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**U.S. Army Corps
of Engineers**

Omaha District
Offutt AFB, Nebraska

**SENECA ARMY DEPOT ACTIVITY
PHASE I GEOPHYSICAL INVESTIGATION
SEAD 45/115 OPEN DETONATION GROUNDS
SENECA COUNTY
ROMULUS, NEW YORK**

**Contract No. DACA45-98-D-0004
Task Order No. 0037**

**FINAL
QUALITY CONTROL REPORT**

April 2004

01M-0007





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of Engineers**

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Contract No. DACA45-98-D-0004
Task Order No. 0037

Prepared for:

**U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT**
Offutt AFB, Nebraska

Prepared by:

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Manchester, New Hampshire 03101-1501

April 2004

W.O. No. 20074.515.037

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SECTION 1
QUALITY CONTROL REPORTS FOR DIGITAL
GEOPHYSICAL MAPPING

Quality Control Reports for the Digital Geophysical Mapping

The following QC procedures and the Data Quality Objectives (DQO) were utilized during the Digital Geophysical Mapping (DGM) investigation performed at the Open Detonations Grounds site within the Seneca Army Depot Activity located in Romulus, New York.

Instrument Function Tests

Static background, static response, and vibration/cable connection tests were performed daily before and after surveying at a fixed base station located adjacent to the prove-out area.

The purpose of the static test is to determine the ability of the EM-61 MK2 instrumentation to collect stable readings consistently throughout the survey. Instrument functionality and EM ambient cultural noise are likely sources of non-repeatable readings. Where levels exceeded a standard deviation of 2.0, an analysis was performed to determine the cause of increased noise levels.

The static spike test demonstrates the sensor's sensitivity to the test object. An 8-inch piece of rebar was chosen to quantify the instrument response and document its ability to collect stable readings. Where levels exceed a standard deviation of 2.0, an analysis was performed to determine the cause of increased noise levels.

The cable connection test was used to identify mechanical problems with the EM-61 MK2 instrumentation. Large anomalous spikes within the test data would indicate poor connectivity between cables and the field data logger.

To confirm the precision of the navigational system and determine temporal time lags inherent to these specific instruments, a three-point navigation check was performed daily as part of the pre- and post-survey instrument function tests. Time delays of 0.2- to 0.8-second were often observed and applied to the survey data.

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Data Quality Objectives

Data quality objectives were developed during the project-planning phase to serve as standards against which achievement of the project objectives are measured. The DQO's are both qualitative and quantitative statements specifying the quality of data required to meet the intended goals of the project. Throughout implementation of both the GPO and full-scale geophysical investigation activities, USACE required the following DQOs be met:

- **Electromagnetic (EM) leveling:** For any given dataset of EM data, all data channels will be leveled using the same routines and parameters.
- **Processing:** All leveling and/or filtering routines that are applied to datasets will be evaluated, on a dataset by dataset basis, to confirm that those routines do not alter the nature of the original measured response.
- **Navigation:** The sum of all data positioning errors in the final datasets will not exceed +/- 1.0 ft.
- **Background Noise:** Mean of the Sum Channel must be less than or equal to 3.25 mV with a standard deviation less than or equal to 2 mV. "Clip" anything that is well above the background noise being careful not to clip too low. Document the clipping value and what passes/fails.
- **Mean Speed:** Maintain mean speed less than or equal to 2.5 miles per hour. Document mean speed with standard deviation.
- **Along Track Sampling:** less than or equal to 0.5 ft.
- **Across Track Sampling:** less than or equal to 3.0 ft.
- **Latency Correction:** No visible chevron effects in the data or plots.
- **Data Leveling:** Use consistent parameters and processing methods for all datasets.
- **Signal Above Background:** Processing not to alter signal above background by more than 5% or 5mV, whichever is less (i.e., the difference between background and peak response).



- **Anomaly Selection:** Verify that anomaly selections are reasonable for identifying all buried metal from 20 mm at 6 inches to 105mm or larger at 48 inches.
- **Positioning Errors:** Positioning errors are not to exceed 1.0 ft.
- **Reacquisition:** USACE will notify WESTON/Parsons of which anomalies will be reacquired, and reacquisition must be within 2 ft of the interpreted location.
- **Blind/Seeded QA Items:** All blind/seeded items must be detected to within 2 ft.

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SECTION 2
QUALITY CONTROL REPORT TRACKING SHEET

ODG Geophysical Mapping
QC Tracking Log

		ACRES MAPPED		RAW DATA		PROCESSED DATA					
125'x125' Grids Mapped	Date Mapped	per Parsons	File Name (.gdb)	Received from Parsons	Received from Parsons	Weston QC Completed	Pass / Fail	Draft Submitted to USACE	Final Submitted to USACE	QC Summary Uploaded to Teamlink	Comments
WGPO	6-Jun		0606	7-Jun	10-Jun	10-Jun	P	11-Jun	10-Oct	23-Jun	Processed data was rejected by USACE.
					20-Jun	24-Jun	P	23-Jun			Initial dataset failed due to target picking parameters. USACE provided suggestions and the data was reprocessed and submitted.
N-P 25-32	7-Jun	5.6	0607	9-Jun							Across line spacing exceeded DQOs. Parsons to recollect data. Data was recollected on June 11 and 12.
M24-32, M-P 21, M-O 24	9-Jun	7.15	0609	10-Jun	24-Jun	24-Jun	P	25-Jun	9-Sep	26-Jun	
M20-P20, M23-O23, M-P 17-19	10-Jun	6.5	0610	11-Jun	24-Jun	25-Jun	P	25-Jun	9-Sep	8-Jul	
Q-S 32, *P25-32	11-Jun	1.27	0611	12-Jun	24-Jun	25-Jun	P	25-Jun	2-Oct	8-Jul	* Part of failed data reacquired from 7-Jun.
*N-O 25-32, N-O 25-32, Q29, Q-T 30-31, T32	12-Jun	3.42	0612	12-Jun	24-Jun	25-Jun	P	25-Jun	9-Sep	12-Jul	*Part of failed data reacquired from 7-Jun.
Q-R 33, R34, T-V 33-36	13-Jun	4.7	0613	14-Jun	25-Jun	9-Jul	P	9-Jul	9-Sep	12-Jul	
Q33, R-S 33-34, U-V 33-36	14-Jun	4.2	0614	16-Jun	26-Jun	12-Jul	P	12-Jul	9-Sep	12-Jul	
W33-W36	16-Jun	1.91	0616	17-Jun	28-Jun	11-Jul	P	11-Jul	9-Sep	11-Jul	
R-T 38-40, S-T 37-38	17-Jun	4.6	0617	18-Jun	28-Jun	11-Jul	P	11-Jul	9-Sep	11-Jul	
K-L 25-32	18-Jun	6.6	0618	19-Jun	23-Jun	25-Jun	P	26-Jun	9-Sep	4-Jul	
J25-32	19-Jun	3.25	0619	20-Jun	23-Jun	25-Jun	P	26-Jun	9-Sep	4-Jul	
H24-35	20-Jun	4.7	0620	23-Jun	24-Jun	25-Jun	P	26-Jun	9-Sep	4-Jul	
E21, E25, E29, E33	23-Jun	1.3	0623	25-Jun	24-Jun	12-Jul	P	12-Jul	9-Sep	12-Jul	No grids completed in full
I 24-32	24-Jun	2.17	0624	25-Jun	25-Jun	12-Jul	P	12-Jul	9-Sep	15-Jul	
E25-31, F25-33, G23-34	25-Jun	6.93	0625	26-Jun	26-Jun	12-Jul	P	14-Jul	9-Sep	15-Jul	
A17-28, J33-37, K33-38	26-Jun	8.67	0626	28-Jun	28-Jun	14-Jul	P	14-Jul	9-Sep	16-Jul	
L33-39, M33-38, N33-36, O-Q 33-34, P8-16	27-Jun	8.61	0627	28-Jun	28-Jun	16-Jul	P	16-Jul	9-Sep	17-Jul	

**ODG Geophysical Mapping
QC Tracking Log**

		ACRES MAPPED		RAW DATA		PROCESSED DATA					
125'x125' Grids Mapped	Date Mapped	per Parsons	File Name (.gdb)	Received from Parsons	Received from Parsons	Weston QC Completed	Pass / Fail	Draft Submitted to USACE	Final Submitted to USACE	QC Summary Uploaded to Teamlink	Comments
M-O 7-16	28-Jun	9.29	0628	30-Jun	30-Jun	15-Jul	P	12-Nov			Parsons to reprocess data; proper latency not applied to specific lines. Data reprocessed and sent to USACE on 11/12/03 West edge of 06/28 data recollected as part of 0804a. Still some data of the 06/28 failed DOO so data was modified by applying a polygon mask to that noisy area and sending data to dig teams to manually mag and flag.
			0804a	11-Aug	11-Aug	14-Aug	P				
K7-14, L7-23	30-Jun	8.98	0630	3-Jul	3-Jul	17-Jul	P	17-Jul	9-Sep	17-Jul	
E15-18, F13-18, K15-23	1-Jul	5.83	0701	3-Jul	3-Jul	17-Jul	P	17-Jul	2-Oct	22-Jul	
G13-18, H14-18, I13-18, J14-15	2-Jul	4.69	0702	7-Jul	8-Jul	18-Jul	P	18-Jul	2-Oct	22-Jul	
G12, H11-13, I10-12, J8-12, N-P 5-6, Q-AA 6, W-GG 7, EE-GG 8	3-Jul	6.03	0703	7-Jul	7-Jul	18-Jul	P	18-Jul	9-Sep	22-Jul	
*O6-16, S14-16, T14-16, U13-15, V10-13, II-KK8	7-Jul	5.37	0707	8-Jul	8-Jul	21-Jul	P	21-Jul	2-Oct	22-Jul	
S3-8, U3-8, T3-T8, V3-V8, W7-8, W-Z3, Y4-6	8-Jul	6.38	0708	9-Jul	9-Jul	21-Jul	P	21-Jul	9-Sep	23-Jul	
II15-16; JJ14-16; KK13-16; LL10-16; MM10-17; NN11-15	9-Jul	7.35	0709	10-Jul	10-Jul	22-Jul	P	22-Jul	9-Sep	23-Jul	
CC12-13; DD11-13; EE10-12; FF9-13; EE19-22; FF19-22; GG19-22; HH18-21; II17-20; JJ17-20; KK17-18; MM21-24; NN19-24	10-Jul	5.85	0710	11-Jul	11-Jul	22-Jul	P	22-Jul	2-Oct	15-Aug	*Proper latency not applied to specific lines; however, upon discussion with USACE the data is acceptable.
KK-LL19; NN19-24; OO19-26; PP19-27; QQ19-27	11-Jul	7.7	0711	12-Jul	12-Jul	23-Jul	P	23-Jul	2-Oct	24-Jul	
HH23; II23-24; KK24; KK33 34; LL24; LL28-34; MM18-31; NN25-31; OO27-31; PP28-31	12-Jul	6.44	0712	15-Jul	15-Jul	23-Jul	F	23-Jul	2-Oct	31-Jul	Identified noise in 0712a and latency errors in 0712b. Parsons to refine latency error and resubmit data.
					25-Jul	29-Jul	P	29-Jul			
JJ24; EE-LL25; FF-LL26; HH-LL27	14-Jul	5.41	0714	15-Jul	15-Jul	24-Jul	F		2-Oct	15-Aug	Parsons to investigate anomalous reading leading to possible QC failures in 0714a and 0714b. Portion recollected as part of 0804b.
			0714 & 0804b	11-Aug	11-Aug	14-Aug	p	15-Aug			
DD-GG27; DD-LL28; EE-FF29; EE-FF30	15-Jul	3.78	0715	16-Jul	16-Jul	24-Jul	p	24-Jul	2-Oct	25-Jul	

ODG Geophysical Mapping
QC Tracking Log

		ACRES MAPPED		RAW DATA		PROCESSED DATA					
125'x125' Grids Mapped	Date Mapped	per Parsons	File Name (.gdb)	Received from Parsons	Received from Parsons	Weston QC Completed	Pass / Fail	Draft Submitted to USACE	Final Submitted to USACE	QC Summary Uploaded to Teamlink	Comments
GG-LL29; GG-LL30; GG-LL31	16-Jul	6.11	0716	17-Jul	17-Jul	25-Jul	P	25-Jul	2-Oct	28-Jul	
DD-LL32; DD-LL33	17-Jul	4.6	0717	20-Jul	20-Jul	26-Jul	P	26-Jul	9-Sep	28-Jul	
DD-KK34; II-KK35; JJ-KK36; GG-KK37; GG-KK38; FF-JJ39; CC-EE41; BB-EE42	18-Jul	4.48	0718	20-Jul	20-Jul	6-Aug	P	11-Aug	2-Oct	11-Aug	
Z30-31; Z34-36; AA30-36; BB34-36; CC28-31; WGPO	19-Jul	2.74	0719	20-Jul	20-Jul	28-Jul	P	28-Jul	10-Oct	8-Aug	
CC31-42; DD-GG37; DD-EE39	21-Jul	3.94	0719	23-Jul	24-Jul	29-Jul	P	29-Jul	2-Oct	19-Aug	Lines 10, 11,12 and 13 Noise exceeded DQO. Lines are being recollected.
			0721	23-Jul	24-Jul	pending		Failed data needs to be removed and data package resubmitted.			
			0805	5-Aug	11-Aug	pending					
LL23; II22-LL22; II-LL21	22-Jul	3.72	0722	23-Jul	24-Jul	30-Jul	F		2-Oct	1-Aug	Velocities need to be reviewed. Data will be reprocessed and resubmitted.
				31-Jul	31-Jul	P	31-Jul				
Q-U41; Q-U42; T-U43	23-Jul	3.42	0723	24-Jul	25-Jul	pending			2-Oct	27-Aug	Cracked coil. Parsons to reevaluate noise in data.
			0731	31-Jul	11-Aug	pending		Noise issues to be resolved.			
			0723 & 0731		11-Aug	19-Aug	P	19-Aug			
U-W39; V37-38; W37-38	25-Jul	2.7	0725a	26-Jul	26-Jul	1-Aug	P	1-Aug	2-Oct	4-Aug	
X33-36; X38-40; Y34-37; Y38-40; Z37-40; X-Z42			0725b								
K-L24; J20-24	26-Jul	2.04	0726a	28-Jul	28-Jul	7-Aug	P	7-Aug	2-Oct	12-Aug	
WGPO			0726b								
J20-24; I19-22; H19-21; G18-19; F18; E18	28-Jul	3.72	0728	29-Jul	29-Jul	8-Aug	F		2-Oct	27-Aug	Latency errors. Parsons to resubmit data.
					11-Aug	20-Aug	P	20-Aug			Resubmitted data passed QC
I23-24; H22-23; G20-23; F21-22; E19-22; U40-43; V40-43	29-Jul	4.47	0729	1-Aug	1-Aug	5-Aug	F		2-Oct	27-Aug	Noise and processing errors. Parsons to resubmit data to Weston.
					11-Aug	withheld	F				Noise issues to be resolved
					11-Aug	21-Aug	P	21-Aug			Resubmitted data passed QC

ODG Geophysical Mapping
QC Tracking Log

		ACRES MAPPED		RAW DATA		PROCESSED DATA					
125'x125' Grids Mapped	Date Mapped	per Parsons	File Name (.gdb)	Received from Parsons	Received from Parsons	Weston QC Completed	Pass / Fail	Draft Submitted to USACE	Final Submitted to USACE-	QC Summary Uploaded to Teamlink	Comments
No grids completed in full	30-Jul		0730	11-Aug	11-Aug	13-Aug	P	15-Aug	2-Oct	15-Aug	Survey acreage counted in August 1, 2003
U37-38; V37-38	1-Aug	1.13	0801	11-Aug	11-Aug	15-Aug	P	15-Aug	2-Oct	19-Aug	
W4-5; X4-5; Z4-5; GPO	19-Aug	2.17	0819	22-Aug	22-Aug				2-Oct		
GPO	20-Aug		0820a	22-Aug	22-Aug				2-Oct		
R9-12; S9-12; T9-12; U9-12	20-Aug	1.55	0820b	22-Aug	22-Aug				2-Oct		
EE-FF 35	21-Aug	1.52	0821	22-Aug	22-Aug				2-Oct		
Total Acres		212.99									
Average per Day		4.63									
Total Gaps		0.147									

Notes:

- 1. Database contains multiple file types
- * Recollected data from previous data

**SECTION 3
GEOPHYSICAL PROVE-OUT (GPO) QUALITY
CONTROL REPORTS**

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS
Date: 09/04/03

Project: SEDA/ODG
Location i.d.: West GPO
Survey Date: 06/06/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0606.gdb				0606.gdb			
Line #:	L0:0				L9:0			
Min:	-90.36	-14.72	-7.83	-9.89	-77.21	-15.9	-9.24	-10.86
Max:	-86.1	-13.46	-7.19	-9.46	-75.02	-14.77	-8.5	-10.36
Mean:	-87.75	-14.14	-7.54	-9.7	-76.03	-15.24	-8.87	-10.6
Std:	0.49	0.16	0.09	0.07	0.31	0.16	0.1	0.07

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0606.gdb				0606.gdb			
Line #:	L0.1:0				L9.1:0			
Min:	-30.76	-6.22	-5.94	-7.43	-36.9	-11.42	-7.92	-7.93
Max:	-27.81	-4.7	-5.35	-6.84	-34.73	-9.88	-6.87	-7.15
Mean:	-29.55	-5.46	-5.64	-7.07	-35.95	-10.68	-7.35	-7.54
Std:	0.54	0.28	0.1	0.08	0.37	0.23	0.18	0.14

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0606.gdb				0606.gdb			
Line #:	L0.2:0				L9.2:0			
Min:	-117.08	-21.07	-6.73	-7.3	-116.91	-26.64	-10.23	-8.48
Max:	-114.37	-19.27	-5.86	-6.62	-113.99	-25.2	-9.08	-7.9
Mean:	-115.97	-20.37	-6.4	-6.92	-115.21	-25.86	-9.61	-8.15
Std:	0.45	0.26	0.12	0.11	0.41	0.22	0.17	0.1

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS
Date: 09/04/03

Project: SEDA/ODG
Location i.d.: West GPO
Survey Date: 06/06/03

Static Spike Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0606.gdb				0606.gdb			
Line #:		L1:0				L10:0			
Min:		377.14	276.07	145	51.86	367.5	263.83	138.01	48.71
Max:		384.53	281.65	147.94	53.06	371.67	266.15	139.3	49.41
Mean:		379.96	278.02	146.09	52.35	370.03	265	138.68	49.14
Std:		0.93	0.74	0.37	0.15	0.56	0.4	0.22	0.1

Comments: _____

Coil #2

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0606.gdb				0606.gdb			
Line #:		L2.1:0				L11.1:0			
Min:		-47.85	-16.24	-10.71	-9.22	-52.96	-20.49	-12.24	-9.45
Max:		-45.64	-14.98	-9.94	-8.63	-50.83	-19.48	-11.58	-9.12
Mean:		-46.6	-15.6	-10.28	-8.89	-51.8	-19.97	-11.95	-9.27
Std:		0.44	0.22	0.12	0.08	0.34	0.18	0.08	0.06

Comments: _____

Coil #3

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0606.gdb				0606.gdb			
Line #:		L3.2:0				L12.2:0			
Min:		-131.9	-30.83	-11.15	-8.87	-130.9	-34.78	-14.11	-9.98
Max:		-129.7	-29.35	-10.17	-8.08	-128.45	-33.4	-13.25	-9.38
Mean:		-130.82	-30.02	-10.69	-8.47	-129.68	-34	-13.64	-9.67
Std:		0.33	0.22	0.16	0.14	0.39	0.2	0.14	0.1

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS
Date: 09/04/03

Project: SEDA/ODG
Location i.d.: West GPO
Survey Date: 06/06/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0606.gdb				0606.gdb			
Line #:	L4:0				L16:0			
Min:	-87.3	-15.96	-7.97	-10.06				
Max:	-85.37	-14.98	-7.33	-9.6				
Mean:	-86.11	-15.44	-7.63	-9.86				
Std:	0.34	0.17	0.1	0.07				

