



Integrated[®] Geodetics Toolkit

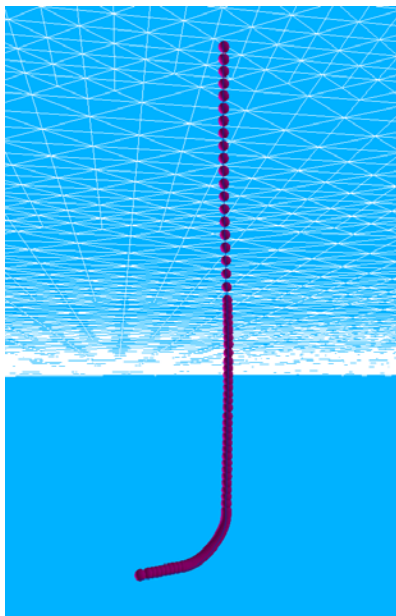
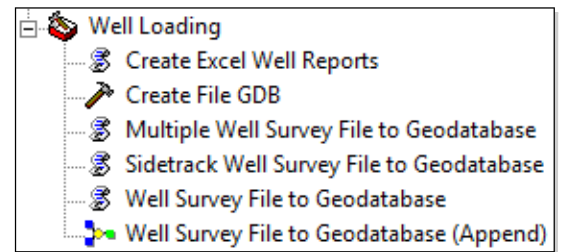
For Well Survey Data

Streamlined Data Processing Workflow

Integrated[®] Geodetics Toolkit is a toolbox for ArcGIS containing 30+ python script and ModelBuilder tools that provide users with the ability to quickly read and load well survey and seismic navigation information into a common ESRI GIS format for visualization and analysis.

Well Loading Tools

Well data can be read from raw ASCII, delimited files and Excel spreadsheets. The tools calculate the coordinates and delta values of a survey given azimuth, inclination and measured depth values, reference points and a coordinate system. The survey may be from the top hole to the bottom hole or a sidetrack. All values are corrected to True North and coordinates are calculated in the Geographic Coordinate System of the provided coordinate system. Well survey reports can also be output for all loaded wells.

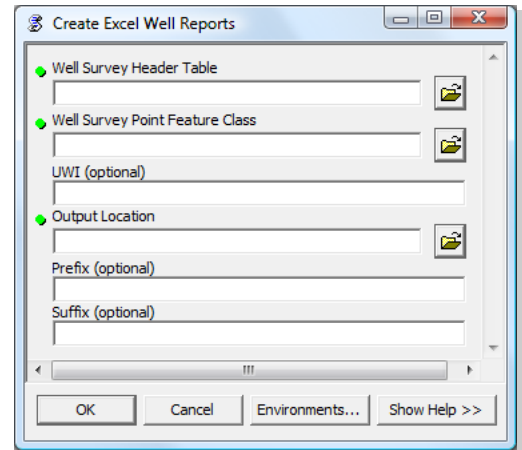


- **Well Survey File to Geodatabase** tool extracts the header information from the survey file and writes it to its own geodatabase table, creates a point layer from the calculated coordinates, as well as the corresponding well path layer. The coordinates are calculated in three dimensions so the points and path can be viewed with 3D Analyst, ArcGlobe or ArcScene.
- **Multiple Well Survey File to Geodatabase** tool performs the same functions as the Well Survey File to Geodatabase tool on an input file containing information for multiple wells. It requires an additional input comprised of an existing ArcGIS point layer containing the related well reference points.
- **Sidetrack Well Survey File to Geodatabase** tool calculates survey point coordinates and deltas, given the calculated survey points of an existing well path. The surveyed values in the existing well path are used to provide the initial coordinates and Total Vertical Depth of the tie-in point for the sidetrack.

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- **Well Survey File to Geodatabase (Append)** ModelBuilder tool combines the Well Survey File to Geodatabase tool functionality with the ability to write the extracted header information to a pre-existing table, and the new points and well path to pre-existing geodatabase layers.
- **Create Excel Well Reports** tool produces an Excel spreadsheet for one or more wells from an existing well survey point layer. One Excel file is created per well, named with the UWI. If only one well report is needed from layer that contains multiple wells, the user can enter the UWI into the optional UWI field and only the report for that well will be output. Each report contains identifying header information and data points for the well (see sample report below). The tool also provides the user with the ability to add a prefix and/or suffix to the output file name(s).



	MD	INCL.	AZI (G)	AZI (T)	+E/-W	+N/-S	TVD	LAT	LONG	EASTING	NORTHING	
1	WELL											
2	UWI/API											
3	State											
4	County											
5	Datum											
6	Projection											
7	Unit											
8	Elevation Ref.											
9	Survey File Name											
10												
11												
12		2597.00	1.00	89.00	87.36	0.0000	0.0000	-2585.0000	33.2833261	-93.4953790	2828463.509	247623.253
13		2624.00	2.75	328.50	326.86	-0.1029	0.5565	-2558.0098	33.2833261	-93.4953772	2828464.075	247623.263
14		2651.00	4.25	309.00	307.36	-1.2189	1.7385	-2531.0600	33.2833300	-93.4953798	2828463.226	247624.649
15		2678.00	5.75	339.00	337.36	-2.4814	3.6312	-2504.1591	33.2833340	-93.4953854	2828461.458	247626.081
16		2705.00	6.00	349.00	347.36	-3.2354	6.2792	-2477.3002	33.2833412	-93.4953884	2828460.471	247628.651
17		2732.00	8.00	2.00	0.36	-3.4391	9.5427	-2450.5012	33.2833500	-93.4953901	2828459.847	247631.861
18		2758.00	8.75	21.00	19.36	-2.6671	13.1978	-2424.7737	33.2833603	-93.4953893	2828459.978	247635.594
19		2785.00	8.50	33.00	31.36	-0.8442	16.7889	-2398.0768	33.2833705	-93.4953843	2828461.421	247639.353
20		2812.00	10.50	44.50	42.86	1.9675	20.2178	-2371.4461	33.2833805	-93.4953761	2828463.836	247643.072
21		2839.00	11.75	56.50	54.86	5.9850	23.4904	-2344.9504	33.2833904	-93.4953640	2828467.468	247646.768
22		2886.00	12.00	67.00	65.36	14.4742	28.0414	-2298.9508	33.2834044	-93.4953376	2828475.499	247652.084
23		2893.00	11.75	75.50	73.86	15.8342	28.5042	-2292.1001	33.2834058	-93.4953332	2828476.822	247652.645
24		2920.00	11.50	75.50	73.86	21.1015	29.8665	-2265.6540	33.2834091	-93.4953161	2828482.089	247654.008
25		2947.00	11.50	79.50	77.86	26.3538	31.0309	-2239.1956	33.2834124	-93.4952991	2828487.297	247655.354

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