



Fugro EarthData's Accuracy Assessment Form (QC Master)

Project Name/Number: FEMA Region 6 Arkansas QL2 LIDAR

Date: 10/07/2015

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Coordinate System: UTM	Horizontal Datum: NAD83(2011)	UTM Zone or SPC State name: UTM zone 15 N	GC Points Source: Field GCP	For Elevation purposes use ONLY: RMSE	Enter Value in GSD 0.09	(Meter)
Units: (Meter)	Product type: LIDAR	GSD/Post Spacing: 0.7 m	Vertical Datum: NAVD83/Geoid12	Vertical Accuracy Value User Defined	1.80	(Meter)

Point ID	Block/Model/ Sheet ID	Orthostereo/DEM measured by Fugro EarthData			QA/QC Points as surveyed in the Field			Residual error = Measured coordinates - surveyed coordinates			Normalized error = Residuals - bias			Comments
		UTM zone 15 N Easting (E) (Meter)	NAD83(2011) Northing (N) (Meter)	NAVD83/Geoid12 Elevation (H) (Meter)	UTM zone 15 N Easting (E) (Meter)	NAD83(2011) Northing (N) (Meter)	NAVD83/Geoid12 Elevation (H) (Meter)	ΔE (Easting) (Meter)	ΔN (Northing) (Meter)	ΔH (Elevation) (Meter)	ΔE (Easting) (Meter)	ΔN (Northing) (Meter)	ΔH (Elevation) (Meter)	
OPEN1				117.379	681432.442	4016714.919	117.281	No Data	No Data	0.098	No Data	No Data	0.105	
OPEN2				151.016	654955.522	4030981.880	151.009	No Data	No Data	0.007	No Data	No Data	0.014	
OPEN3				119.052	668250.743	3995444.761	119.144	No Data	No Data	-0.062	No Data	No Data	-0.055	
OPEN4				192.340	631439.484	3977712.050	192.406	No Data	No Data	-0.066	No Data	No Data	-0.059	
OPEN5				109.031	641102.736	3965272.323	109.048	No Data	No Data	-0.017	No Data	No Data	-0.010	
OPEN6				115.517	635582.349	3958196.008	115.533	No Data	No Data	-0.016	No Data	No Data	-0.009	
OPEN7				72.995	639900.954	3950738.638	72.986	No Data	No Data	0.009	No Data	No Data	0.016	

LEGENDS: Orange Point ID → Δ > 2*RMSE RED ΔE,ΔN,ΔH → Δ > 95% of NSSDA

Accuracy Computations (before bias removal): GSD = 0.7 m (Meter) Supported Mapping Scale: 0 Supported Height RMSE according to map scale = 6.00

ASPRS			
Horizontal RMSE (E) =	No Data	Max. Allowable RMSE in N =	5.68 (Meter)
Horizontal RMSE (N) =	No Data	Max. Allowable RMSE in E =	5.68 (Meter)
Circular RMSE =	No Data	Max. Allowable circular RMSE =	8.03 (Meter)
Vertical RMSE =	0.05	Max. Allowable RMSE in Height =	0.09 (Meter)
NSSDA			
Horizontal tested at 95% = (1.73xRMSE)	No Data	Max. Allowable Horizontal Error at 95% =	13.90 (Meter)
Vertical tested at 95% = (1.96xRMSE)	0.10	Max. Allowable Vertical Error at 95% =	0.18 (Meter)
National Maps Accuracy (NMAS)			
Horizontal Accuracy at 90% =	No Data	Max. Allowable Horizontal Error at 90% =	12.19 (Meter)
Vertical Accuracy at 90% =	0.08	Max. Allowable Vertical Error at 90% =	0.15 (Meter)

Number of check points:	0	0	7	0	0
Mean (Bias)	No Data	No Data	-0.01	No Data	0.00
SDEV	No Data	No Data	0.05	No Data	0.06
RMSE	No Data	No Data	0.05	No Data	0.05
Units: (Meter)					

<<<<< Normalized RMSE after bias

Bias Treatment Summary

To remove the vertical bias's effect from the elevation,	Raise	the vector/DEM data by	0.007	(Meter)
To remove the horizontal bias's effect from planimetric E,	No Data	the vector EASTING the value	No Data	(Meter)
To remove the horizontal bias's effect from planimetric N,	No Data	the vector NORTHING the value	No Data	(Meter)

Normalized Accuracy Computations (after bias removal):

ASPRS			
Horizontal RMSE (E) =	No Data	Max. Allowable RMSE in N & E =	5.68 (Meter)
Horizontal RMSE (N) =	No Data	Max. Allowable RMSE in E =	5.68 (Meter)
Circular RMSE =	No Data	Max. Allowable circular RMSE =	8.03 (Meter)
Vertical RMSE =	0.05	Max. Allowable RMSE in Height =	0.09 (Meter)
NSSDA			
Horizontal tested at 95% = (1.73xRMSE)	No Data	Max. Allowable Horizontal Error at 95% =	13.90 (Meter)
Vertical tested at 95% = (1.96xRMSE)	0.10	Max. Allowable Vertical Error at 95% =	0.18 (Meter)
National Maps Accuracy (NMAS)			
Horizontal Accuracy at 90% =	No Data	Max. Allowable Horizontal Error at 90% =	12.19 (Meter)
Vertical Accuracy at 90% =	0.08	Max. Allowable Vertical Error at 90% =	0.15 (Meter)