-4.448	-4.895	10.793			
	0.38	1.91	(	)	7.00	29.092	292.643	52.839	-4.492	-4.876	10.800			
	0.40	2.02	(	0	7.02	32.106	205.305	27.473	-4.468	-4.632	10.805			
	0.42	2.02	(	0	7.05	25.229	103.007	35.922	-4.623	-4.424	10.000			
	0.44	2.02	(	b	7.08	21 601	167 522	35 717	-4.376	-4 618	10.810			
	0.46	2.02	(	0	7.10	20.541	102.800	32,509	-4.784	-4.775	10.828			
	0.48	1.30	(	0	7.12	19.536	108.552	33.777	-4.580	-4.575	10.828			
	0.50	1.91	(	5	7.14	19.349	86.486	32.341	-4.472	-4.648	10.820			
	0.52	2.14	(	5	7.16	18.655	92.272	34.654	-4.725	-4.747	10.815			
	0.54	2.02	(	j i								÷		
	0.56	1.91	í			Fir	al Depth	Of 1st Sound	<b>ling:</b> 6.74 m	1				
	0.58	1.82	(	5			Clark Ann	anding At De	nth: 0.00					
	0.60	1.73	(	5			start App	enting At De	aprin. 6.88					
	0.62	1.82	ſ	i i										
	0.64	1.45	í		Normalize	depth to 1	st file	(	ок 🛛					
	0.66	1.52	í	5										
	0.68	1.52	í	0.13		1.5	-0.3	-0.85	-0.66	131	9			
	0.70	1.45	í	112		1.3	-0.4	-0.97	-0.49	13.2	21			
	0.72	1.52	, I	0.11		1.3	-0.3	-0.89	-0.67	132	20			
	0.74	1.45	í	110		14	-0.2	-0.88	-0.56	13.1	9			
	0.76	1 45	, i	1.09		13	-0.2	-0.91	-0.57	131	9			
	0.10						0.2	0.01	0.01		-			

#### Figure 9

Enter the appropriate depth based on the sounding notes and click okay. The files are now combined. Simply save this file as a new name and process with CONEPLOT should no further edits be required.



### 10. Adding or Editing GPS data

GPS data can be entered into the files using the edit GPS button shown in Figure 10

Digital	I Cone C	leanup			-		1000	1000	x
File Shir	ft Chanı	nel(s) Edit De	pth / Elev	vation Depth Sig	nificant Digits	About			
					FILE:C	PTTSP07(0	06).cpt		GPS DATA
	1	Company Name	ANY			Date and Time	01/01/2018 12	:01	LAT
		Operator	JIM		_	Header	Auto Enhance C	 )n	
		Cone Number	DDG210	0	_	Footnote 1	Filter On		
		Location	CENTER		_	Footpote 2			
		Let Number			_				# of Desidiese, 220
		JOD NUMDER	1234			water Table Depth	U		# or headings: 323 Data Indev: 6
		Hole Number	CPT 23						Para macs. o
DEF	РΤΗ	SPEED	TIP	FRICTION	PRESSURE	X Incl Y	Incl TEN	MP	
m	-	(cm/sec)	MPA	Enter GPS Data		-	100		
0	7.02	70	-						
	7.02	.76 66			ENTER GP	S DATA. LATIT	UDE, LONGII	DE AND ALTITUDE	
	7.06	.71			WITH DEE		E NOT SPECI	FIED NOTE LEADI	NG ZEROS ARE
	7.08	.76			WITH DELY	AUEI VALUES	NOT REQ	UIRFD.	
	7.10	1.17							
	7.12	1.82			LATITUD	E (ddmm.mmm	) N/S	GEOID SEPARATION	(-9999.9 - 17999.9)
	7.14	2.02					N 🔻		(m)
	7.16	1.52			LONCITU	DE (dddmm mmr			ITES (0.24)
	7.18	.83			Longing	DE (daammannin			.11L3 (0-24)
	7.20	.41							
	7.22	.40 39			ALTITUD	E (xxxx.x)		POSITION FIX	
	7.26	.33			8		(m)		
	7.28	.32			UTC TIM	E (hhmmss.sss)		HDOP (00.0 - 99.9)	
	7.30	.26							
	7.32	.16			6			27	
	7.34	.16							
	7.36	.59					CLEAR G	IPS	
	7.38	.59			1.1.1.1.1.1.1				
	7.40	.61			GPS STR	(ING: GGA,000000.	.000,0000.0000,N	I,00000.0000,E,0,0,0.0,0.0	,M,0.0,M,,0000*00
	7.42	.01							
	7.44	.29					1		
	7.46	.48					ок	CANCEL	
	7.48	.71				-			

## Figure 10

Simply enter the data that you know into the latitude, longitude, and altitude boxes and the system will format it properly for entry in the headers in CONEPLOT. (see figures 11 & 12) Once all your editing is done simply save the file normally (as always we strongly recommend saving the

Once all your editing is done simply save the file normally (as always we strongly recommend saving the raw data file unchanged - any edits should be saved with the file name altered)

Once saved the properly formatted GPS data is part of the header information and be easily displayed in the headers of the various ConePlot outputs.