Comments: No Post Cable Shake Survey Performed

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0606.gdb				0606.gdb			
Line #:	L4.1:0				L16.1:0			
Min:	-36.77	-9.23	-6.7	-7.47				
Max:	-34.75	-7.71	-5.76	-6.79				
Mean:	-35.75	-8.59	-6.25	-7.16				
Std:	0.31	0.25	0.16	0.13				

Comments: No Post Cable Shake Survey Performed

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0606.gdb				0606.gdb			
Line #:	L4.2:0				L16.2:0			
Min:	-120.33	-23.87	-7.54	-7.46				
Max:	-117.84	-22.42	-6.58	-6.38				
Mean:	-119.21	-23.19	-7.1	-7.05				
Std:	0.38	0.21	0.15	0.14				

Comments: No Post Cable Shake Survey Performed

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS Project: SEDA/ODG

Date: 9/4/03 Location i.d.: West GPO
Survey Date: 6/6/03
File name: 0606.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0606AM Latency		0606PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.35	0.10	0.35	0.11
Coil #2	0.35	0.14	0.35	0.16
Coil #3	0.35	0.43	0.35	0.45

Comments: _____

Blind Seeds Detected

Seed ID	
Location	
Easting	
Northing	
Seed Description	
Depth (ft)	
Orientation	

Anomaly ID	
Detected?	
Location	
Easting	
Northing	
Dist. & Orient. from Seed	
Dist. (ft)	
Orientation	

Comments: W-18 and W-19 1.60 feet apart. single target 86 is 0.65 feet from W-18 and 1.92 feet from W-19
W-7, W-13, W-14, W-15, W-25-28, W-30 NO TARGETS WITHIN 2 FEET

Data Sampling

Velocity	
Average (mph)	2.26
Along Track / Across Track Sampling	
*Along Track (ft)	0.27
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	0
Cumulative	0
Total Data Gaps (acres)	
This Data Set	0
Cumulative	0

* metric: <= 0.5 ft
 ** metric: <= 3.0 ft

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0606.gdb
 Leveling Performed: Yes
 Latency Correction Performed: Yes (no visible chevron effects)
 Audit Log File Name: 0606.rtf
 Anomaly Selection Verified on: 100 % of data set

SNR:

Channel Analyzed: sum clipped & Weston Noise
 Clipping Value: - 5/7
 Text Files Attached: Yes
 Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	1.60	2.03
p.m.	NA	NA
Metric:	</= 3.25	</= 2.0

Drift:

% Lowest: 10
 % Highest: 70
 Max Value per Block: 200

Verification of Anomalies:

<u>3</u>	Anomalies <	<u>100</u>
<u>3</u>	Anomalies >	<u>100</u>

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Target ID's < 100 = 108, 91, and 89
Target ID's > 100 = 75, 32, and 8

Comments: Standard Deviation fails to meet DQO metric

Daily DGM QC Audit Form
EM-61 MK2 Data

QC Check by: RSS
Date: 07/25/03

Project: SEDA/ODG
Location i.d.: WGPO
Survey Date: 07/19/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0719.gdb (WGPO)				0719.gdb (WGPO)			
Line #:	L0:0				L8:0			
Min:	-114.15	-18.75	-4.41	-6.31	-117.8	-24.27	-7.16	-6.91
Max:	-111.11	-17	-3.68	-5.67	-114.15	-22.55	-6.19	-6.3
Mean:	-112.61	-17.67	-4.01	-6.03	-115.97	-23.48	-6.74	-6.58
Std:	0.48	0.26	0.12	0.08	0.6	0.25	0.12	0.08

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0719.gdb (WGPO)				0719.gdb (WGPO)			
Line #:	L0.1:0				L8.1:0			
Min:	-136.57	-34.13	-11.87	-10.53	-141.35	-37.66	-13.23	-11.1
Max:	-132.21	-32.19	-10.81	-9.84	-136.95	-35.83	-12.25	-10.36
Mean:	-134.46	-33.11	-11.29	-10.2	-138.86	-36.69	-12.73	-10.76
Std:	0.89	0.35	0.15	0.12	0.7	0.29	0.14	0.12

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0719.gdb (WGPO)				0719.gdb (WGPO)			
Line #:	L0.2:0				L8.2:0			
Min:	-40.92	-13.44	-8.85	-8.35	-50.00	-18.07	-10.40	-8.56
Max:	-37.34	-11.80	-8.12	-7.92	-45.74	-15.89	-9.38	-8.05
Mean:	-38.96	-12.49	-8.48	-8.12	-48.14	-17.18	-9.91	-8.30
Std:	0.86	0.35	0.11	0.07	0.87	0.38	0.13	0.07

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 07/25/03

Project: SEDA/ODG
Location i.d.: WGPO
Survey Date: 07/19/03

Static Spike Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0719.gdb (WGPO)				0719.gdb (WGPO)			
Line #:	L1:0				L9:0			
Min:	356.99	271.74	149.17	56.45	342.80	260.76	144.29	55.24
Max:	364.21	276.68	151.75	57.66	351.01	266.25	147.46	56.77
Mean:	361.26	274.50	150.66	57.12	348.33	264.27	146.45	56.26
Std:	1.11	0.85	0.46	0.19	1.55	1.12	0.63	0.28

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0719.gdb (WGPO)				0719.gdb (WGPO)			
Line #:	L2.1:0				L10.1:0			
Min:	353.21	271.83	151.75	55.40	339.86	263.01	147.79	54.03
Max:	356.86	274.45	153.18	56.23	343.49	265.84	149.71	55.06
Mean:	355.17	273.29	152.57	55.84	341.93	264.72	148.91	54.59
Std:	0.68	0.49	0.29	0.14	0.68	0.52	0.32	0.17

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0719.gdb (WGPO)				0719.gdb (WGPO)			
Line #:	L3.2:0				L11.2:0			
Min:	417.04	273.69	142.61	53.47	405.65	268.03	140.77	53.34
Max:	420.86	275.72	143.65	54.09	409.16	269.94	141.96	53.91
Mean:	418.92	274.67	143.15	53.84	407.40	268.97	141.45	53.63
Std:	0.67	0.41	0.21	0.10	0.62	0.40	0.23	0.11

Comments: _____

Daily DGM QC Audit Form
EM-61 MK2 Data

QC Check by: RSS
Date: 07/25/03

Project: SEDA/ODG
Location i.d.: WGPO
Survey Date: 07/19/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0719.gdb (WGPO)				0719.gdb (WGPO)			
Line #:	L4:0				L12:0			
Min:	-115.19	-19.53	-4.73	-6.30	-118.30	-24.43	-7.27	-7.23
Max:	-112.08	-18.03	-3.90	-5.60	-115.86	-23.32	-6.51	-6.21
Mean:	-113.60	-18.76	-4.39	-5.95	-117.06	-23.91	-6.84	-6.56
Std:	0.57	0.27	0.15	0.11	0.44	0.20	0.13	0.11

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0719.gdb (WGPO)				0719.gdb (WGPO)			
Line #:	L4.1:0				L12.1:0			
Min:	-140.30	-35.60	-12.13	-10.76	-143.36	-38.65	-13.68	-11.13
Max:	-137.08	-34.01	-11.23	-9.84	-141.19	-37.27	-12.30	-10.15
Mean:	-139.02	-34.90	-11.70	-10.32	-142.33	-37.98	-12.98	-10.74
Std:	0.52	0.23	0.15	0.15	0.42	0.22	0.16	0.14

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0719.gdb (WGPO)				0719.gdb (WGPO)			
Line #:	L4.2:0				L12.2:0			
Min:	-45.89	-15.36	-9.28	-8.28	-54.77	-19.75	-10.72	-8.67
Max:	-43.54	-13.92	-8.46	-7.78	-52.87	-18.62	-9.89	-7.79
Mean:	-44.66	-14.68	-8.90	-8.06	-53.80	-19.28	-10.23	-8.21
Std:	0.44	0.28	0.14	0.10	0.30	0.19	0.13	0.11

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS Project: SEDA/ODG

Date: 7/25/03 Location i.d.: WGPO
Survey Date: 7/19/03
File name: 0719.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0719AM Latency		0719PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.5	0.36	0.5	0.24
Coil #2	0.5	0.26	0.5	0.25
Coil #3	0.7	0.22	0.7	0.17

Comments: _____

Blind Seeds Detected

Seed ID		Anomaly ID	
Location		Detected?	
Easting		Location	
Northing		Easting	
Seed Description		Northing	
Depth (ft)		Dist. & Orient. from Seed	
Orientation		Dist. (ft)	
		Orientation	

Comments: Items not detected 12, 25, 26, 27, 28, 29.
 Target detected on the footprint of anomaly 12. 3.6 ft NW.

Data Sampling

Velocity	
Average (mph)	2.38
Along Track / Across Track Sampling	
*Along Track (ft)	0.28
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	0
Cumulative	182.39
Total Data Gaps (acres)	
This Data Set	0
Cumulative	0.10

* metric: </= 0.5 ft
 ** metric: </= 3.0 ft

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0719.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0719.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum_Clippped/Weston_Noise
Clipping Value: - 5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	NA	NA
p.m.	1.74	1.90
Metric:	<=/ 3.25	<=/ 2.0

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

 Anomalies <
 Anomalies >

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: _____

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS
Date: 09/03/03

Project: SEDA/ODG
Location i.d.: West GPO
Survey Date: 08/19/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0819.gdb				0819.gdb			
Line #:	L0:0				L12:0			
Min:	-120.72	-31.06	-12.07	-9.13	-134.96	-43.27	-14.94	-9.06
Max:	-113.94	-28.78	-11.03	-8.6	-131.05	-41.35	-14.14	-8.44
Mean:	-116.44	-29.83	-11.48	-8.88	-132.93	-42.27	-14.49	-8.7
Std:	0.98	0.35	0.14	0.08	0.59	0.26	0.12	0.08

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0819.gdb				0819.gdb			
Line #:	L0.1:0				L12.1:0			
Min:	-166.27	-43.93	-14.09	-11.04	-178.96	-58.74	-19.77	-11.49
Max:	-157.81	-40.67	-12.71	-10.25	-174.13	-56.44	-18.67	-10.48
Mean:	-162.5	-42.48	-13.46	-10.63	-176.53	-57.71	-19.2	-10.98
Std:	1.4	0.52	0.2	0.13	0.9	0.38	0.15	0.16

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0819.gdb				0819.gdb			
Line #:	L0.2:0				L12.2:0			
Min:	-96.94	-17.31	-4.27	-5.83	-170.52	-57.87	-19.5	-10.74
Max:	-92.14	-13.26	-1.97	-3.53	-165.17	-55.41	-18.55	-9.95
Mean:	-94.55	-14.91	-3.01	-4.67	-168.06	-56.63	-19.01	-10.35
Std:	0.77	0.7	0.47	0.6	1.16	0.43	0.15	0.12

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS
Date: 09/03/03

Project: SEDA/ODG
Location i.d.: West GPO
Survey Date: 08/19/03

Static SpikeTest

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name:		0819.gdb				0819.gdb			
Line #:		L1:0				L13:0			
Min:		333.26	252.54	137.72	51.69	276.01	213.62	120.35	45.85
Max:		342.08	258.97	141.12	53.26	280.02	216.8	122.13	46.76
Mean:		336.78	255.16	139.16	52.41	278.14	215.6	121.38	46.44
Std:		1.52	1.12	0.59	0.24	0.79	0.59	0.33	0.16

Comments: _____

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name:		0819.gdb				0819.gdb			
Line #:		L2.1:0				L14.1:0			
Min:		317.02	254.31	141.36	51.59	284.31	230.69	132.82	50.95
Max:		321.72	258.07	142.89	52.48	288.4	233.68	134.62	51.91
Mean:		319.54	256.01	142.2	52.01	286.42	232.3	133.75	51.44
Std:		0.91	0.65	0.35	0.15	0.8	0.62	0.36	0.18

Comments: _____

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name:		0819.gdb				0819.gdb			
Line #:		L3.2:0				L15.2:0			
Min:		364.4	269.46	146.52	53.61	270.02	217.69	126.96	47.63
Max:		372.87	274.69	149.97	56.11	273.04	219.66	128.19	48.55
Mean:		368.59	271.84	148.47	55	271.78	218.71	127.58	48.05
Std:		1.51	0.96	0.59	0.66	0.52	0.38	0.23	0.14

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS
Date: 09/03/03

Project: SEDA/ODG
Location i.d.: West GPO
Survey Date: 08/19/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0819.gdb				0819.gdb			
Line #:	L4:0				L16:0			
Min:	-113.01	-29.7	-11.88	-9.2	-135.36	-42.91	-14.77	-8.87
Max:	-108.34	-28.04	-10.72	-8.44	-132.86	-41.83	-14.04	-8.29
Mean:	-110.92	-28.86	-11.16	-8.78	-134.28	-42.35	-14.39	-8.58
Std:	1.06	0.33	0.14	0.1	0.46	0.2	0.12	0.1

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0819.gdb				0819.gdb			
Line #:	L4.1:0				L16.1:0			
Min:	-161.56	-43.48	-13.98	-11.09	-181.85	-59.85	-19.99	-11.43
Max:	-157.46	-41.7	-12.95	-10.05	-178.18	-57.96	-19.03	-10.56
Mean:	-159.86	-42.63	-13.48	-10.56	-179.92	-58.91	-19.55	-10.94
Std:	0.69	0.32	0.21	0.21	0.57	0.3	0.17	0.17

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0819.gdb				0819.gdb			
Line #:	L4.2:0				L16.2:0			
Min:	-99.92	-18.09	-4.54	-5.62	-175.66	-59.88	-20.13	-10.95
Max:	-95.72	-15.76	-2.21	-3.88	-173.2	-58.37	-19.09	-9.97
Mean:	-98.06	-17.06	-3.44	-4.57	-174.71	-59.23	-19.62	-10.45
Std:	0.69	0.46	0.51	0.4	0.44	0.26	0.17	0.15

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0819.gdb
Leveling Performed: Yes
Latency Correction Performed: Yes (no visible chevron effects)
Audit Log File Name: 0819.rtf
Anomaly Selection Verified on: 100.00% % of data set

SNR:

Channel Analyzed: sum_clipped & Weston_Noise
Clipping Value: - 5/7
Text Files Attached: Yes
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)	
a.m.	<u>2.25</u>	<u>2.54</u>	Line 7
p.m.	<u>2.10</u>	<u>2.60</u>	Lines 8-10
Metric:	<u></= 3.25</u>	<u></= 2.35 *</u>	

* Revised DQO metric for new array based on GPO data collected 8/19 and 8/20

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Target ID's > 100 = 834, 851, and 655
Target ID's < 100 = 903, 84, and 101

Comments:

SNR Std Dev exceeds DQO metric

Daily DGM QC Audit Form
EM-61 MK2 Data

QC Check by: MDS
Date: 10/10/03

Project: SEDA/ODG
Location i.d. GPO
Survey Date 08/20/03

Static Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0820.gdb				0820b.gdb			
Line #:		L0:0				L4:0			
Min:		-141.25	-36.84	-13.52	-9.28	-141.91	-46.04	-17.18	-9.65
Max:		-133.62	-34.18	-12.37	-8.63	-133.92	-42.72	-15.96	-8.95
Mean:		-137.35	-35.42	-12.93	-8.95	-138.06	-44.72	-16.48	-9.33
Std:		1.34	0.46	0.17	0.1	1.01	0.39	0.17	0.11

Comments: _____

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0820.gdb				0820b.gdb			
Line #:		L0.1:0				L4.1:0			
Min:		-177.51	-44.81	-14.07	-10.94	-193.16	-62	-20.93	-11.76
Max:		-170.36	-42.02	-12.85	-10.29	-186.9	-58.22	-19.6	-10.88
Mean:		-174.07	-43.42	-13.45	-10.6	-189.89	-60.56	-20.15	-11.37
Std:		1.43	0.6	0.19	0.11	1.19	0.5	0.18	0.12

Comments: _____

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0820.gdb				0820b.gdb			
Line #:		L0.2:0							
Min:		-129.07	-34.26	-12.28	-8.3				
Max:		-124.11	-31.65	-10.97	-7.27				
Mean:		-126.87	-32.97	-11.61	-7.77				
Std:		0.84	0.42	0.2	0.16				

Comments: No data collected for Coil #3 in PM. Broken equipment

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS
Date: 10/10/03

Project: SEDA/ODG
Location i.d. GPO
Survey Date 08/20/03

Static Spike Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0820.gdb				0820b.gdb			
Line #:		L1:0				L5:0			
Min:		326.81	254.99	140.13	53.62	270.54	215.98	119.98	45.29
Max:		336.89	262.48	144.19	55.28	291.49	224.41	124.48	47.52
Mean:		332.93	259.18	142.44	54.55	284.2	220.19	122.29	46.4
Std:		1.86	1.34	0.76	0.32	3.43	1.7	1.04	0.51

Comments: Large drift observed in channel 1 post survey of approx 20 mV

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0820.gdb				0820b.gdb			
Line #:		L2.1:0				L6.1:0			
Min:		315.7	259.19	144.43	53.5	250.37	216.2	124.52	47.05
Max:		323.19	263.91	146.97	54.52	268.3	224.68	128.21	48.15
Mean:		319.12	261.36	145.7	53.98	260.05	220.31	126.71	47.63
Std:		1.47	0.92	0.49	0.19	3.47	1.32	0.58	0.22

Comments: Large drift observed in channel 1 post survey of approx 18 mV

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0820.gdb				0820b.gdb			
Line #:		L3.2:0							
Min:		352.95	263.31	144.4	53.84				
Max:		358.49	266.92	146.51	55.39				
Mean:		355.37	264.99	145.35	54.63				
Std:		0.83	0.6	0.39	0.33				

Comments: No data collected for Coil #3 in PM. Broken equipment

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS
Date: 10/10/03

Project: SEDA/ODG
Location i.d. GPO
Survey Date 08/20/03

Cable Shake Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name		0820.gdb				0820b.gdb			
Line #:		L4:0				L7:0			
Min:		-135.35	-35.05	-13.24	-9.7	-148.82	-45.96	-17.31	-9.9
Max:		-129.92	-32.85	-11.65	-8.18	-136.75	-43.23	-15.74	-8.78
Mean:		-133.2	-34.15	-12.43	-8.82	-140.81	-44.86	-16.44	-9.36
Std:		0.95	0.37	0.27	0.25	2.04	0.55	0.24	0.17

Comments: Drift of 12 mV observed in Channel 1 post survey.

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name		0820.gdb				0820b.gdb			
Line #:		L4.1:0				L7.1:0			
Min:		-176.16	-45.12	-14.2	-11.03	-201.72	-63.49	-20.9	-11.69
Max:		-170.13	-42.8	-13.06	-10.17	-191.5	-60.18	-19.52	-10.97
Mean:		-173.48	-44.02	-13.62	-10.63	-195.13	-61.92	-20.29	-11.34
Std:		1.25	0.44	0.19	0.16	1.65	0.48	0.22	0.14

Comments: _____

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name		0820.gdb				0820b.gdb			
Line #:		L4.2:0							
Min:		-129.83	-34.93	-12.47	-8.33				
Max:		-126.06	-32.54	-11.31	-7.19				
Mean:		-127.77	-33.68	-11.92	-7.77				
Std:		0.72	0.43	0.23	0.18				

Comments: No data collected for Coil #3 in PM. Broken equipment

NAVIGATION FUNCTION CHECKS

QC Check

by: MDS
Date: 10/10/03

Project: SEDA/ODG
Location i.d.: GPO
Survey Date: 8/20/03
File name: 0820.gdb & 0820b.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0820AM Latency		0820PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.5	0.20	0.4	0.55
Coil #2	0.5	0.18	0.4	0.53
Coil #3	0.5	0.24	NA	NA

Comments: Coil # 3 Broken no Data for coil 3 recorded

Blind Seeds Detected

Seed ID	
Location	
Easting	
Northing	
Seed Description	
Depth (ft)	
Orientation	

Anomaly ID	
Detected?	
Location	
Easting	
Northing	
Dist. & Orient. from Seed	
Dist. (ft)	
Orientation	

Comments: W-20 = 2.15' E, W-12 = No Target, W-9A & W-9B = Split by one target
W-13 = 3.1' ENE, W-25 = 3.5' W, W-26 = No Target, W-27 = No Target
W-28 = No Target, W-29 = No Target, W-30 = 2.45' W.
All other seeds have targets within DQO metric

Data Sampling

Velocity	
Average (mph)	1.94
Along Track / Across Track Sampling	
*Along Track (ft)	0.23
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	0
Cumulative	211.58
Total Data Gaps (acres)	
This Data Set	0
Cumulative	0.129

* metric: \leq 0.5 ft
** metric: \leq 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0820.gdb & 0820b.gdb
Leveling Performed: Yes
Latency Correction Performed: Yes (no visible chevron effects)
Audit Log File Name: 0820.gdb & 0820b.rtf
Anomaly Selection Verified on: 100.00% % of data set

SNR:

Channel Analyzed: sum_clipped & Weston_Noise
Clipping Value: - 5/7
Text Files Attached: Yes
Mean / Std.Dev.:

	<u>Mean (mV)</u>	<u>Std.Dev. (mV)</u>
a.m.	<u>2.65</u>	<u>2.19</u>
p.m.	<u>NA</u>	<u>NA</u>
Metric:	<u></= 3.25</u>	<u></= 2.35 *</u>

* Revised DQO metric for new array based on GPO data collected 8/19 and 8/20

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Target ID's > 100 = 57, 11, and 39
Target ID's < 100 = 20, 116, and 121

Comments:

GPO Data Fails to meet SNR DQO. Root cause analysis performed
DATE: 18 September 2003 suggesting SNR standard Deviation be increased
to 2.35 mV

SECTION 4
DIGITAL GEOPHYSICAL MAPPING (DGM) QUALITY
CONTROL REPORTS

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 06/24/2003

Project: SEDA/ODG
Location i.d.: M24-32
Survey Date: 06/09/2003

Static Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0609a				0609b			
Line #:		L0:0				L3:0			
Min:		-107.62	-19.54	-8.36	-9.86	-85.99	-16.27	-9.22	-10.89
Max:		-102.71	-16.75	-7.16	-9.40	-81.73	-13.47	-7.78	-10.05
Mean:		-105.44	-18.13	-7.81	-9.65	-83.65	-15.03	-8.37	-10.50
Std:		0.65	0.31	0.16	0.08	0.64	0.38	0.20	0.11

Comments: _____

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0609a				0609b			
Line #:		L0.2:0				L3.2:0			
Min:		-123.57	-21.68	-6.03	-7.16	-110.59	-21.61	-8.15	-9.04
Max:		-119.72	-19.27	-5.16	-6.48	-107.60	-19.93	-7.05	-8.03
Mean:		-122.03	-20.71	-5.60	-6.79	-109.03	-20.73	-7.60	-8.55
Std:		0.48	0.23	0.13	0.11	0.47	0.26	0.18	0.15

Comments: _____

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0609a				0609b			
Line #:		L0.1:0				L3.1:0			
Min:		-28.61	-4.13	-4.87	-7.08	-24.72	-4.87	-5.84	-7.57
Max:		-25.82	-2.47	-4.22	-6.60	-22.15	-3.72	-5.15	-6.96
Mean:		-27.12	-3.16	-4.55	-6.88	-23.39	-4.25	-5.47	-7.33
Std:		0.51	0.24	0.09	0.07	0.29	0.17	0.11	0.11

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 06/24/2003

Project: SEDA/ODG
Location i.d.: M24-32
Survey Date: 06/09/2003

Static Spike Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name:	0609a				0609b			
Line #:	L1:0				L4:0			
Min:	355.55	268.55	142.67	50.62	366.12	266.19	139.47	49.14
Max:	362.22	272.84	143.95	51.38	374.76	273.41	142.92	50.70
Mean:	358.87	270.88	143.31	51.09	369.87	269.19	140.92	49.84
Std:	0.93	0.62	0.30	0.13	1.20	0.85	0.45	0.18

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name:	0609a				0609b			
Line #:	L2.2:0				L5.2:0			
Min:	388.23	294.31	161.24	59.64	387.71	287.55	155.83	56.51
Max:	393.93	298.44	163.45	60.67	392.04	290.19	157.61	57.51
Mean:	391.07	296.47	162.20	60.17	390.01	288.98	156.61	57.07
Std:	0.83	0.56	0.30	0.15	0.67	0.46	0.26	0.14

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name:	0609a				0609b			
Line #:	L3.1:0				L6.1:0			
Min:	457.65	297.69	152.87	56.73	-24.46	-5.27	-6.12	-7.96
Max:	464.70	302.43	154.97	57.65	-22.06	-3.06	-4.39	-6.23
Mean:	461.30	300.15	153.96	57.16	-23.15	-4.12	-5.32	-7.14
Std:	0.96	0.59	0.31	0.13	0.42	0.36	0.29	0.28

Comments: No spike item placed on array for Post Survey

Daily DGM QC Audit Form
EM-61 MK2 Data

QC Check by: JAW
Date: 06/24/2003

Project: SEDA/ODG
Location i.d.: M24-32
Survey Date: 06/09/2003

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name:	0609a				0609b			
Line #:	L4:0				L7:0			
Min:	-105.20	-19.41	-8.50	-10.19	-86.01	-16.27	-9.60	-11.58
Max:	-102.31	-17.56	-7.27	-9.06	-82.71	-13.51	-6.86	-8.88
Mean:	-103.64	-18.29	-7.93	-9.75	-84.44	-15.11	-8.32	-10.45
Std:	0.64	0.30	0.17	0.15	0.61	0.40	0.33	0.31

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name:	0609a				0609b			
Line #:	L4.2:0				L7.2:0			
Min:	-123.15	-22.19	-6.53	-7.28	-110.47	-21.74	-8.45	-9.25
Max:	-120.78	-20.94	-5.56	-6.50	-107.55	-19.81	-6.96	-8.04
Mean:	-121.77	-21.51	-6.00	-6.92	-108.61	-20.55	-7.53	-8.65
Std:	0.40	0.21	0.17	0.15	0.48	0.29	0.24	0.19

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name:	0609a				0609b			
Line #:	L4.1:0				L7.1:0			
Min:	-28.98	-4.34	-4.80	-7.12	-23.86	-4.89	-5.94	-7.67
Max:	-27.51	-2.96	-3.87	-6.17	-21.79	-2.88	-3.55	-5.85
Mean:	-28.18	-3.79	-4.55	-6.86	-23.00	-3.99	-5.16	-7.05
Std:	0.27	0.21	0.15	0.13	0.33	0.29	0.31	0.21

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check by: JAW Project: SEDA/ODG
 Date: 06/24/03 Location i.d.: M24-32
 Survey Date: 06/09/03
 File name: 0609.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.35	0.45	0.35	0.55
Coil #2	0.35	0.44	0.35	0.58
Coil #3	0.35	0.40	0.35	0.60

Comments: _____

Blind Seeds Detected

Seed ID		Anomaly ID	
Weston 1		N22-0004	
Location		Detected?	Yes
Easting	737198.90	Location	
Northing	1013659.14	Easting	737198.90
Seed Description		Northing	1013658.50
Depth (ft)	0.00	Dist. & Orient. from Seed	
Orientation	Horizontal	Dist. (ft)	0.90
		Orientation	SW

Comments: Weston 2 detected 0.8 ft, SW
Weston 3 detected .8 ft, SW

Data Sampling

Velocity	
Average (mph)	1.74
Along Track / Across Track Sampling	
*Along Track (ft)	0.27
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	7.15
Cumulative	12.75
Total Data Gaps (acres)	
This Data Set	0.003
Cumulative	0.003

* metric: <= 0.5 ft
 ** metric: <= 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0609.gdb
Leveling Performed: Yes
Latency Correction Performed: Yes (no visible chevron effects)
Audit Log File Name: 0609.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: sum clipped & Weston_Noise
Clipping Value: - 5/7
Text Files Attached: Yes
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>1.44</u>	<u>2.35</u>
p.m.	<u>1.23</u>	<u>2.68</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Anomaly ID's > 100 Verified for M22-0024, O21-0042, N24-0051
Anomaly ID's < 100 Verified for M21-0053, P21-0056, and N24-004

Comments:

SNR levels exceed the DQO metric. This was observed in data
sets conducted in high density target areas. A root cause analyses was
performed. Results substantiate that std dev for SNR was higher in high
density (cluttered) target areas.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 06/25/03

Project: SEDA/ODG
Location i.d.: M24-32, M-P 21, M-O 24
Survey Date: 06/10/03

Static Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name:		0610a.gdb				0610b.gdb			
Line #:		L0:0				L12:0			
Min:		-94.55	-14.74	-6.7	-8.96	-72.66	-14.6	-9.01	-10.54
Max:		-88.02	-12.52	-5.86	-8.43	-68.35	-12.26	-8.07	-9.87
Mean:		-91.14	-13.66	-6.3	-8.66	-70.49	-13.41	-8.48	-10.19
Std:		0.77	0.38	0.12	0.08	0.64	0.29	0.13	0.09

Comments: _____

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name:		0610a.gdb				0610b.gdb			
Line #:		L0.2:0				L12.2:0			
Min:		-124.12	-22.28	-6.62	-7.46	-128.98	-30.78	-11.08	-10.3
Max:		-119.1	-20.09	-5.78	-6.81	-125.63	-28.64	-9.72	-9.28
Mean:		-122.15	-21.18	-6.17	-7.14	-127.32	-29.66	-10.44	-9.77
Std:		0.76	0.29	0.11	0.1	0.44	0.29	0.19	0.15

Comments: _____

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name:		0610a.gdb				0610b.gdb			
Line #:		L0.1:0				L4.1:0			
Min:		-28.17	-3.56	-4.49	-7.01	-28.47	-8.96	-7.6	-8.07
Max:		-24.96	-2.28	-3.9	-6.54	-25.84	-7.22	-6.7	-7.48
Mean:		-27.26	-2.94	-4.25	-6.77	-27.22	-8.02	-7.12	-7.71
Std:		0.29	0.17	0.09	0.07	0.4	0.24	0.14	0.08

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 06/25/03

Project: SEDA/ODG
Location i.d.: M24-32, M-P 21, M-O 24
Survey Date: 06/10/03

Static Spike Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0610a.gdb				0610b.gdb			
Line #:		L1:0				L5:0			
Min:		375.77	276.62	145	51.79	373.66	265.82	138.22	48.67
Max:		382.91	280.97	147.41	52.72	380.9	269.91	140.38	49.59
Mean:		379.6	279.04	146.42	52.28	377.23	268.17	139.47	49.2
Std:		1.17	0.81	0.41	0.17	1.11	0.75	0.38	0.15

Comments: _____

Coil #2

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0610a.gdb				0610b.gdb			
Line #:		L2.2:0				L6.2:0			
Min:		391.83	294.63	159.93	59.36	396.99	296.69	162.97	59.42
Max:		399.3	300.68	163.74	61.1	401.37	300.07	164.72	60.39
Mean:		395.55	297.12	161.82	60.07	399.15	298.18	163.83	59.95
Std:		0.89	0.67	0.4	0.25	0.79	0.58	0.32	0.17

Comments: _____

Coil #3

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0610a.gdb				0610b.gdb			
Line #:		L3.1:0				L7.1:0			
Min:		464.64	301.15	154.37	57.36	440.58	283.39	145.48	54.08
Max:		470.09	304.45	156.18	58.18	444.76	285.9	146.86	54.78
Mean:		467.68	303.08	155.33	57.8	442.87	284.8	146.22	54.44
Std:		1.09	0.68	0.36	0.14	0.85	0.54	0.28	0.11

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 06/25/03

Project: SEDA/ODG
Location i.d.: M24-32, M-P 21, M-O 24
Survey Date: 06/10/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0610a.gdb				0610b.gdb			
Line #:	L4:0				L8:0			
Min:	-91.51	-15.25	-6.93	-9.13	-72.42	-14.3	-8.81	-10.54
Max:	-88.19	-13.27	-6.28	-8.42	-69.4	-12.17	-7.51	-9.48
Mean:	-89.71	-14.17	-6.56	-8.83	-71.15	-13.29	-8.41	-10.17
Std:	0.6	0.36	0.14	0.1	0.53	0.31	0.18	0.18

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0610a.gdb				0610b.gdb			
Line #:	L4.2:0				L8.2:0			
Min:	-118.37	-21.47	-6.69	-7.25	-128.33	-29.71	-10.44	-10.1
Max:	-115.91	-20.16	-6	-6.75	-125.11	-28.01	-9.39	-9.2
Mean:	-117.42	-20.89	-6.32	-7.04	-127.1	-28.83	-9.93	-9.68
Std:	0.41	0.22	0.14	0.1	0.52	0.31	0.19	0.16

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0610a.gdb				0610b.gdb			
Line #:	L4.1:0				L8.1:0			
Min:	-27.52	-4.03	-4.86	-7.04	-26.53	-7.61	-7.03	-7.9
Max:	-25.98	-3.11	-4.22	-6.52	-24.8	-6.52	-6.13	-7.03
Mean:	-26.76	-3.69	-4.58	-6.8	-25.86	-7.14	-6.79	-7.67
Std:	0.29	0.17	0.11	0.08	0.27	0.18	0.13	0.11

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check
by: JAW

Project: SEDA/ODG
M20-P20; M23-O23, M17-
M19, N17-N19, O17-O19; P17-
P19
 Location i.d.: P19
 Survey Date: 06/10/03
 File name: 0610a.gdb & 0610B.gdb

Date: 06/25/03

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0610AM Latency		0610PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.41	0.03	0.41	0.05
Coil #2	0.41	0.12	0.41	0.01
Coil #3	0.41	0.31	0.41	0.13

Comments: _____

Blind Seeds Detected

Seed ID	
Weston 4	
Location	
Easting	737186.99
Northing	1012065.87
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
N17-0038	
Detected?	Yes
Location	
Easting	737187.80
Northing	1012067.00
Dist. & Orient. from Seed	
Dist. (ft)	1.45
Orientation	NE

Comments: _____

Data Sampling

Velocity	
Average (mph)	1.92
Along Track / Across Track Sampling	
*Along Track (ft)	0.27
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	6.5
Cumulative	19.25
Total Data Gaps (acres)	
This Data Set	0.0002
Cumulative	0.0032

* metric: <= 0.5 ft
 ** metric: <= 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0610a.gdb & 0610b.gdb
Leveling Performed: Yes
Latency Correction Performed: Yes (no visible chevron effects)
Audit Log File Name: 0610a.rtf & 0610b.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum Clipped & Weston_Noise
Clipping Value: - 5/7
Text Files Attached: Yes
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>1.60</u>	<u>2.72</u>
p.m.	<u>1.71</u>	<u>2.58</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Target ID's >100 2332, 2309, and 1803
Target ID's < 100 1965, 1954, and 4

Comments:

SNR levels exceed the DQO metric. This was observed in earlier data sets conducted in high density target areas. A root cause analyses was performed. Results substantiate that std dev for SNR was higher in high density (cluttered) target areas.

Daily DGM QC Audit Form
EM-61 MK2 Data

QC Check by: JAW
 Date: 06/25/2003

Project: SEDA/ODG
 Location i.d.: Q-S 32; P25-32
 Survey Date: 06/11/2003

Static Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name		0611a.gdb				0611b.gdb			
Line #:		L0:0				L3:0			
Min:		-95.98	-17.76	-9.12	-11.26	-82.19	-18.74	-11.06	-12.55
Max:		-89.18	-14.70	-8.05	-10.65	-78.15	-16.02	-9.96	-11.74
Mean:		-92.38	-16.13	-8.58	-10.94	-80.14	-17.51	-10.52	-12.15
Std:		1.07	0.46	0.16	0.10	0.59	0.36	0.18	0.11

Comments: _____

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name		0611a.gdb				0611b.gdb			
Line #:		L0.2:0				L3.2:0			
Min:		-139.96	-29.18	-10.13	-10.73	-131.93	-31.64	-12.42	-12.90
Max:		-133.53	-26.18	-9.03	-9.94	-128.47	-30.14	-11.48	-12.28
Mean:		-137.13	-27.83	-9.57	-10.32	-130.44	-30.86	-12.02	-12.58
Std:		0.87	0.41	0.17	0.14	0.50	0.22	0.15	0.10

Comments: _____

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name		0611a.gdb				0611b.gdb			
Line #:		L0.1:0				L3.1:0			
Min:		-31.89	-8.62	-8.81	-10.57	-35.70	-12.57	-10.64	-11.22
Max:		-28.29	-6.56	-7.85	-9.88	-33.04	-11.37	-10.00	-10.77
Mean:		-29.96	-7.54	-8.36	-10.24	-33.97	-11.97	-10.29	-11.00
Std:		0.68	0.35	0.15	0.10	0.35	0.18	0.10	0.07

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 06/25/2003

Project: SEDA/ODG
Location i.d.: Q-S 32; P25-32
Survey Date: 06/11/2003

Static SpikeTest

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0611a.gdb				0611b.gdb			
Line #:	L1:0				L4:0			
Min:	369.79	273.11	143.92	51.37	367.27	264.42	138.59	48.98
Max:	376.44	277.35	145.82	52.23	373.72	268.48	140.81	50.02
Mean:	373.23	275.24	144.86	51.83	370.79	266.70	139.88	49.56
Std:	1.21	0.78	0.40	0.16	1.18	0.80	0.42	0.17

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0611a.gdb				0611b.gdb			
Line #:	L2.2:0				L5.2:0			
Min:	346.49	271.75	150.24	55.39	344.47	265.19	146.74	52.96
Max:	351.94	276.10	152.67	56.43	348.56	268.87	148.83	54.07
Mean:	349.28	274.13	151.49	55.89	346.49	266.99	147.88	53.47
Std:	0.80	0.59	0.33	0.17	0.69	0.54	0.31	0.18

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0611a.gdb				0611b.gdb			
Line #:	L3.1:0				L6.1:0			
Min:	468.00	302.49	154.94	57.72	432.32	280.95	145.63	54.36
Max:	473.80	306.60	156.80	58.67	437.15	283.83	146.86	55.07
Mean:	470.80	304.24	155.87	58.19	435.13	282.62	146.30	54.73
Std:	0.99	0.63	0.31	0.13	0.80	0.51	0.26	0.12

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 06/25/2003

Project: SEDA/ODG
Location i.d.: Q-S 32; P25-32
Survey Date: 06/11/2003

Cable Shake Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0611a.gdb				0611b.gdb			
Line #:		L4:0				L7:0			
Min:		-92.85	-17.44	-9.18	-11.56	-81.02	-18.37	-11.20	-12.93
Max:		-88.24	-15.40	-8.14	-10.47	-78.13	-16.77	-9.97	-11.49
Mean:		-90.81	-16.24	-8.76	-11.11	-79.63	-17.51	-10.56	-12.13
Std:		0.86	0.36	0.19	0.17	0.55	0.28	0.23	0.21

Comments: _____

Coil #2

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0611a.gdb				0611b.gdb			
Line #:		L4.2:0				L7.2:0			
Min:		-137.61	-28.69	-10.48	-11.26	-132.62	-32.02	-12.73	-13.03
Max:		-134.41	-26.60	-9.13	-9.71	-130.31	-30.88	-11.81	-12.33
Mean:		-136.03	-27.70	-9.79	-10.50	-131.43	-31.40	-12.26	-12.65
Std:		0.60	0.39	0.34	0.33	0.47	0.25	0.18	0.14

Comments: _____

Coil #3

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0611a.gdb				0611b.gdb			
Line #:		L4.1:0				L7.1:0			
Min:		-30.31	-7.92	-8.84	-10.71	-36.90	-13.17	-10.83	-11.51
Max:		-28.36	-6.95	-8.07	-10.02	-34.92	-11.88	-9.83	-10.51
Mean:		-29.36	-7.45	-8.38	-10.34	-35.92	-12.61	-10.37	-10.98
Std:		0.39	0.22	0.13	0.11	0.42	0.25	0.17	0.15

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check
by: JAW

Project: SEDA/ODG

Date: 06/25/03

Location i.d.: Q-S 32; P25-32

Survey Date: 06/11/03

File name: 0611a.gdb, 0611b.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0611AM Latency		0611PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.45	0.39	0.45	0.31
Coil #2	0.45	0.22	0.45	0.24
Coil #3	0.45	0.15	0.45	0.18

Comments: _____

Blind Seeds Detected

Seed ID	
No Weston Seeds	
Location	
Easting	NA
Northing	NA
Seed Description	
Depth (ft)	NA
Orientation	NA

Anomaly ID	
NA	
Detected?	NA
Location	
Easting	NA
Northing	NA
Dist. & Orient. from Seed	
Dist. (ft)	NA
Orientation	NA

Comments: No Weston Seeds in survey areas

Data Sampling

Velocity	
Average (mph)	1.85
Along Track / Across Track Sampling	
* Along Track (ft)	0.26
** Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	1.27
Cumulative	20.52
Total Data Gaps (acres)	
This Data Set	0.003
Cumulative	0.006

* metric: $\leq 0.5\text{ ft}$
 ** metric: $\leq 3.0\text{ ft}$

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0611a.gdb & 0611b.gdb
Leveling Performed: Yes
Latency Correction Performed: Yes (no visible chevron effects)
Audit Log File Name: N/A
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: sum_clipped & Weston_Noise
Clipping Value: -5/7
Text Files Attached: Yes
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>1.47</u>	<u>2.66</u>
p.m.	<u>1.48</u>	<u>2.70</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Target ID's > 100 277, 267, and 699
Target ID's < 100 710, 911, and 807

Comments: SNR levels exceed the DQO metric. This was observed in earlier data sets conducted in high density target areas. A root cause analyses was performed. Results substantiate that std dev for SNR was higher in high density (cluttered) target areas.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW

Project: SEDA/ODG

Date: 06/25/2003

32; Q29-31;

R29-21; S30-

Location i.d.: 31; T30-32

Survey Date: 06/12/2003

Static Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0612a.gdb				0612b.gdb			
Line #:		L0:0				L10:0			
Min:		-92.99	-16.42	-8.19	-10.50	-134.84	-33.81	-13.87	-12.17
Max:		-89.29	-13.40	-7.03	-9.88	-122.99	-28.23	-11.40	-11.29
Mean:		-91.09	-15.05	-7.68	-10.17	-127.19	-29.89	-12.32	-11.67
Std:		0.51	0.39	0.16	0.10	1.89	0.92	0.35	0.13

Comments: _____

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0612a.gdb				0612b.gdb			
Line #:		L0.2:0				L10.2:0			
Min:		-134.09	-25.05	-6.82	-7.78	-151.12	-32.63	-9.20	-9.49
Max:		-131.16	-22.89	-5.77	-6.99	-147.41	-30.97	-8.19	-8.86
Mean:		-132.68	-24.03	-6.31	-7.41	-148.99	-31.85	-8.68	-9.19
Std:		0.45	0.25	0.16	0.12	0.49	0.22	0.14	0.10

Comments: _____

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0612a.gdb				0612b.gdb			
Line #:		L0.1:0				L10.1:0			
Min:		-31.28	-4.90	-5.09	-7.22	-56.92	-16.93	-9.42	-8.46
Max:		-28.84	-3.60	-4.42	-6.75	-52.39	-15.23	-8.52	-7.94
Mean:		-29.89	-4.28	-4.78	-6.98	-54.20	-16.15	-8.92	-8.17
Std:		0.30	0.19	0.09	0.07	0.47	0.25	0.11	0.08

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW

Project: SEDA/ODG

32; Q29-31;
R29-21; S30-

Date: 06/25/2003

Location i.d.: 31; T30-32

Survey Date: 06/12/2003

Static Spike Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0612a.gdb				0612b.gdb			
Line #:	L1:0				L11:0			
Min:	374.51	275.78	144.85	51.57	260.97	213.83	115.85	40.13
Max:	381.05	280.94	147.42	52.46	269.35	218.47	118.02	40.98
Mean:	378.21	278.33	146.23	52.04	265.64	216.56	117.22	40.62
Std:	1.10	0.78	0.41	0.16	1.30	0.72	0.33	0.13

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0612a.gdb				0612b.gdb			
Line #:	L2.2:0				L12.2:0			
Min:	380.66	293.49	161.45	59.46	348.49	276.37	154.90	55.82
Max:	386.98	297.36	163.68	60.46	353.74	280.80	157.25	57.07
Mean:	383.70	295.36	162.59	59.98	351.26	278.87	156.11	56.54
Std:	0.79	0.55	0.31	0.17	0.84	0.66	0.37	0.20

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0612a.gdb				0612b.gdb			
Line #:	L3.1:0				L13.1:0			
Min:	459.43	299.89	154.56	57.57	413.63	275.62	144.09	53.91
Max:	463.76	302.71	156.14	58.32	416.87	277.67	145.29	54.38
Mean:	461.64	301.29	155.30	57.97	415.06	276.53	144.72	54.16
Std:	0.91	0.60	0.31	0.13	0.69	0.43	0.23	0.09

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW

Project: SEDA/ODG

Date: 06/25/2003

32; Q29-31;

R29-21; S30-

Location i.d.: 31; T30-32

Survey Date: 06/12/2003

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0612a.gdb				0612b.gdb			
Line #:	L4:0							
Min:	-91.25	-15.88	-8.14	-10.56				
Max:	-88.32	-14.36	-7.38	-10.02				
Mean:	-89.94	-15.07	-7.88	-10.30				
Std:	0.56	0.32	0.14	0.09				

Comments: No Post Survey conducted

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0612a.gdb				0612b.gdb			
Line #:	L4.2:0							
Min:	-133.42	-24.82	-6.77	-7.90				
Max:	-131.01	-23.50	-6.07	-7.31				
Mean:	-132.24	-24.16	-6.48	-7.61				
Std:	0.47	0.24	0.14	0.13				

Comments: No Post Survey conducted

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0612a				0612b.gdb			
Line #:	L4.1:0							
Min:	-31.14	-4.91	-4.93	-7.16				
Max:	-29.79	-4.06	-4.53	-6.78				
Mean:	-30.35	-4.52	-4.74	-6.98				
Std:	0.30	0.18	0.09	0.07				

Comments: No Post Survey Cable Shake Conducted

NAVIGATION FUNCTION CHECKS

QC Check
by: JAW

Project: SEDA/ODG

Date: 07/02/03

Location i.d.: Q-S 32, P25-32
 Survey Date: 06/12/03
0612a.gdb &
 File name: 0612b.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.41	0.74	0.41	0.28
Coil #2	0.41	0.58	0.41	0.10
Coil #3	0.41	0.25	0.41	0.38

Comments: _____

Blind Seeds Detected

Seed ID	
Weston Seed 5	
Location	
Easting	737835.49
Northing	1013850.32
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
Target ID 2717	
Detected?	Yes
Location	
Easting	737834.50
Northing	1013850.30
Dist. & Orient. from Seed	
Dist. (ft)	0.99
Orientation	SW

Comments: _____

Data Sampling

Velocity	
Average (mph)	1.95
Along Track / Across Track Sampling	
*Along Track (ft)	0.29
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	3.42
Cumulative	23.94
Total Data Gaps (acres)	
This Data Set	0
Cumulative	0.006

* metric: <= 0.5 ft
 ** metric: <= 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0612a.gdb
Leveling Performed: Yes
Latency Correction Performed: Yes (no visible chevron effects)
Audit Log File Name: 0612a.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum_clipped&Weston_noise
Clipping Value: -5/7
Text Files Attached: Yes
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>1.14</u>	<u>2.23</u>
p.m.	<u>N/A</u>	<u>N/A</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Target ID's >100 2296, 2268, and 1068
Target ID's < 100 2678, 2376, and 1872

Comments:

No PM survey
SNR levels exceed the DQO metric. This was observed in earlier data
sets conducted in high density target areas. A root cause analyses was
performed. Results substantiate that std dev for SNR was higher in high
density (cluttered) target areas.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 07/09/03

Project: SEDA/ODG
Location i.d.: Q-R 33,R34,T-V 33-36
Survey Date: 06/13/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0613.gdb				0613.gdb			
Line #:	L0:0				L12:0			
Min:	-177.75	-48.43	-16.57	-11.58	-122.51	-32.89	-14.05	-12.11
Max:	-166.45	-42.81	-14.81	-10.85	-116	-29.57	-12.79	-11.46
Mean:	-169.42	-44.29	-15.44	-11.2	-119.89	-31.53	-13.5	-11.75
Std:	1.28	0.58	0.21	0.1	1.15	0.53	0.2	0.09

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0613.gdb				0613.gdb			
Line #:	L0.1:0				L12.1:0			
Min:	-206.52	-50.57	-13.16	-8.55	-163.5	-40.7	-12.14	-10.15
Max:	-198.3	-46.68	-11.73	-7.6	-159.48	-38.36	-10.8	-9.33
Mean:	-201.88	-48.37	-12.42	-8.15	-161.57	-39.41	-11.58	-9.78
Std:	1.74	0.76	0.28	0.15	0.64	0.32	0.17	0.14

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0613.gdb				0613.gdb			
Line #:	L0.2:0				L12.2:0			
Min:	-99.23	-29.04	-11.56	-8.36	-80.56	-26.91	-11.92	-8.78
Max:	-92.8	-26.8	-10.69	-7.86	-76.2	-24.6	-10.83	-8.3
Mean:	-96.72	-28	-11.06	-8.1	-79.13	-25.69	-11.49	-8.56
Std:	1.56	0.48	0.14	0.07	0.62	0.29	0.13	0.07

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 07/09/03

Project: SEDA/ODG
Location i.d.: Q-R 33,R34,T-V 33-36
Survey Date: 06/13/03

Static SpikeTest

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0613.gdb				0613.gdb			
Line #:		L1:0				L13:0			
Min:		296.3	245.3	136.22	49.94	338.33	255	137.12	49.18
Max:		305.03	251.38	139.07	51.19	345.95	260.08	139.4	50.24
Mean:		301.56	248.48	137.76	50.53	342.17	257.25	138.16	49.76
Std:		1.23	0.81	0.41	0.18	1.3	0.82	0.43	0.18

Comments: _____

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0613.gdb				0613.gdb			
Line #:		L2.1:0				L14.1:0			
Min:		316.64	272.43	157.16	59.52	363.81	285.95	160.56	59.08
Max:		321.79	275.95	158.87	60.41	369.73	289.8	162.91	59.99
Mean:		319.39	273.86	158.06	59.96	367.1	288.28	162.01	59.63
Std:		0.76	0.53	0.29	0.16	0.92	0.63	0.34	0.14

Comments: _____

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0613.gdb				0613.gdb			
Line #:		L3.2:0				L15.2:0			
Min:		397.96	276.84	147.6	55.84	401.6	272.04	144.08	54.54
Max:		403.41	280.57	149.62	56.74	407.98	275.45	145.48	55.17
Mean:		400.37	278.96	148.67	56.35	404.73	273.71	144.91	54.88
Std:		0.92	0.64	0.34	0.14	1.35	0.68	0.31	0.13

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 07/09/03

Project: SEDA/ODG
Location i.d.: Q-R 33,R34,T-V 33-36
Survey Date: 06/13/03

Cable Shake Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0613.gdb				0613.gdb			
Line #:		L4:0				L16:0			
Min:		-167.21	-45.75	-16.48	-11.86	-118.05	-33.03	-15.13	-12.59
Max:		-162.02	-42.77	-15.47	-11.24	-113.58	-30.43	-13.93	-11.86
Mean:		-164.02	-43.95	-15.91	-11.57	-116.09	-31.96	-14.57	-12.24
Std:		0.95	0.66	0.22	0.1	0.91	0.52	0.22	0.14

Comments: _____

Coil #2

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0613.gdb				0613.gdb			
Line #:		L4.1:0				L16.1:0			
Min:		-206.4	-51.12	-14.01	-8.97	-157.92	-39.22	-11.93	-10.25
Max:		-202.19	-49.27	-12.51	-7.8	-154.82	-36.81	-11.17	-9.53
Mean:		-204.22	-50.17	-13.17	-8.39	-156.65	-38.14	-11.5	-9.89
Std:		0.79	0.36	0.3	0.28	0.59	0.43	0.14	0.13

Comments: _____

Coil #3

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0613.gdb				0613.gdb			
Line #:		L4.2:0				L16.2:0			
Min:		-96.11	-28.81	-11.87	-8.39	-73.3	-24.42	-11.63	-8.93
Max:		-94.07	-27.43	-11.09	-7.91	-71.32	-23.37	-11.05	-8.4
Mean:		-95.09	-28.16	-11.36	-8.19	-72.42	-23.9	-11.34	-8.62
Std:		0.46	0.26	0.14	0.08	0.39	0.21	0.12	0.09

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check
by: JAW

Project: SEDA/ODG

Q-R 33, R34, T-V 33-

Date: 07/09/03

Location i.d.: 36

Survey Date: 06/13/03

File name: 0613a.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
	0613AM Latency		0613PM Latency	
Coil #1	0.43	0.52	0.43	0.42
Coil #2	0.43	0.51	0.43	0.19
Coil #3	0.43	0.34	0.43	0.30

Comments: _____

Blind Seeds Detected

Seed ID	
Weston Seed 8	
Location	
Easting	737931.30
Northing	1014406.90
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
T36-0026	
Detected?	YES
Location	
Easting	737930.80
Northing	1014407.30
Dist. & Orient. from Seed	
Dist. (ft)	0.59
Orientation	NW

Comments: Weston Seeded Item #6 738113.16E, 1013942.567N
Target ID 1014013.5, 1013942.8 (.65 feet) NW

Data Sampling

Velocity	
Average (mph)	2.15
Along Track / Across Track Sampling	
*Along Track (ft)	0.25
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	4.7
Cumulative	28.64
Total Data Gaps (acres)	
This Data Set	0
Cumulative	0.006

* metric: <= 0.5 ft
 ** metric: <= 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0613a.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0613.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Clipped & Weston noise
Clipping Value: -5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>1.36</u>	<u>3.27</u>
p.m.	<u>1.88</u>	<u>2.66</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Target ID's > 100 540, 1025, and 1221
Target ID's < 100 581, 544, and 1282

Comments:

Std. Dev. For SNR exceeds metric for DQO.
SNR levels exceed the DQO metric. This was observed in earlier data
sets conducted in high density target areas. A root cause analyses was
performed. Results substantiate that std dev for SNR was higher in high
density (cluttered) target areas.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW

Date: 07/11/03

Project: SEDA/ODG

Q33; R33-34,

S33-24; U33-

Location i.d.: U36; V33-36;

Survey Date: 06/14/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0614.gdb				0614.gdb			
Line #:	0.0				13.0			
Min:	-148.22	-38.05	-12.91	-8.67	-88.61	-19.46	-8.59	-8.18
Max:	-138.54	-33.68	-11.41	-8.11	-82.75	-16.55	-7.48	-7.57
Mean:	-143.16	-35.64	-12.18	-8.38	-85.7	-17.95	-8.02	-7.91
Std:	3.15	1.26	0.35	0.09	1.1	0.52	0.18	0.1

Comments: Coil #1 shows a significant drift in channel 1 from -148 to -138

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0614.gdb				0614.gdb			
Line #:	0.1				13.1			
Min:	-189.8	-47.88	-14.1	-9.52	-142.95	-34.9	-11.76	-10.08
Max:	-179.4	-42.47	-10.92	-7.17	-139.74	-32.92	-10.73	-9.33
Mean:	-184.35	-45.16	-12.6	-8.39	-141.4	-34.09	-11.21	-9.68
Std:	2.8	1.35	0.71	0.55	0.5	0.28	0.15	0.11

Comments: Coil #2 shows a significant drift in channel 1 from -190 to -179

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0614.gdb				0614.gdb			
Line #:	0.2				13.2			
Min:	-89.52	-28.11	-12.22	-8.67	-39.35	-11.84	-8.06	-8.22
Max:	-80.39	-23.93	-10.55	-7.85	-36.17	-10.05	-7.16	-7.55
Mean:	-84.44	-25.78	-11.26	-8.3	-37.49	-10.88	-7.59	-7.87
Std:	3.26	1.39	0.45	0.16	0.45	0.31	0.13	0.08

Comments: Coil #3 shows a significant drift in channel 1 from -89 to -80

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW

Date: 07/11/03

Project: SEDA/ODG

Q33; R33-34,
S33-24; U33-

Location i.d.: U36; V33-36;

Survey Date: 06/14/03

Static Spike Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0614.gdb				0614.gdb			
Line #:	1.0				14.0			
Min:	335.59	259.64	143.9	55.36	371.33	266.94	144.2	54.24
Max:	340.32	263.09	145.75	56.19	378.45	271.05	146.51	55.14
Mean:	338.01	261.29	144.84	55.81	375.4	269.35	145.36	54.76
Std:	0.92	0.69	0.38	0.16	1.55	0.92	0.49	0.18

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0614.gdb				0614.gdb			
Line #:	2.1				15.1			
Min:	361.47	290.65	164.25	61.96	360.49	278.19	154.17	56.49
Max:	366.77	295.54	167.5	63.95	366.47	282.07	156.69	57.54
Mean:	363.93	293.16	165.98	62.9	363.5	279.88	155.54	57.02
Std:	0.91	0.88	0.69	0.51	0.99	0.68	0.41	0.18

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0614.gdb				0614.gdb			
Line #:	3.2							
Min:	396.99	271.22	143.09	53.85				
Max:	400.97	273.34	144.27	54.41				
Mean:	399.19	272.43	143.68	54.15				
Std:	0.76	0.47	0.24	0.11				

Comments: Post survey static spike data for coil 3 was not provided.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW

Date: 07/11/03

Project: SEDA/ODG

Q33; R33-34,
S33-24; U33-

Location i.d.: U36; V33-36;

Survey Date: 06/14/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0614.gdb				0614.gdb			
Line #:	4.0				16.0			
Min:	-143.18	-35.53	-12.35	-8.74	-90.89	-20.78	-10.06	-9.91
Max:	-137.43	-33.5	-11.68	-8.02	-86.02	-17.32	-7.32	-7.39
Mean:	-140.54	-34.61	-11.97	-8.4	-87.77	-18.4	-8.01	-7.94
Std:	1.54	0.53	0.13	0.1	0.72	0.46	0.36	0.31

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0614.gdb				0614.gdb			
Line #:	4.1				16.1			
Min:	-182.08	-45.02	-13.22	-9.22	-144.85	-35.79	-11.79	-10.2
Max:	-178.78	-42.35	-11.21	-7.38	-141.91	-33.54	-10.78	-8.86
Mean:	-180.45	-43.68	-12.15	-8.32	-143.22	-34.72	-11.26	-9.67
Std:	0.77	0.6	0.53	0.54	0.56	0.29	0.17	0.16

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0614.gdb				0614.gdb			
Line #:	4.2				16.2			
Min:	-83.59	-25.9	-11.7	-8.79	-37.8	-10.97	-7.77	-8.16
Max:	-80.52	-24.51	-11.12	-8.38	-35.75	-8.91	-6.6	-6.97
Mean:	-82.15	-25.15	-11.37	-8.57	-36.94	-10.4	-7.38	-7.77
Std:	0.7	0.3	0.12	0.08	0.4	0.32	0.22	0.17

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: JAW

Project: SEDA/ODG

Q33; R33-34, S33-24;

Date: 07/11/03

Location i.d.: U33-U36; V33-36;

Survey Date: 06/14/03

File name: 0614.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0614AM Latency		0614PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.43	0.27	0.43	0.61
Coil #2	0.43	0.22	0.43	0.53
Coil #3	0.43	0.41	0.43	0.53

Comments: _____

Blind Seeds Detected

Seed ID	
NA	
Location	
Easting	NA
Northing	NA
Seed Description	
Depth (ft)	NA
Orientation	NA

Anomaly ID	
NA	
Detected?	NA
Location	
Easting	NA
Northing	NA
Dist. & Orient. from Seed	
Dist. (ft)	NA
Orientation	NA

Comments: WESTON seeded items were not surveyed.
 Seeds WESTON 7 and 8 lie directly outside of the survey grid.

Data Sampling

Velocity	
Average (mph)	2.12
Along Track / Across Track Sampling	
*Along Track (ft)	0.25
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	4.2
Cumulative	32.84
Total Data Gaps (acres)	
This Data Set	0
Cumulative	0.006

* metric: <= 0.5 ft

** metric: <= 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0614.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0614.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum Clipped&Weston Noise
Clipping Value: -5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)	
a.m.	<u>1.58</u>	<u>2.04</u>	Lines 6-8
p.m.	<u>1.45</u>	<u>2.05</u>	Lines 9-11
Metric:	<u></= 3.25</u>	<u></= 2.0</u>	

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Target ID's < 100 = 1233, 1341, and 330
Target ID's > 100 = 379, 368, and 1366

Comments: SNR levels exceed the DQO metric. This was observed in earlier data sets conducted in high density target areas. A root cause analyses was performed. Results substantiate that std dev for SNR was higher in high density (cluttered) target areas.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 07/10/2003

Project: SEDA/ODG
Location i.d.: W33-W36
Survey Date: 06/16/2003

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0616.gdb				0616.gdb			
Line #:	L0:0				L12:0			
Min:	-102.03	-16.35	-5.56	-7.38	-71.05	-15.20	-7.94	-8.16
Max:	-98.02	-14.39	-4.67	-6.71	-67.97	-13.64	-7.00	-7.55
Mean:	-100.34	-15.26	-5.14	-7.04	-69.40	-14.37	-7.51	-7.87
Std:	0.64	0.27	0.14	0.10	0.49	0.22	0.14	0.09

Comments: _____

Coil #2

	Pre Survey				Pre Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0616.gdb				0616.gdb			
Line #:	0.10				11.10			
Min:	-143.85	-27.16	-6.79	-7.76	-135.11	-35.37	-12.56	-10.79
Max:	-140.14	-25.03	-5.53	-6.94	-131.73	-33.55	-11.40	-10.04
Mean:	-141.96	-26.15	-6.22	-7.31	-133.58	-34.56	-12.03	-10.45
Std:	0.60	0.29	0.17	0.12	0.56	0.26	0.16	0.13

Comments: _____

Coil #3

	Pre Survey				Pre Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0616.gdb				0616.gdb			
Line #:	0.20				11.20			
Min:	-30.80	-3.54	-4.48	-7.19	-50.00	-19.45	-10.99	-8.97
Max:	-27.53	-1.86	-3.72	-6.68	-47.75	-17.87	-10.33	-8.33
Mean:	-29.12	-2.61	-4.12	-6.91	-48.99	-18.42	-10.60	-8.60
Std:	0.60	0.29	0.11	0.07	0.34	0.19	0.11	0.13

Comments: _____

Daily DGM QC Audit Form
EM-61 MK2 Data

QC Check by: JAW
Date: 07/10/2003

Project: SEDA/ODG
Location i.d.: W33-W36
Survey Date: 06/16/2003

Static Spike Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0616.gdb				0616.gdb			
Line #:		L1:0				L13:0			
Min:		375.70	277.94	149.81	56.17	379.06	264.58	141.79	53.49
Max:		381.15	281.74	151.77	57.09	387.08	269.77	144.44	54.70
Mean:		378.63	280.12	150.86	56.64	383.39	267.60	143.35	54.12
Std:		1.22	0.90	0.47	0.19	1.33	0.91	0.48	0.20

Comments: _____

Coil #2

		Pre Survey				Pre Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0616.gdb				0616.gdb			
Line #:		2.1:0				13.1:0			
Min:		404.70	310.92	171.31	63.21	353.16	269.25	149.90	54.28
Max:		409.72	314.29	173.19	64.37	356.99	272.04	151.39	55.18
Mean:		407.47	312.54	172.31	63.77	355.16	270.73	150.74	54.84
Std:		0.83	0.59	0.33	0.21	0.78	0.55	0.31	0.14

Comments: _____

Coil #3

		Pre Survey				Pre Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0616.gdb				0616.gdb			
Line #:		3.2:0				14.2:0			
Min:		448.15	293.63	150.65	55.65	408.18	267.48	140.00	52.60
Max:		451.86	296.00	151.98	56.26	414.56	271.35	142.01	53.50
Mean:		450.16	294.91	151.34	55.99	411.20	269.45	140.93	53.02
Std:		0.81	0.52	0.26	0.11	1.06	0.69	0.36	0.15

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 07/10/2003

Project: SEDA/ODG
Location i.d.: W33-W36
Survey Date: 06/16/2003

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0616.gdb				0616.gdb			
Line #:	L4:0				L16:0			
Min:	-98.74	-16.05	-5.81	-7.62	-72.14	-15.22	-7.83	-8.18
Max:	-95.77	-14.12	-4.67	-6.51	-69.52	-13.79	-6.56	-7.23
Mean:	-97.32	-15.06	-5.32	-7.07	-71.02	-14.63	-7.43	-7.79
Std:	0.57	0.39	0.19	0.15	0.51	0.27	0.16	0.13

Comments: _____

Coil #2

Coil #2

	Pre Survey				Pre Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0616.gdb				0616.gdb			
Line #:	4.1:0				15.1:0			
Min:	-140.23	-26.78	-7.18	-8.23	-138.46	-36.43	-12.61	-10.83
Max:	-136.71	-24.49	-5.75	-6.83	-135.38	-34.45	-11.61	-9.81
Mean:	-138.67	-25.72	-6.50	-7.51	-137.10	-35.46	-12.14	-10.43
Std:	0.60	0.45	0.26	0.20	0.56	0.30	0.18	0.14

Comments: _____

Coil #3

Coil #3

	Pre Survey				Pre Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0616.gdb				0616.gdb			
Line #:	4.2:0				15.2:0			
Min:	-31.83	-4.49	-4.78	-7.14	-52.07	-19.37	-11.29	-9.28
Max:	-29.60	-2.81	-3.91	-6.35	-49.42	-18.08	-10.15	-8.14
Mean:	-30.84	-3.59	-4.28	-6.81	-50.22	-18.81	-10.72	-8.62
Std:	0.42	0.33	0.14	0.11	0.31	0.20	0.14	0.12

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check
 by: JAW Project: SEDA/ODG
 Date: 7/10/03 Location i.d.: W33-W36
 Survey Date: 6/16/03
 File name: 0616.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0616AM Latency		0616PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.55	0.60	0.55	0.50
Coil #2	0.55	0.61	0.55	0.61
Coil #3	0.55	0.66	0.80	0.65

Comments: Latency correction values meet DQO requirements; however, these values can be refined for greater accuracy. Navigation track should be adjusted to center coils over spike items.

Blind Seeds Detected

Seed ID	
WESTON 7	
Location	
Easting	738273.68
Northing	1014352.94
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
445	
Detected?	Yes
Location	
Easting	738273.50
Northing	1014353.00
Dist. & Orient. from Seed	
Dist. (ft)	0.21
Orientation	East

Comments: _____

Data Sampling

Velocity	
Average (mph)	1.85
Along Track / Across Track Sampling	
*Along Track (ft)	0.22
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	1.91
Cumulative	34.75
Total Data Gaps (acres)	
This Data Set	0.001
Cumulative	0.007

* metric: ≤ 0.5 ft
 ** metric: ≤ 3.0 ft

Comments: UCEDATASEP GX calculated zero data points greater than 0.5ft seperation. Gap positions have been digitized for reacquisition and subsequent field review.

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0616.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0616.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: 1 Clipped&Weston noise
Clipping Value: -5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)	
a.m.	<u>1.35</u>	<u>2.47</u>	Line 6
p.m.	<u>1.44</u>	<u>1.79</u>	Lines 7-9
Metric:	<u></= 3.25</u>	<u></= 2.0</u>	

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Target ID's < 100 = 331, 48, and 382
Target ID's > 100 = 2, 492, and 353

Comments: Am survey exceeded DQO standard deviation metric value.
AM survey collected in high density area.
This was observed in earlier data sets conducted in high density target areas.
A root cause analyses was performed. Results substantiate that std dev for
SNR was higher in highdensity (cluttered) target areas.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW

Date: 07/10/03

Project: SEDA/ODG
 R-T 38-40, S.

Location i.d.: T 37-38
Survey Date: 06/17/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0617.gdb				0617.gdb			
Line #:	0.0				8.0			
Min:	-90.72	-13.70	-5.62	-7.16	-78.63	-19.57	-7.44	-6.66
Max:	-84.90	-11.35	-4.40	-6.49	-71.92	-17.16	-6.38	-5.85
Mean:	-87.88	-12.44	-5.02	-6.87	-74.76	-18.36	-6.91	-6.33
Std:	0.88	0.31	0.16	0.10	1.12	0.44	0.15	0.12

Comments: _____

Coil #2

	Pre Survey				Pre Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0617.gdb				0617.gdb			
Line #:	0.1				8.1			
Min:	-142.6	-28.17	-7.33	-7.58	-141.63	-39.44	-12.58	-9.31
Max:	-138.32	-24.33	-5.9	-6.74	-137.47	-37.03	-11.19	-8.35
Mean:	-140.34	-26.24	-6.54	-7.09	-139.31	-38.38	-11.96	-8.88
Std:	0.61	0.32	0.16	0.1	0.63	0.38	0.17	0.17

Comments: _____

Coil #3

	Pre Survey				Pre Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0617.gdb				0617.gdb			
Line #:	0.2				8.2			
Min:	-36.94	-7.42	-6.41	-7.7	-50.07	-19.22	-9.27	-7.65
Max:	-34.84	-5.92	-5.77	-7.2	-43.95	-16.09	-8.28	-7.02
Mean:	-35.93	-6.62	-6.07	-7.41	-46.42	-17.68	-8.72	-7.33
Std:	0.4	0.25	0.11	0.07	1.4	0.63	0.15	0.1

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW

Date: 07/10/03

Project: SEDA/ODG
R-T 38-40, S

Location i.d.: T 37-38

Survey Date: 06/17/03

Static Spike Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0617.gdb				0617.gdb			
Line #:	1.0				9.0			
Min:	387.17	280.43	149.73	56.35	358.95	252.08	138.01	53.13
Max:	394.12	285.44	152.18	57.45	370.28	259.86	141.87	54.71
Mean:	390.55	282.83	151.03	56.86	364.64	255.48	139.51	53.7
Std:	1.41	1.02	0.54	0.22	1.86	1.2	0.61	0.27

Comments: _____

Coil #2

	Pre Survey				Pre Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0617.gdb				0617.gdb			
Line #:	2.1				10.1			
Min:	423.74	320.81	176.36	65.5	346.42	265.89	150.95	56.51
Max:	428.16	324.73	178.49	66.84	350.65	268.81	152.34	57.44
Mean:	425.97	322.8	177.44	66.12	348.85	267.39	151.66	57.05
Std:	0.92	0.72	0.41	0.27	0.72	0.48	0.27	0.14

Comments: _____

Coil #3

	Pre Survey				Pre Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0617.gdb				0617.gdb			
Line #:	3.2				11.2			
Min:	440.62	288.44	147.7	54.51	403.8	266.02	142.07	54.56
Max:	444.39	290.73	148.96	55.15	409.81	269.36	143.68	55.18
Mean:	442.43	289.58	148.23	54.86	407.74	268.12	142.9	54.92
Std:	0.76	0.5	0.26	0.12	0.96	0.58	0.3	0.12

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 07/10/03

Project: SEDA/ODG
R-T 38-40, S
Location i.d.: T 37-38
Survey Date: 06/17/03

Cable Shake Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0617.gdb				0617.gdb			
Line #:		4.0				12.0			
Min:		-87.35	-12.83	-5.49	-7.2	-77.61	-19.59	-7.53	-6.62
Max:		-84.98	-11.7	-4.77	-6.57	-73.77	-17.05	-6.35	-5.8
Mean:		-86.29	-12.33	-5.08	-6.9	-75.72	-18.42	-6.83	-6.18
Std:		0.44	0.2	0.12	0.09	0.69	0.41	0.18	0.11

Comments: _____

Coil #2

Coil #2

		Pre Survey				Pre Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0617.gdb				0617.gdb			
Line #:		4.1				12.1			
Min:		-138.87	-26.6	-7.04	-7.53	-142.49	-40.37	-12.41	-9.05
Max:		-136.54	-25.06	-6.12	-6.68	-139.3	-38.09	-11.3	-8.27
Mean:		-137.84	-25.86	-6.53	-7.09	-141.1	-38.99	-11.87	-8.72
Std:		0.43	0.29	0.16	0.16	0.62	0.4	0.19	0.16

Comments: _____

Coil #3

Coil #3

		Pre Survey				Pre Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0617.gdb				0617.gdb			
Line #:		4.2				12.2			
Min:		-37.49	-7.81	-6.71	-7.72	-51.58	-20.53	-9.63	-7.83
Max:		-35.51	-6.77	-5.97	-7.23	-47.75	-17.34	-8.25	-6.63
Mean:		-36.49	-7.27	-6.29	-7.46	-50.08	-18.89	-8.84	-7.22
Std:		0.43	0.21	0.12	0.09	0.75	0.49	0.17	0.12

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: JAW

Project: SEDA/ODG

Date: 07/11/03

R-T 38-40,

Location i.d.: S-T 37-38

Survey Date: 06/17/03

File name: 0617.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0617AM Latency		0617PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.45	0.34	0.50	0.16
Coil #2	0.60	0.19	0.55	0.37
Coil #3	0.70	0.18	0.60	0.54

Comments: Coil 1 displayed increased noise levels during AM latency test.

Blind Seeds Detected

Seed ID	
Weston Seed #9	
Location	
Easting	737615.57
Northing	1014942.38
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
Target ID 114	
Detected?	Yes
Location	
Easting	737617.30
Northing	1014943.80
Dist. & Orient. from Seed	
Dist. (ft)	2.16
Orientation	NE

Comments: Two targets detected in Seed item anomaly. Targets fall on either side of seeded item.

Data Sampling

Velocity	
Average (mph)	2.04
Along Track / Across Track Sampling	
*Along Track (ft)	0.25
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	4.6
Cumulative	39.35
Total Data Gaps (acres)	
This Data Set	0.001
Cumulative	0.008

* metric: ≤ 0.5 ft

** metric: ≤ 3.0 ft

Comments: Data gaps have been digitized for requisition and field review.

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0617a.gdb & 0617b.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0617a.rtf & 0617b.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum_Clipped& Weston_noise
Clipping Value: -5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>1.65</u>	<u>1.69</u>
p.m.	<u>1.59</u>	<u>1.81</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Target ID's > 100 = 114, 111, and 105
Target ID's < 100 = 109, 24, and 96

Comments:

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 06/30/03

Project: SEDA/ODG
Location i.d.: K25-K32; L25-L32
Survey Date: 06/18/03

Static Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0618.gdb				0618.gdb			
Line #:		0.0				12.0			
Min:		-91.71	-14.24	-5.78	-7.33	-68.67	-10.65	-6.2	-8.01
Max:		-86.73	-12.4	-4.84	-6.86	-64.03	-8.85	-5.04	-7.28
Mean:		-89.32	-13.24	-5.25	-7.09	-66.77	-9.66	-5.51	-7.65
Std:		0.68	0.29	0.14	0.08	0.54	0.27	0.15	0.12

Comments: _____

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0618.gdb				0618.gdb			
Line #:		0.1				12.1			
Min:		-142.26	-27.59	-7.46	-7.76	-127.62	-27.22	-9.26	-10.58
Max:		-138.73	-25.56	-6.33	-6.99	-123	-24.82	-7.46	-9.15
Mean:		-140.35	-26.58	-6.93	-7.40	-125.25	-26.02	-8.37	-9.84
Std:		0.5	0.27	0.16	0.13	0.69	0.38	0.42	0.33

Comments: _____

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0618.gdb				0618.gdb			
Line #:		0.2				12.2			
Min:		-34.87	-6.54	-6.08	-7.72	-28.54	-6.79	-6.86	-8.29
Max:		-31.98	-5.05	-5.33	-7.25	-25.97	-5.47	-6.06	-7.75
Mean:		-33.52	-5.76	-5.80	-7.46	-27.00	-6.01	-6.44	-8.01
Std:		0.48	0.21	0.1	0.07	0.39	0.21	0.11	0.08

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 06/30/03

Project: SEDA/ODG
Location i.d.: K25-K32; L25-L32
Survey Date: 06/18/03

Static SpikeTest

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0618.gdb				0618.gdb			
Line #:	1.0				13.0			
Min:	370.38	270.7	145.05	54.25	375.27	265.56	141.2	52.37
Max:	375.25	274.43	146.97	55.12	380.90	269.29	143.42	53.38
Mean:	372.96	272.67	146.09	54.76	378.47	267.50	142.31	52.95
Std:	1.2	0.88	0.47	0.17	1.24	0.86	0.45	0.21

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0618.gdb				0618.gdb			
Line #:	2.1				14.1			
Min:	404.42	309.48	170.39	63.18	356.18	272.79	149.99	53.10
Max:	410.47	313.62	172.91	64.37	363.58	278.41	153.51	55.19
Mean:	407.36	311.71	171.60	63.70	359.6	275.59	151.92	54.17
Std:	0.92	0.66	0.38	0.18	1.17	1.01	0.58	0.51

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0618.gdb				0618.gdb			
Line #:	3.2				15.2			
Min:	447.48	292.76	149.83	55.55	432.66	281.84	145.4	54.02
Max:	451.83	295.46	151.16	56.19	437.10	284.69	147.05	54.74
Mean:	449.75	293.94	150.54	55.86	435.02	283.39	146.30	54.38
Std:	0.89	0.54	0.27	0.11	0.98	0.62	0.33	0.14

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 06/30/03

Project: SEDA/ODG
Location i.d.: K25-K32; L25-L32
Survey Date: 06/18/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0618.gdb				0618.gdb			
Line #:	4.0				16.0			
Min:	-88.20	-13.24	-5.59	-7.35	-69.03	-10.54	-5.98	-8.02
Max:	-85.93	-11.62	-4.65	-6.72	-66.31	-9.30	-5.16	-7.30
Mean:	-87.12	-12.52	-5.10	-7.09	-67.53	-10.00	-5.56	-7.63
Std:	0.42	0.26	0.15	0.10	0.47	0.21	0.13	0.11

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0618.gdb				0618.gdb			
Line #:	4.1				16.1			
Min:	-140.87	-27.15	-7.59	-7.94	-129.07	-27.83	-9.33	-10.48
Max:	-138.00	-25.70	-6.35	-7.09	-125.16	-25.79	-7.71	-9.24
Mean:	-139.26	-26.45	-7.00	-7.48	-127.19	-26.85	-8.46	-9.84
Std:	0.47	0.28	0.20	0.15	0.64	0.38	0.39	0.30

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0618.gdb				0618.gdb			
Line #:	4.2				16.2			
Min:	-33.15	-5.90	-5.82	-7.57	-29.42	-7.00	-6.91	-8.31
Max:	-31.39	-4.71	-5.16	-6.90	-27.59	-5.88	-6.08	-7.57
Mean:	-32.21	-5.18	-5.51	-7.30	-28.55	-6.49	-6.49	-7.95
Std:	0.33	0.18	0.12	0.10	0.33	0.15	0.12	0.10

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: JAW

Project: SEDA/ODG

Date: 06/30/03

Location i.d.: K25-K32; L25-L32

Survey Date: 06/18/03

File name: 0618.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0618AM Latency		0618PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.65	0.20	0.80	0.40
Coil #2	0.80	0.27	0.80	0.30
Coil #3	0.65	0.57	0.80	0.06

Comments: _____

Blind Seeds Detected

Seed ID	
Weston 16	
Location	
Easting	736772.05
Northing	1013118.93
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
Target ID 229	
Detected?	Yes
Location	
Easting	736772.30
Northing	1013117.50
Dist. & Orient. from Seed	
Dist. (ft)	1.50
Orientation	South

Comments: Weston 17 (736714.614, 1013725.533)
Target ID 1078 (736713.0, 1013726.8)
Distance from seed 1:98 feet to the West

Data Sampling

Velocity	
Average (mph)	1.84
Along Track / Across Track Sampling	
*Along Track (ft)	0.21
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	6.6
Cumulative	45.92
Total Data Gaps (acres)	
This Data Set	0
Cumulative	0.008

* metric: <= 0.5 ft
 ** metric: <= 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0618.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0618.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: sum clipped & Weston_Noise
Clipping Value: - 5/7
Text Files Attached: Yes
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)	
a.m.	<u>1.71</u>	<u>1.95</u>	Line 6-8
p.m.	<u>1.65</u>	<u>1.77</u>	Line 9-10
Metric:	<u></= 3.25</u>	<u></= 2.0</u>	

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Target ID's > 100 = 65, 525, and 839
Target ID's < 100 = 17, 766, and 919

Comments:

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 07/01/03

Project: SEDA/ODG
Location i.d.: J25-J32
Survey Date: 06/19/03

Static Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0619.gdb				0619.gdb			
Line #:		0.0				11.0			
Min:		-94.78	-15.86	-6.48	-7.62	-76.62	-11.70	-5.73	-7.78
Max:		-91.12	-14.09	-5.41	-6.95	-73.39	-9.99	-4.95	-7.21
Mean:		-93.01	-15.00	-5.90	-7.28	-75.03	-10.72	-5.37	-7.47
Std:		0.65	0.31	0.15	0.10	0.43	0.22	0.10	0.08

Comments: _____

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0619.gdb				0619.gdb			
Line #:		0.1				11.1			
Min:		-145.57	-29.36	-8.25	-8.14	-129.76	-25.81	-8.45	-9.75
Max:		-142.54	-27.37	-7.01	-7.19	-125.55	-22.98	-6.02	-7.62
Mean:		-144.06	-28.31	-7.60	-7.68	-127.46	-24.42	-7.19	-8.64
Std:		0.58	0.29	0.19	0.16	0.65	0.59	0.53	0.54

Comments: _____

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0619.gdb				0619.gdb			
Line #:		0.2				11.2			
Min:		-46.22	-9.83	-7.72	-7.81	132.97	95.48	67.86	32.90
Max:		-42.28	-7.97	-6.80	-7.22	135.20	96.73	68.63	33.42
Mean:		-44.51	-8.91	-7.35	-7.49	134.19	96.16	68.24	33.18
Std:		0.82	0.31	0.15	0.11	0.39	0.21	0.14	0.08

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 07/01/03

Project: SEDA/ODG
Location i.d.: J25-J32
Survey Date: 06/19/03

Static SpikeTest

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0619.gdb				0619.gdb			
Line #:		1.0				12.0			
Min:		372.90	272.64	146.39	54.75	379.02	270.71	144.25	53.71
Max:		379.42	277.77	148.88	55.95	385.94	275.64	146.8	54.80
Mean:		375.80	274.75	147.40	55.30	382.69	273.49	145.62	54.32
Std:		1.31	0.95	0.51	0.20	1.36	0.96	0.51	0.20

Comments: _____

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0619.gdb				0619.gdb			
Line #:		2.1				13.1			
Min:		378.85	294.53	162.72	60.02	394.46	298.88	163.54	59.03
Max:		382.39	297.12	164.37	61.05	399.21	302.51	166.29	60.95
Mean:		380.91	295.99	163.59	60.53	397.02	301.00	165.26	60.19
Std:		0.69	0.52	0.32	0.18	0.98	0.68	0.55	0.44

Comments: _____

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0619.gdb				0619.gdb			
Line #:		3.2				14.2			
Min:		450.99	297.99	152.87	57.12	602.87	388.33	221.46	95.35
Max:		456.96	301.17	154.32	57.89	609.07	392.54	223.9	96.60
Mean:		454.23	299.58	153.62	57.53	606.21	390.32	222.62	96.06
Std:		1.21	0.62	0.28	0.12	1.07	0.69	0.40	0.19

Comments: _____

Daily DGM QC Audit Form
EM-61 MK2 Data

QC Check by: JAW
Date: 07/01/03

Project: SEDA/ODG
Location i.d.: J25-J32
Survey Date: 06/19/03

Cable Shake Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0619.gdb				0619.gdb			
Line #:		4.0				15.0			
Min:		-92.30	-14.98	-6.09	-7.54	-76.81	-11.83	-5.75	-7.91
Max:		-89.90	-13.63	-5.36	-6.88	-73.31	-9.76	-4.88	-7.05
Mean:		-91.26	-14.41	-5.71	-7.25	-75.21	-10.75	-5.38	-7.44
Std:		0.46	0.25	0.13	0.11	0.54	0.30	0.15	0.12

Comments: _____

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0619.gdb				0619.gdb			
Line #:		4.1				15.1			
Min:		-143.57	-28.46	-8.04	-8.15	-129.57	-25.80	-8.22	-9.63
Max:		-141.07	-27.02	-7.1	-7.31	-125.99	-23.31	-6.05	-7.63
Mean:		-142.36	-27.77	-7.52	-7.70	-127.85	-24.50	-7.16	-8.71
Std:		0.49	0.23	0.16	0.15	0.70	0.57	0.53	0.51

Comments: _____

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0619.gdb				0619.gdb			
Line #:		4.2				15.2			
Min:		-41.61	-8.30	-7.03	-7.77	133.29	95.09	67.49	32.74
Max:		-39.5	-7.20	-6.42	-7.08	135.46	96.73	68.70	33.45
Mean:		-40.67	-7.78	-6.74	-7.43	134.28	95.87	68.03	33.09
Std:		0.46	0.25	0.12	0.09	0.40	0.28	0.19	0.12

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: JAW
Date: 07/01/03

Project: SEDA/ODG
Location i.d.: J25-J32
Survey Date: 06/19/03
File name: 0619.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.35	0.27	0.35	0.60
Coil #2	0.35	0.15	0.35	0.65
Coil #3	0.35	0.12	0.35	0.54

Comments: _____

Blind Seeds Detected

Seed ID	
Weston Seed #17	
Location	
Easting	736714.61
Northing	1013725.53
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
See Comment	
Detected?	
Location	
Easting	
Northing	
Dist. & Orient. from Seed	
Dist. (ft)	
Orientation	

Comments: WESTON 17 lies directly east of the survey area.
This item was not mapped on 06/19/03.

Data Sampling

Velocity	
Average (mph)	1.70
Along Track / Across Track Sampling	
*Along Track (ft)	0.17
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	3.25
Cumulative	49.2
Total Data Gaps (acres)	
This Data Set	0.001
Cumulative	0.009

* metric: <= 0.5 ft
 ** metric: <= 3.0 ft

Comments: Along track sampling exceeded 0.5 ft 0% as determined from Geosoft sample separation GX.

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0619.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0619.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum Clipped&Weston_noise
Clipping Value: -5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)	
a.m.	<u>1.65</u>	<u>1.70</u>	Lines 6-7
p.m.	<u>NA</u>	<u>NA</u>	
Metric:	<u></= 3.25</u>	<u></= 2.0</u>	

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Target ID's > 100 = 187, 176, and 1
Target ID's < 100 = 115, 277, and 251

Comments:

Afternoon surveying was not completed on 06/19/03. Survey Lines 8
and 9 were removed due to increased noise caused by a replacement
wheel.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 07/02/03

Project: SEDA/ODG
Location i.d.: H24-H35
Survey Date: 06/20/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0620.gdb				0620.gdb			
Line #:	0.0				10.0			
Min:	-85.88	-11.31	-4.77	-7.11	-77.34	-11.29	-5.49	-7.64
Max:	-82.58	-10.14	-4.14	-6.64	-75.42	-10.17	-4.83	-7.17
Mean:	-84.07	-10.74	-4.45	-6.89	-76.35	-10.64	-5.2	-7.39
Std:	0.69	0.17	0.09	0.07	0.24	0.13	0.08	0.07

Comments:

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0620.gdb				0620.gdb			
Line #:	0.1				10.1			
Min:	-139.23	-25.89	-6.94	-7.68	-130.68	-26.75	-8.86	-9.75
Max:	-137.15	-24.78	-6.07	-6.92	-127	-24.07	-6.5	-7.25
Mean:	-138.17	-25.29	-6.51	-7.3	-128.77	-25.34	-7.63	-8.37
Std:	0.32	0.18	0.13	0.11	0.6	0.58	0.54	0.58

Comments:

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0620.gdb				0620.gdb			
Line #:	0.2				10.2			
Min:	-24.51	-1.01	-4.21	-7.14	-22.38	-2.4	-4.71	-7.39
Max:	-22.24	0.18	-3.30	-6.47	-20.81	-1.34	-4.11	-6.97
Mean:	-23.31	-0.37	-3.67	-6.85	-21.77	-1.96	-4.4	-7.19
Std:	0.33	0.17	0.12	0.11	0.24	0.13	0.07	0.06

Comments:

Daily DGM QC Audit Form
EM-61 MK2 Data

QC Check by: JAW
 Date: 07/02/03

Project: SEDA/ODG
 Location i.d.: H24-H35
 Survey Date: 06/20/03

Static Spike Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0620.gdb				0620.gdb			
Line #:	1.0				11.0			
Min:	389.89	282.02	150.45	56.28	378.07	272.34	146.12	55.02
Max:	394.86	285.71	152.19	57.02	381.45	274.81	147.37	55.78
Mean:	392.2	283.52	151.22	56.67	380.11	273.77	146.86	55.44
Std:	0.94	0.67	0.35	0.14	0.59	0.43	0.24	0.11

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0620.gdb				0620.gdb			
Line #:	2.1				12.1			
Min:	371.63	288.69	159.32	58.67	356.12	273.59	150.62	54.37
Max:	376.02	292.55	161.25	59.72	361.76	279.02	153.35	56.48
Mean:	373.98	290.82	160.36	59.15	359.13	277.01	152.39	55.49
Std:	0.86	0.7	0.36	0.17	1.05	0.74	0.49	0.55

Comments: Power issues observed in Pre-Survey Coil #2 data. Amplitude drop observed at end of data.

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0620.gdb				0620.gdb			
Line #:	3.2				13.2			
Min:	457.53	298.77	153.13	56.94				
Max:	461.01	300.91	154.17	57.5				
Mean:	459.47	299.93	153.74	57.25				
Std:	0.76	0.46	0.23	0.1				

Comments: Computer battery died. Post-Survey data was not collected for Coil #3.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 07/02/03

Project: SEDA/ODG
Location i.d.: H24-H35
Survey Date: 06/20/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0620.gdb				0620.gdb			
Line #:	4.0							
Min:	-83.69	-11.73	-5.38	-7.94				
Max:	-81.7	-10.23	-4.06	-6.39				
Mean:	-82.76	-10.79	-4.59	-6.96				
Std:	0.35	0.25	0.19	0.18				

Comments: Computer battery died. Post-Survey data was not collected for Coil #1.

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0620.gdb				0620.gdb			
Line #:	4.1							
Min:	-138.84	-26.15	-7.24	-7.9				
Max:	-136.79	-24.56	-5.84	-6.86				
Mean:	-137.81	-25.53	-6.61	-7.31				
Std:	0.37	0.23	0.19	0.17				

Comments: Computer battery died. Post-Survey data was not collected for Coil #2.

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0620.gdb				0620.gdb			
Line #:	4.2							
Min:	-24.33	-1.28	-4.39	-7.34				
Max:	-22.6	-0.18	-3.2	-6.42				
Mean:	-23.62	-0.69	-3.71	-6.79				
Std:	0.22	0.16	0.13	0.13				

Comments: Computer battery died. Post-Survey Cable Shake data was not collected for Coil #3.

NAVIGATION FUNCTION CHECKS

QC Check

by: JAW
 Date: 07/02/03

Project: SEDA/ODG
 Location i.d.: H24-H35
 Survey Date: 06/20/03
 File name: 0620.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0620AM Latency		0620PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.60	0.38	0.70	0.12
Coil #2	0.60	0.41	0.50	0.16
Coil #3	0.60	0.57	0.40	0.46

Comments: _____

Blind Seeds Detected

Seed ID	
Weston 19	
Location	
Easting	736340.41
Northing	1013126.39
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
Target ID 78	
Detected?	Yes
Location	
Easting	736341.80
Northing	1013128.00
Dist. & Orient. from Seed	
Dist. (ft)	1.70
Orientation	NE

Comments: _____

Data Sampling

Velocity	
Average (mph)	2.18
Along Track / Across Track Sampling	
*Along Track (ft)	0.26
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	4.7
Cumulative	53.9
Total Data Gaps (acres)	
This Data Set	0.002
Cumulative	0.011

* metric: <= 0.5 ft
 ** metric: <= 3.0 ft

Comments: Sample spacing did not exceed 0.5 feet as determined by the Geosoft Sample Separation GX.

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0620.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0620.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum Clipped&Weston_noise
Clipping Value: -5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)	
a.m.	<u>1.75</u>	<u>1.78</u>	Line 6
p.m.	<u>1.59</u>	<u>1.77</u>	Lines 7-8
Metric:	<u></= 3.25</u>	<u></= 2.0</u>	

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Target ID's < 100 = 274, 418, and 440
Target ID's > 100 = 209, 91, and 335

Comments:

Computer power cable destroyed. Computer
batteries died during PM coil 3 spike test. Did not collect PM Cable
Shake data. Possible power failure during AM Coil 2 spike test.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 07/12/03

Project: SEDA/ODG
Location i.d.: E21, E25, E29, E33
Survey Date: 06/23/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0623.gdb				0623.gdb			
Line #:	L0:0				L10:0			
Min:	-84.86	-13.53	-13.53	-7.41	2049.52	754.51	754.51	-5.37
Max:	-81.78	-12.12	-12.12	-6.78	2343.77	1050.13	1050.13	-3.98
Mean:	-83.26	-12.84	-12.84	-7.09	2213.92	918.7	918.7	-4.6
Std:	0.49	0.21	0.21	0.08	92.07	98.28	98.28	0.32

Comments: Top coil pig tail connector ripped out of Coil 1 resulting in a failed end-of-day static test for coil #1.
No data was collected after the damage occurred.

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0623.gdb				0623.gdb			
Line #:	L0.1:0				L10.1:0			
Min:	-134.78	-27.87	-27.87	-8.08	-161.96	-40.82	-40.82	-9.86
Max:	-132.5	-26.53	-26.53	-7.38	-153.52	-38.2	-38.2	-9.17
Mean:	-133.73	-27.16	-27.16	-7.73	-157.65	-39.58	-39.58	-9.52
Std:	0.35	0.2	0.2	0.11	1.52	0.42	0.42	0.11

Comments:

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0623.gdb				0623.gdb			
Line #:	L0.2:0				L10.2:0			
Min:	-29.17	-4.52	-4.52	-7.33	-54.49	-16.41	-16.41	-8.09
Max:	-27.1	-3.04	-3.04	-6.9	-43.28	-14.31	-14.31	-7.49
Mean:	-28.08	-3.77	-3.77	-7.08	-48.65	-15.21	-15.21	-7.79
Std:	0.39	0.25	0.25	0.07	1.96	0.33	0.33	0.08

Comments:

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 07/12/03

Project: SEDA/ODG
Location i.d.: E21, E25, E29, E33
Survey Date: 06/23/03

Static SpikeTest

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0623.gdb								
Line #:	L1:0								
Min:	377.38	273.34	273.34	55.76					
Max:	383.47	277.54	277.54	56.77					
Mean:	380.36	275.22	275.22	56.22					
Std:	1.25	0.9	0.9	0.2					

Comments: PM static spike data was not collected due to instrument damage.

Coil #2

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0623.gdb								
Line #:	L2.1:0								
Min:	369.52	283.55	283.55	57.6					
Max:	373.15	286.28	286.28	58.44					
Mean:	371.44	285.02	285.02	58.03					
Std:	0.72	0.54	0.54	0.14					

Comments: PM static spike data was not collected due to instrument damage.

Coil #3

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0623.gdb								
Line #:	L3.2:0								
Min:	450.98	294.25	294.25	56.37					
Max:	455.94	297.63	297.63	57.25					
Mean:	452.96	295.62	295.62	56.75					
Std:	1	0.66	0.66	0.14					

Comments: PM static spike data was not collected due to instrument damage.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 07/12/03

Project: SEDA/ODG
Location i.d.: E21, E25, E29, E33
Survey Date: 06/23/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0623.gdb				0623.gdb			
Line #:	L4:0				L13:0			
Min:	-83.84	-13.29	-13.29	-7.69	2208.75	936.13	936.13	-4.76
Max:	-81.1	-12.2	-12.2	-6.76	2297.06	1014.88	1014.88	-3.86
Mean:	-82.16	-12.84	-12.84	-7.1	2247.38	968.02	968.02	-4.38
Std:	0.49	0.2	0.2	0.1	15.09	12.75	12.75	0.15

Comments: Top coil pig tail connector ripped out of Coil 1 resulting in a failed end-of-day static test for coil #1.
No data was collected after the dammage occurred.

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0623.gdb				0623.gdb			
Line #:	L4.1:0				L13.1:0			
Min:	-134.52	-28.31	-28.31	-8.19	-162.57	-40.69	-40.69	-10.22
Max:	-131.75	-26.8	-26.8	-7.41	-154.25	-38.48	-38.48	-9.02
Mean:	-133.21	-27.43	-27.43	-7.78	-158.55	-39.79	-39.79	-9.39
Std:	0.48	0.29	0.29	0.15	1.57	0.4	0.4	0.16

Comments:

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0623.gdb				0623.gdb			
Line #:	L4.2:0				L13.2:0			
Min:	-30.05	-5.11	-5.11	-7.31	-54.77	-16.34	-16.34	-8.22
Max:	-28.69	-4.08	-4.08	-6.68	-44.8	-14.95	-14.95	-7.35
Mean:	-29.31	-4.59	-4.59	-7.04	-50.17	-15.66	-15.66	-7.71
Std:	0.25	0.19	0.19	0.1	1.93	0.27	0.27	0.13

Comments:

NAVIGATION FUNCTION CHECKS

QC Check

by: JAW
Date: 7/10/03

Project: SEDA/ODG
Location i.d.: E21, E25, E29, E33
Survey Date: 6/23/03
File name: 0623.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0623AM Latency		0623PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.50	0.20	0.40	0.26
Coil #2	0.40	0.12	0.40	0.16
Coil #3	0.50	0.25	0.50	0.28

Comments: _____

Blind Seeds Detected

Seed ID	
WESTON 19	
Location	
Easting	736340.41
Northing	1013126.397
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
20	
Detected?	Yes
Location	
Easting	736339.50
Northing	1013127.80
Dist. & Orient. from Seed	
Dist. (ft)	1.88
Orientation	NW

Comments: Multiple anomalies detected near seeded item.

Data Sampling

Velocity	
Average (mph)	1.97
Along Track / Across Track Sampling	
*Along Track (ft)	0.23
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	1.3
Cumulative	55.2
Total Data Gaps (acres)	
This Data Set	0.002
Cumulative	0.011

* metric: <= 0.5 ft
** metric: <= 3.0 ft

Comments: UCEDATASEP GX calculated zero data points greater than 0.5ft seperation. Gap positions have been digitized for reacquisition and subsequent field review.

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0623.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0623.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Clipped & Weston noise
Clipping Value: -5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>1.66</u>	<u>1.68</u>
p.m.	<u>N/A</u>	<u>N/A</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Target ID's < 100 = 1, 116, and 92
Target ID's > 100 = 87, 63, and 57

Comments:

Daily DGM QC Audit Form
EM-61 MK2 Data

QC Check by: JAW
Date: 07/11/03

Project: SEDA/ODG
Location i.d.: 1 24-32
Survey Date: 06/24/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0624.gdb				0624.gdb			
Line #:	L0:0				L15:0			
Min:	-83.53	-16.57	-6.97	-7.33	-80.35	-20.67	-9.15	-7.88
Max:	-80.91	-15.19	-6.08	-6.68	-77.34	-19.19	-8.32	-7.2
Mean:	-82.25	-15.81	-6.57	-6.97	-78.64	-20.01	-8.76	-7.51
Std:	0.4	0.2	0.12	0.08	0.42	0.19	0.12	0.09

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0624.gdb				0624.gdb			
Line #:	L0.1:0				L15.1:0			
Min:	-155.54	-39.38	-12.66	-9.62	-164.91	-49.15	-17.39	-11.35
Max:	-150.98	-36.15	-10.36	-7.16	-160.65	-47.59	-16.61	-10.59
Mean:	-153.49	-37.61	-11.42	-8.37	-163.4	-48.54	-17	-10.97
Std:	0.71	0.6	0.51	0.54	0.52	0.21	0.13	0.11

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0624.gdb				0624.gdb			
Line #:	L0.2:0				L15.2:0			
Min:	-47.95	-13.95	-7.81	-7.43	-89.12	-35.39	-15.29	-9.31
Max:	-45.61	-12.63	-6.95	-6.93	-85.6	-33.97	-14.68	-8.78
Mean:	-46.9	-13.34	-7.42	-7.13	-87.75	-34.83	-14.98	-9.09
Std:	0.4	0.23	0.1	0.08	0.66	0.24	0.09	0.08

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 07/11/03

Project: SEDA/ODG
Location i.d.: 124-32
Survey Date: 06/24/03

Static Spike Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name:	0624.gdb				0624.gdb			
Line #:	L1:0				L16:0			
Min:	362.16	259.35	139.42	52.54	359.03	252.79	137.34	52.58
Max:	366.09	262.07	141.01	53.36	362.92	255.45	138.95	53.37
Mean:	364.33	260.68	140.3	53.01	361.22	254.2	138.22	53
Std:	0.93	0.66	0.36	0.15	0.96	0.67	0.37	0.16

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name:	0624.gdb				0624.gdb			
Line #:	L2.1:0				L17.1:0			
Min:	343.22	269.86	151.26	56.1	310.68	246.61	139.64	51.39
Max:	348.33	274.03	154.37	58.14	313.97	249.02	141.31	52.29
Mean:	345.9	272.2	152.85	57.21	312.4	247.89	140.54	51.86
Std:	0.95	0.77	0.57	0.5	0.6	0.45	0.3	0.17

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name:	0624.gdb				0624.gdb			
Line #:	L3.2:0				L18.2:0			
Min:	424.21	280.4	147.14	55.64	367.06	248.43	133.61	50.91
Max:	427.81	282.82	148.45	56.43	370.02	250.48	134.8	51.49
Mean:	426.29	281.8	147.83	56.06	368.79	249.69	134.2	51.22
Std:	0.8	0.52	0.29	0.13	0.65	0.43	0.23	0.11

Comments: _____

Daily DGM QC Audit Form
EM-61 MK2 Data

QC Check by: JAW
Date: 07/11/03

Project: SEDA/ODG
Location i.d.: 124-32
Survey Date: 06/24/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0624.gdb				0624.gdb			
Line #:	L4:0				L19:0			
Min:	-82.05	-16.4	-7.11	-7.47	-79.43	-20.28	-9.28	-8.02
Max:	-80.15	-15.33	-6.27	-6.78	-77.08	-19.23	-8.44	-7.36
Mean:	-81.03	-15.93	-6.75	-7.08	-78.09	-19.78	-8.91	-7.71
Std:	0.37	0.21	0.15	0.11	0.4	0.18	0.16	0.12

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0624.gdb				0624.gdb			
Line #:	L4.1:0				L19.1:0			
Min:	-156.11	-39.4	-12.66	-9.34	-164.67	-48.88	-17.22	-11.35
Max:	-152.87	-37.66	-10.97	-7.77	-162.65	-47.92	-16.52	-10.62
Mean:	-154.4	-38.65	-11.88	-8.63	-163.78	-48.4	-16.91	-11.02
Std:	0.75	0.4	0.45	0.39	0.38	0.19	0.13	0.12

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0624.gdb				0624.gdb			
Line #:	L4.2:0				L19.2:0			
Min:	-48.56	-14.49	-7.84	-7.46	-89.28	-35.59	-15.37	-9.41
Max:	-47.44	-13.73	-7.15	-6.98	-87.48	-34.47	-14.66	-8.72
Mean:	-47.96	-14.15	-7.55	-7.21	-88.51	-35.06	-15.05	-9.12
Std:	0.22	0.16	0.14	0.09	0.36	0.2	0.12	0.11

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: JAW
Date: 07/11/03

Project: SEDA/ODG
Location i.d.: 1 24-32
Survey Date: 06/24/03
File name: 0624.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0624AM Latency		0624PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.50	0.25	0.50	0.30
Coil #2	0.70	0.25	0.40	0.24
Coil #3	0.40	0.28	0.40	0.18

Comments: _____

Blind Seeds Detected

Seed ID	
NA	
Location	
Easting	NA
Northing	NA
Seed Description	
Depth (ft)	NA
Orientation	NA

Anomaly ID	
NA	
Detected?	NA
Location	
Easting	NA
Northing	NA
Dist. & Orient. from Seed	
Dist. (ft)	NA
Orientation	NA

Comments: No Weston seed within surveyed area.

Data Sampling

Velocity	
Average (mph)	2.02
Along Track / Across Track Sampling	
*Along Track (ft)	0.2
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	2.17
Cumulative	57.37
Total Data Gaps (acres)	
This Data Set	0.011
Cumulative	0.023

* metric: ≤ 0.5 ft

** metric: ≤ 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0624.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0624.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum Clipped & Weston_noise
Clipping Value: -5/7mV
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	NA	NA
p.m.	1.44	1.68
Metric:	</= 3.25	</= 2.0

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Target ID's < 100 = 101, 301, and 271
Target ID's > 100 = 108, 295, and 193

Comments: No AM survey

Daily DGM QC Audit Form
EM-61 MK2 Data

QC Check by: RSS

Date: 07/12/03

Project: SEDA/ODG

 E25-E31; F25-
Location i.d.: F33; G23-G34

Survey Date: 06/25/03

Static Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0625.gdb				0625.gdb			
Line #:		0.0				11.0			
Min:		-82.32	-12.73	-5.9	-7.32	-76.46	-20.11	-9.37	-8.02
Max:		-78.61	-10.95	-5.18	-6.79	-73.48	-18.61	-8.51	-7.38
Mean:		-80.46	-11.86	-5.58	-7.08	-75.18	-19.48	-8.99	-7.72
Std:		0.73	0.24	0.1	0.08	0.46	0.22	0.12	0.09

Comments: _____

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0625.gdb				0625.gdb			
Line #:		0.1				11.1			
Min:		-139.29	-28.25	-8.23	-7.95	-164.23	-49.32	-17.83	-11.58
Max:		-136.51	-26.73	-7.43	-7.31	-161.48	-47.87	-16.81	-10.61
Mean:		-137.92	-27.39	-7.83	-7.63	-162.89	-48.61	-17.28	-11.11
Std:		0.43	0.22	0.12	0.11	0.47	0.23	0.17	0.15

Comments: _____

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0625.gdb				0625.gdb			
Line #:		0.2				11.2			
Min:		-45.49	-11.88	-8.13	-8.31	-95.68	-39.63	-17.49	-10.14
Max:		-42.76	-10.36	-7.43	-7.53	-92.66	-38.12	-16.69	-9.6
Mean:		-44.22	-11.27	-7.8	-7.88	-94.19	-38.86	-17.11	-9.88
Std:		0.46	0.24	0.12	0.11	0.62	0.24	0.11	0.08

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS

Date: 07/12/03

Project: SEDA/ODG

E25-E31; F25-

Location i.d.: F33; G23-G34

Survey Date: 06/25/03

Static SpikeTest

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0625.gdb				0625.gdb			
Line #:	1.0				12.0			
Min:	378.95	271.77	144.54	53.97	360.85	251.83	135.98	51.66
Max:	385.13	276.39	146.89	55.15	366.64	255.95	138.2	52.76
Mean:	382.61	274.55	145.95	54.7	364.01	254.08	137.27	52.29
Std:	1.52	1.07	0.58	0.25	1.53	1.07	0.58	0.26

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0625.gdb				0625.gdb			
Line #:	2.1				13.1			
Min:	376.03	289.81	160.11	59.26	297.71	237.66	135.11	49.9
Max:	380.8	293.65	162.21	60.46	302.33	241.6	137.19	50.76
Mean:	378.63	292.17	161.22	59.86	300.65	240.19	136.34	50.38
Std:	0.87	0.69	0.41	0.25	0.77	0.6	0.34	0.16

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0625.gdb				0625.gdb			
Line #:	3.2				14.2			
Min:	441.62	290	149.45	55.67	367.68	249.63	134.73	51.77
Max:	444.99	292.31	150.68	56.3	371.17	251.94	135.95	52.53
Mean:	443.46	291.3	150.18	55.99	369.64	250.83	135.34	52.15
Std:	0.92	0.61	0.32	0.12	0.79	0.52	0.29	0.14

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS

Date: 07/12/03

Project: SEDA/ODG

 E25-E31; F25-

Location i.d.: F33; G23-G34

Survey Date: 06/25/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0625.gdb				0625.gdb			
Line #:	4.0				15.0			
Min:	-80.69	-12.24	-5.86	-7.5	-74.59	-19.56	-9.5	-8.25
Max:	-77.95	-11.11	-5.2	-6.56	-72.72	-18.41	-8.71	-7.5
Mean:	-79.28	-11.76	-5.55	-7.07	-73.74	-18.97	-9.1	-7.88
Std:	0.48	0.2	0.12	0.12	0.38	0.18	0.13	0.11

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0625.gdb				0625.gdb			
Line #:	4.1				15.1			
Min:	-138.09	-28.19	-8.16	-7.95	-162.81	-48.57	-17.45	-11.5
Max:	-135.77	-27.03	-7.39	-7.28	-160.63	-47.43	-16.75	-10.62
Mean:	-137.03	-27.48	-7.87	-7.63	-161.71	-47.95	-17.1	-11.12
Std:	0.4	0.22	0.13	0.11	0.45	0.21	0.14	0.15

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0625.gdb				0625.gdb			
Line #:	4.2				15.2			
Min:	-45.08	-12.09	-8.21	-8.1	-95.03	-39.41	-17.58	-10.32
Max:	-43.87	-11.31	-7.58	-7.55	-92.79	-38.05	-16.82	-9.58
Mean:	-44.58	-11.66	-7.91	-7.89	-93.91	-38.72	-17.15	-9.98
Std:	0.23	0.13	0.1	0.09	0.42	0.23	0.13	0.11

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: RSS

Date: 07/12/03

Project: SEDA/ODG
E25-E31; F25-F33;

Location i.d.: G23-G34

Survey Date: 06/25/03

File name: 0625.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
	0625AM Latency		0625PM Latency	
Coil #1	0.75	0.61	NA	NA
Coil #2	0.75	0.62	NA	NA
Coil #3	0.75	0.65	NA	NA

Comments: PM latency test was collected, however it appears the field crew did not traverse directly over spike items. AM latency used for both data sets. Latency values fall within DQO metrics however they can be further refined (decreased) to better correlate with spike items and track.

Blind Seeds Detected

Seed ID	
Weston 20	
Location	
Easting	736296.47
Northing	1014043.61
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
Target ID 847	
Detected?	Yes
Location	
Easting	736299.30
Northing	1014044.30
Dist. & Orient. from Seed	
Dist. (ft)	2.86
Orientation	East

Comments: Seed item displays a relatively large footprint. Target pick appears to be selected where all three coils imaged WESTON 20. Additional peak response 371.9 (mV) 1.4' SW of seed.

Data Sampling

Velocity	
Average (mph)	2.03
Along Track / Across Track Sampling	
*Along Track (ft)	0.24
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	6.93
Cumulative	64.3
Total Data Gaps (acres)	
This Data Set	0.001
Cumulative	0.227

* metric: ≤ 0.5 ft
** metric: ≤ 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0625.gdb
Leveling Performed: YES
Latency Correction Performed: YES (AM only) (no visible chevron effects)
Audit Log File Name: 0625.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: sum_clipped & Weston_Noise
Clipping Value: - 5/7
Text Files Attached: Yes
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>1.83</u>	<u>1.79</u>
p.m.	<u>2.38</u>	<u>1.97</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Target ID's < 100 = 190, 273, and 368
Target ID's > 100 = 290, 34, and 42

Comments:

Tracking "jumps" were observed within the data plot. GPS navigation
is likely the primary cause. Frequent instrument hangups were also
observed.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS

Date: 07/14/03

Project: SEDA/ODG

 D17-28, J33-37;

Location i.d.: K33-38

Survey Date: 06/26/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0626.gdb				0626.gdb			
Line #:	L0:0				L12:0			
Min:	-82.35	-14.58	-6.78	-7.38	-80.53	-22.34	-10.35	-8.3
Max:	-78.8	-13.4	-6.11	-6.87	-77.79	-20.82	-9.5	-7.6
Mean:	-80.68	-13.99	-6.46	-7.14	-79.09	-21.6	-9.96	-7.97
Std:	0.47	0.19	0.1	0.07	0.44	0.21	0.12	0.09

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0626.gdb				0626.gdb			
Line #:	L0.1:0				L12.1:0			
Min:	-139.6	-30.59	-9.84	-8.95	-164.74	-50.35	-18.16	-12.29
Max:	-136.93	-28.89	-8.62	-7.83	-161.97	-48.77	-17.24	-11.33
Mean:	-138.44	-29.77	-9.24	-8.33	-163.35	-49.65	-17.69	-11.85
Std:	0.42	0.28	0.21	0.22	0.47	0.25	0.14	0.14

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0626.gdb				0626.gdb			
Line #:	L0.2:0				L12.2:0			
Min:	-60.05	-20.57	-11.44	-9.06	-115.19	-49.59	-21.15	-11.18
Max:	-56.82	-18.89	-10.51	-8.54	-112.65	-48.18	-20.48	-10.71
Mean:	-58.37	-19.67	-10.95	-8.75	-113.88	-48.79	-20.83	-10.91
Std:	0.63	0.33	0.13	0.08	0.45	0.2	0.1	0.07

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS

Date: 07/14/03

Project: SEDA/ODG
 D17-28, J33-37;

Location i.d.: K33-38

Survey Date: 06/26/03

Static Spike Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0626.gdb				0626.gdb			
Line #:	L1:0				L13:0			
Min:	364.15	260.39	138.53	51.92	348.68	245.27	133.32	51.09
Max:	369.81	264.43	140.74	52.79	353.6	248.47	135.06	51.84
Mean:	367.13	262.33	139.65	52.36	350.88	246.85	134.18	51.49
Std:	1.27	0.89	0.47	0.17	0.91	0.63	0.34	0.15

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0626.gdb				0626.gdb			
Line #:	L2.1:0				L14.1:0			
Min:	364.33	281.3	155.6	57.37	342.42	266.28	151.07	55.97
Max:	369.83	285.64	157.76	58.45	346.1	269.02	152.58	56.74
Mean:	367.19	283.45	156.7	57.95	344.34	267.83	151.89	56.35
Std:	0.96	0.7	0.4	0.21	0.67	0.49	0.28	0.13

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0626.gdb				0626.gdb			
Line #:	L3.2:0				L15.2:0			
Min:	418.18	277.28	145.23	54.85	348.28	241.35	132.58	51.65
Max:	421.93	279.87	146.51	55.52	351.83	243.58	133.64	52.27
Mean:	420.26	278.79	145.98	55.17	350.21	242.45	133.11	52.01
Std:	0.86	0.55	0.29	0.12	0.68	0.42	0.23	0.11

Comments: Elevated static sipke on coil 3 AM potentially due to location of spike item.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS

Date: 07/14/03

Project: SEDA/ODG

 D17-28, J33-37;

Location i.d.: K33-38

Survey Date: 06/26/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0626.gdb				0626.gdb			
Line #:	L4:0				L16:0			
Min:	-82.53	-14.91	-6.98	-7.44	-81.85	-22.47	-10.36	-8.18
Max:	-78.74	-13.62	-6.18	-6.85	-80.02	-21.39	-9.52	-7.48
Mean:	-80.22	-14.33	-6.61	-7.17	-80.81	-21.97	-9.95	-7.87
Std:	0.67	0.24	0.14	0.1	0.33	0.22	0.15	0.12

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0626.gdb				0626.gdb			
Line #:	L4.1:0				L16.1:0			
Min:	-138.93	-31.05	-10.35	-9.28	-166.84	-51.02	-18.21	-12.21
Max:	-135.63	-29.08	-8.78	-7.67	-165.13	-49.91	-17.34	-11.37
Mean:	-137.49	-30.06	-9.55	-8.49	-166.04	-50.49	-17.79	-11.81
Std:	0.57	0.44	0.37	0.42	0.36	0.22	0.16	0.15

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0626.gdb				0626.gdb			
Line #:	L4.2:0				L16.2:0			
Min:	-62.09	-21.77	-11.65	-9.05	-117.87	-50.35	-21.19	-11.09
Max:	-60.6	-20.75	-11.16	-8.58	-116.06	-49.15	-20.44	-10.45
Mean:	-61.38	-21.3	-11.37	-8.8	-117.07	-49.67	-20.81	-10.79
Std:	0.27	0.17	0.09	0.08	0.34	0.21	0.15	0.11

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: JAW

Date: 7/14/03

Project: SEDA/ODG

D17-28, J33-37;

Location i.d.: K33-38

Survey Date: 6/26/03

File name: 0626.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0626AM Latency	0626PM Latency	0626PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.3	0.09	0.3	0.39
Coil #2	0.4	0.15	0.3	0.59
Coil #3	0.4	0.47	0.3	0.75

Comments: _____

Blind Seeds Detected

Seed ID	
Weston 18	
Location	
Easting	736866.87
Northing	1014232.42
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
276	
Detected?	Yes
Location	
Easting	736867.30
Northing	1014232.50
Dist. & Orient. from Seed	
Dist. (ft)	0.46
Orientation	SE

Comments: Peak response at 736866.68, 1014232.43 coincident with seed item; not selected in target list

Data Sampling

Velocity	
Average (mph)	2.33
Along Track / Across Track Sampling	
*Along Track (ft)	0.22
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	8.67
Cumulative	72.97
Total Data Gaps (acres)	
This Data Set	0.0022
Cumulative	0.0249

* metric: ≤ 0.5 ft

** metric: ≤ 3.0 ft

Comments: WESTON recalculated velocity is 2.33 mph.

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0626.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0626.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum Clipped & Weston_noise
Clipping Value: -5/7 mV
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)	
a.m.	<u>1.74</u>	<u>1.98</u>	Lines 6-7
p.m.	<u>1.61</u>	<u>1.80</u>	Lines 8-10
Metric:	<u></= 3.25</u>	<u></= 2.0</u>	

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Target ID's > 100 = 276, 9, and 16
Target ID's < 100 = 356, 358, and 325

Comments:

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW

Project: SEDA/ODG

Date: 07/16/03

L33-39, M33-38, N33-36, O-
Location i.d.: Q 33-34, P8-16
Survey Date: 06/27/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0627.gdb				0627.gdb			
Line #:	L0:0				L11:0			
Min:	-83.13	-12.88	-6.33	-7.46	-61.46	-12.31	-7.9	-8.76
Max:	-79.18	-11.64	-5.59	-6.99	-57.7	-10.55	-7.03	-8.14
Mean:	-80.54	-12.28	-5.93	-7.19	-59.5	-11.33	-7.48	-8.44
Std:	0.43	0.19	0.1	0.07	0.62	0.28	0.12	0.09

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0627.gdb				0627.gdb			
Line #:	L0.1:0				L11.1:0			
Min:	-138.73	-29.17	-8.93	-8.15	-130.88	-31.91	-11.56	-10.99
Max:	-136.02	-27.59	-7.95	-7.44	-127.88	-30.09	-10.52	-10.03
Mean:	-137.39	-28.37	-8.49	-7.83	-129.58	-31.07	-10.99	-10.56
Std:	0.41	0.24	0.15	0.13	0.45	0.27	0.14	0.14

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0627.gdb				0627.gdb			
Line #:	L0.2:0				L11.2:0			
Min:	-63.69	-22.17	-12.4	-9.33	-71.6	-29.24	-15.36	-10.48
Max:	-61.19	-20.67	-11.66	-8.82	-69.12	-27.74	-14.65	-9.93
Mean:	-62.13	-21.4	-12.05	-9.07	-70.21	-28.45	-14.98	-10.22
Std:	0.42	0.24	0.12	0.08	0.39	0.22	0.11	0.08

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW

Project: SEDA/ODG

Date: 07/16/03

L33-39, M33-38, N33-36, O-
Location i.d.: Q 33-34, P8-16
Survey Date: 06/27/03

Static Spike Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name		0627.gdb				0627.gdb			
Line #:		L1:0				L12:0			
Min:		377.04	269.73	143.38	53.7	369.59	255.77	135.17	49.96
Max:		384.33	275.17	145.93	54.89	382.6	264.55	139.77	51.89
Mean:		380.75	272.58	144.69	54.26	375.14	259.47	137.05	50.77
Std:		1.31	0.91	0.48	0.2	1.68	1.18	0.62	0.26

Comments: _____

Coil #2

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name		0627.gdb				0627.gdb			
Line #:		L2.1:0				L13.1:0			
Min:		354.41	275.57	152.11	56.11	363.4	275.79	152	54.47
Max:		359.03	279.02	154.11	57.08	367.56	278.62	153.66	55.31
Mean:		356.67	277.28	153.11	56.61	365.45	277.16	152.84	54.94
Std:		0.8	0.61	0.32	0.17	0.74	0.52	0.32	0.13

Comments: _____

Coil #3

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name		0627.gdb				0627.gdb			
Line #:		L3.2:0				L14.2:0			
Min:		414.01	274.16	142.65	53.71	398.34	264.13	138.58	52.13
Max:		418.09	276.77	144.03	54.45	402.84	267.17	140.14	52.92
Mean:		416.11	275.73	143.4	54.06	400.56	265.49	139.33	52.49
Std:		0.77	0.5	0.28	0.14	0.92	0.63	0.33	0.15

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW

Project: SEDA/ODG

Date: 07/16/03

L33-39, M33-
38, N33-36, O-
Location i.d.: Q 33-34, P8-16
Survey Date: 06/27/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0627.gdb				0627.gdb			
Line #:	L4:0				L15:0			
Min:	-80.73	-12.81	-6.36	-7.49	-61.88	-12.33	-7.91	-8.79
Max:	-78.1	-11.61	-5.61	-7.02	-59.05	-11.03	-7.13	-8.14
Mean:	-79.46	-12.18	-6	-7.25	-60.3	-11.52	-7.46	-8.44
Std:	0.46	0.23	0.12	0.1	0.47	0.23	0.14	0.11

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0627.gdb				0627.gdb			
Line #:	L4.1:0				L15.1:0			
Min:	-137.83	-28.9	-9.15	-8.37	-131.4	-31.79	-11.37	-10.96
Max:	-135.72	-27.99	-8.24	-7.59	-129.04	-30.38	-10.49	-10.1
Mean:	-136.81	-28.49	-8.67	-7.93	-130.27	-31.1	-10.93	-10.53
Std:	0.42	0.18	0.13	0.13	0.45	0.26	0.15	0.15

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0627.gdb				0627.gdb			
Line #:	L4.2:0				L15.2:0			
Min:	-63.62	-22.36	-12.67	-9.43	-71.35	-28.86	-15.43	-10.49
Max:	-61.19	-21.18	-11.53	-8.67	-69.42	-27.87	-14.59	-9.85
Mean:	-62.51	-21.74	-12.12	-9.01	-70.38	-28.33	-14.94	-10.15
Std:	0.43	0.22	0.16	0.11	0.37	0.19	0.13	0.1

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: JAW

Project: SEDA/ODG

L33-39, M33-38,

N33-36, O-Q 33-

Date: 7/16/03

Location i.d.: 34, P8-16

Survey Date: 6/27/03

File name: 0627.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.30	0.33	0.30	0.79
Coil #2	0.40	0.23	0.30	0.86
Coil #3	0.40	0.39	0.30	0.61

Comments: _____

Blind Seeds Detected

Seed ID	
NA	
Location	
Easting	NA
Northing	NA
Seed Description	
Depth (ft)	NA
Orientation	NA

Anomaly ID	
NA	
Detected?	
Location	
Easting	NA
Northing	NA
Dist. & Orient. from Seed	
Dist. (ft)	NA
Orientation	NA

Comments: Partial survey grids. No seeded item within survey area.

Data Sampling

Velocity	
Average (mph)	1.91
Along Track / Across Track Sampling	
*Along Track (ft)	0.26
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	8.61
Cumulative	81.51
Total Data Gaps (acres)	
This Data Set	0.002
Cumulative	0.0269

* metric: ≤ 0.5 ft

** metric: ≤ 3.0 ft

Comments: WESTON recalculated velocity is 2.24 mph.

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0627.gdb
Leveling Performed: yes
Latency Correction Performed: yes (no visible chevron effects)
Audit Log File Name: 0627.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: sum_clipped & Weston_noise
Clipping Value: -5/7 mV
Text Files Attached: yes
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)	
a.m.	1.68	1.86	lines 6-7
p.m.	1.78	2.28	lines 8-9
Metric:	<u></= 3.25</u>	<u></= 2.0</u>	

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Target ID's > 100 = 33, 378, and 162
Target ID's < 100 = 141, 76, and 119

Comments: SNR Std.Dev. exceeds the DQO metric for PM.
Partial survey area lies within high density area (~1.70 acres).
SNR levels exceed the DQO metric. This was observed in earlier data sets conducted in high density target areas. A root cause analyses was performed. Results substantiate that std dev for SNR was higher in high density (cluttered) target areas.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS
Date: 10/22/02

Project: SEDA/ODG
Location i.d.: M7-16; N7-16; O7-16
Survey Date: 06/28/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0628.gdb				0628.gdb			
Line #:	L0:0				L13:0			
Min:	-78.43	-11.84	-5.91	-7.44	-74.09	-16.08	-8.18	-7.98
Max:	-75.87	-10.28	-5.24	-6.91	-70.87	-14.76	-7.42	-7.45
Mean:	-77.05	-10.98	-5.57	-7.21	-72.85	-15.42	-7.78	-7.75
Std:	0.43	0.20	0.11	0.07	0.46	0.17	0.10	0.08

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0628.gdb				0628.gdb			
Line #:	L0.1:0				L13.1:0			
Min:	-138.23	-27.32	-7.89	-7.90	-145.47	-41.46	-15.22	-11.65
Max:	-135.76	-26.00	-7.02	-7.30	-142.52	-40.13	-14.33	-11.01
Mean:	-137.04	-26.67	-7.50	-7.58	-144.04	-40.79	-14.75	-11.35
Std:	0.40	0.20	0.12	0.09	0.39	0.20	0.13	0.11

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0628.gdb				0628.gdb			
Line #:	L0.2:0				L13.2:0			
Min:	-63.37	-20.58	-11.53	-9.06	-68.74	-27.59	-13.60	-9.43
Max:	-60.19	-19.19	-10.80	-8.58	-65.76	-26.17	-12.87	-8.88
Mean:	-61.95	-19.89	-11.15	-8.82	-67.58	-26.91	-13.23	-9.15
Std:	0.52	0.27	0.12	0.07	0.36	0.18	0.10	0.08

Comments: _____

Daily DGM QC Audit Form
EM-61 MK2 Data

QC Check by: MDS
Date: 10/22/02

Project: SEDA/ODG
Location i.d.: M7-16; N7-16; O7-16
Survey Date: 06/28/03

Static SpikeTest

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0628.gdb				0628.gdb			
Line #:	L1:0				L14:0			
Min:	388.10	276.48	146.73	55.00	363.45	255.28	137.46	52.03
Max:	395.03	281.87	149.32	56.10	370.65	260.68	140.02	53.14
Mean:	391.24	278.70	147.85	55.47	367.94	258.72	138.97	52.70
Std:	1.27	0.95	0.49	0.19	1.27	0.94	0.50	0.20

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0628.gdb				0628.gdb			
Line #:	L2.1:0				L15.1:0			
Min:	372.64	287.72	158.72	58.80	-143.47	-39.92	-13.63	-11.06
Max:	376.86	290.86	160.51	59.72	1266.88	1020.86	618.16	327.85
Mean:	375.06	289.76	159.80	59.25	186.54	167.12	96.88	33.80
Std:	0.73	0.54	0.31	0.15	213.17	136.21	74.60	32.03

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0628.gdb				0628.gdb			
Line #:	L3.2:0				L16.2:0			
Min:	417.29	277.41	144.18	54.28	373.35	250.07	133.01	50.44
Max:	423.22	281.41	146.34	55.25	376.59	252.34	134.28	51.01
Mean:	420.08	279.39	145.48	54.82	375.04	251.17	133.69	50.77
Std:	0.92	0.61	0.32	0.14	0.72	0.49	0.27	0.12

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS
Date: 10/22/02

Project: SEDA/ODG
Location i.d.: M7-16; N7-16; O7-16
Survey Date: 06/28/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0628.gdb				0628.gdb			
Line #:	L4:0				L17:0			
Min:	-76.84	-11.66	-6.24	-7.82	-74.35	-16.12	-8.28	-8.16
Max:	-74.82	-10.49	-5.36	-6.68	-72.15	-15.25	-7.53	-7.46
Mean:	-75.88	-11.09	-5.72	-7.24	-73.19	-15.72	-7.88	-7.81
Std:	0.37	0.18	0.14	0.14	0.38	0.15	0.12	0.10

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0628.gdb				0628.gdb			
Line #:	L4.1:0				L17.1:0			
Min:	-136.62	-27.43	-8.14	-8.04	-148.17	-42.21	-15.27	-11.72
Max:	-134.11	-26.03	-7.14	-7.07	-146.27	-41.02	-14.31	-10.98
Mean:	-135.37	-26.71	-7.60	-7.60	-147.20	-41.64	-14.83	-11.35
Std:	0.49	0.26	0.18	0.18	0.40	0.22	0.14	0.12

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0628.gdb				0628.gdb			
Line #:	L4.2:0				L17.2:0			
Min:	-64.22	-21.54	-11.96	-9.29	-71.76	-28.15	-13.50	-9.44
Max:	-62.61	-20.32	-11.04	-8.51	-69.47	-27.00	-12.74	-8.62
Mean:	-63.48	-21.00	-11.50	-8.85	-70.45	-27.54	-13.06	-9.03
Std:	0.29	0.19	0.15	0.13	0.47	0.23	0.12	0.11

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: MDS

Project: SEDA/ODG

Date: 10/22/03

Location i.d.: M7-16; N7-16; O7-16

Survey Date: 6/28/03

File name: 0628.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
	0628AM Latency		0628PM Latency	
Coil #1	0.3	1.00	0.3	0.47
Coil #2	0.3	1.16	0.3	0.37
Coil #3	0.3	0.98	0.3	0.40

Comments: _____

Blind Seeds Detected

Seed ID	
NA	
Location	
Easting	NA
Northing	NA
Seed Description	
Depth (ft)	NA
Orientation	NA

Anomaly ID	
NA	
Detected?	NA
Location	
Easting	NA
Northing	NA
Dist. & Orient. from Seed	
Dist. (ft)	NA
Orientation	NA

Comments: _____

Data Sampling

Velocity	
Average (mph)	2.48
Along Track / Across Track Sampling	
*Along Track (ft)	0.29
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	9.29
Cumulative	90.87
Total Data Gaps (acres)	
This Data Set	0.002
Cumulative	

* metric: <= 0.5 ft

** metric: <= 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0628.gdb
Leveling Performed: Yes
Latency Correction Performed: Yes (no visible chevron effects)
Audit Log File Name: 0628.rtf
Anomaly Selection Verified on: 100% % of data set

SNR:

Channel Analyzed: sum_clipped & Weston_Noise
Clipping Value: - 5/7
Text Files Attached: Yes
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)	
a.m.	<u>1.80</u>	<u>2.15</u>	Lines 6-7
p.m.	<u>1.81</u>	<u>2.14</u>	Lines 8-11
Metric:	<u></= 3.25</u>	<u></= 2.0</u>	

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Target ID < 100 3, 9, and 3621
Target ID > 100 99, 83, and 181

Comments:

SNR levels exceed the DQO metric. This was observed in earlier data
sets conducted in high density target areas. A root cause analyses was
performed. Results substantiate that std dev. for SNR was higher in high
density (cluttered) target areas.
Part of west edge of data set was masked and submitted to dig teams
as a Mag and Flag Area due to excessive noise caused by terrain

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 07/17/03

Project: SEDA/ODG
Location i.d.: K7-14,L7-23
Survey Date: 06/30/03

Static Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0630.gdb				0630.gdb			
Line #:		0.0				14.0			
Min:		-87.85	-12.84	-5.35	-7.26	-66.66	-12.58	-7.23	-8.15
Max:		-84.93	-11.43	-4.61	-6.8	-63.47	-11.22	-6.51	-7.6
Mean:		-86.46	-12.14	-4.99	-7.04	-65.23	-11.84	-6.85	-7.93
Std:		0.43	0.19	0.1	0.08	0.51	0.2	0.11	0.08

Comments: _____

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0630.gdb				0630.gdb			
Line #:		0.1				14.1			
Min:		-141.93	-29.93	-9.22	-8.52	-136.27	-34.42	-12.3	-10.72
Max:		-138.17	-28.52	-8.32	-7.68	-132.41	-33	-11.3	-10.09
Mean:		-140.25	-29.29	-8.75	-8.05	-134.73	-33.74	-11.79	-10.4
Std:		0.52	0.23	0.14	0.12	0.51	0.23	0.16	0.1

Comments: _____

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0630.gdb				0630.gdb			
Line #:		0.2				14.2			
Min:		-42.2	-10.63	-7.84	-8.04	-54.18	-19.99	-11.34	-9.02
Max:		-40.49	-9.62	-6.96	-7.53	-51.05	-18.42	-10.65	-8.57
Mean:		-41.43	-10.27	-7.46	-7.78	-52.93	-19.38	-11.04	-8.8
Std:		0.24	0.13	0.1	0.08	0.5	0.22	0.1	0.07

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 07/17/03

Project: SEDA/ODG
Location i.d.: K7-14,L7-23
Survey Date: 06/30/03

Static SpikeTest

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name:		0630.gdb				0630.gdb			
Line #:		1.0				15.0			
Min:		383.59	278.28	148.86	55.92	379.25	265.28	141.56	53.18
Max:		388.08	281.12	150.61	56.71	384.1	268.59	143.35	54.02
Mean:		386.02	279.93	149.78	56.34	381.92	267.08	142.54	53.65
Std:		1.05	0.75	0.4	0.17	1.11	0.77	0.41	0.17

Comments: _____

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name:		0630.gdb				0630.gdb			
Line #:		2.1				16.1			
Min:		349.06	272.75	150.47	55.13	315	246.19	136.72	48.78
Max:		352.54	275.09	151.97	56.05	318.01	248.48	138.13	49.71
Mean:		351.07	274.07	151.22	55.59	316.6	247.34	137.54	49.26
Std:		0.66	0.48	0.28	0.14	0.58	0.43	0.26	0.18

Comments: _____

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name:		0630.gdb				0630.gdb			
Line #:		3.2				17.2			
Min:		436.77	285.99	147.05	54.46	389.13	256.26	133.61	49.86
Max:		439.82	288.03	148.09	55.05	392.64	258.49	134.8	50.45
Mean:		438.37	287.12	147.6	54.8	391.02	257.59	134.3	50.16
Std:		0.72	0.46	0.24	0.12	0.76	0.49	0.26	0.11

Comments: _____

Daily DGM QC Audit Form
EM-61 MK2 Data

QC Check by: RSS
 Date: 07/17/03

Project: SEDA/ODG
 Location i.d.: K7-14,L7-23
 Survey Date: 06/30/03

Cable Shake Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0630.gdb				0630.gdb			
Line #:		4.0				18.0			
Min:		-84.72	-12.36	-5.36	-7.38	-65.86	-12.32	-7.16	-8.24
Max:		-82.91	-11.22	-4.55	-6.68	-63.16	-10.83	-6.44	-7.76
Mean:		-88.88	-11.71	-4.96	-7.05	-64.67	-11.61	-6.84	-7.98
Std:		0.35	0.2	0.13	0.12	0.49	0.27	0.14	0.09

Comments: _____

Coil #2

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0630.gdb				0630.gdb			
Line #:		4.1				18.1			
Min:		-138.58	-29.17	-9.13	-8.46	-136.11	-34.21	-12.19	-10.75
Max:		-136.86	-28.11	-8.26	-7.66	-133.99	-33.14	-11.23	-10.18
Mean:		-137.68	-28.71	-8.76	-8.13	-134.99	-33.67	-11.74	-10.44
Std:		0.37	0.2	0.14	0.12	0.37	0.21	0.17	0.11

Comments: _____

Coil #3

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0630.gdb				0630.gdb			
Line #:		4.2				18.2			
Min:		-42.18	-10.85	-7.76	-8.13	-53.98	-19.91	-11.29	-9.01
Max:		-40.06	-9.71	-7.08	-7.47	-52.23	-18.83	-10.56	-8.51
Mean:		-40.99	-10.29	-7.44	-7.78	-53.03	-19.4	-10.98	-8.82
Std:		0.42	0.24	0.13	0.11	0.26	0.16	0.11	0.08

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: RSS

Project: SEDA/ODG

Date: 7/17/03

Location i.d.: K7-14,L7-23

Survey Date: 6/30/03

File name: 0630.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0630AM Latency		0630PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.4	0.34	0.4	0.08
Coil #2	0.4	0.27	0.4	0.1
Coil #3	0.4	0.32	0.4	0.15

Comments: _____

Blind Seeds Detected

Seed ID	
WESTON 24	
Location	
Easting	736930.21
Northing	1010994.19
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
159	
Detected?	YES
Location	
Easting	736930.30
Northing	1010994.80
Dist. & Orient. from Seed	
Dist. (ft)	0.50
Orientation	NNE

Comments: WESTON 13 was detected at a turn around area. Target 710 lies 1.83 ft East of Seed location.

Data Sampling

Velocity	
Average (mph)	2.35
Along Track / Across Track Sampling	
*Along Track (ft)	0.28
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	8.98
Cumulative	99.85
Total Data Gaps (acres)	
This Data Set	0.008
Cumulative	0.035

* metric: <= 0.5 ft
 ** metric: <= 3.0 ft

Comments: Parsons calculated Area= 8.98. Weston area calculated using grid data only. Data gaps present adjacent to inaccessible areas were not calculated.

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0630.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0630.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum_Clipped,Weston_Noise
Clipping Value: - 5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)	
a.m.	<u>1.69</u>	<u>1.87</u>	lines 6-7
p.m.	<u>1.79</u>	<u>2.17</u>	lines 8-12
Metric:	<u></= 3.25</u>	<u></= 2.0</u>	

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

<u>3</u>	Anomalies <	<u>100</u>
<u>3</u>	Anomalies >	<u>100</u>

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Target ID:878,802,667,627,838,768

Comments: PM survey exceeds the metric. This could be the result of part of the survey area collected inside the high density area.
This was observed in earlier data sets conducted in high density target areas. A root cause analyses was performed. Results substantiate that std dev. for SNR was higher in high density (cluttered) target areas

Daily DGM QC Audit Form
EM-61 MK2 Data

QC Check by: RSS
Date: 07/17/03

Project: SEDA/ODG
Location i.d.: E15-18,F13-18,K15-23
Survey Date: 07/01/03

Static Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0701.gdb				0701.gdb			
Line #:		0.0				13.0			
Min:		-77.17	-9.43	-3.19	-4.92	-63.36	-13.1	-6.04	-5.93
Max:		-74.07	-7.88	-2.39	-4.49	-59.93	-11.36	-5.01	-5.34
Mean:		-75.65	-8.72	-2.77	-4.69	-61.43	-12.14	-5.59	-5.62
Std:		0.49	0.24	0.12	0.08	0.46	0.23	0.13	0.09

Comments: _____

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0701.gdb				0701.gdb			
Line #:		0.1				13.1			
Min:		-132.17	-27.97	-9.05	-8.45	-152.05	-43.9	-15.87	-11.43
Max:		-129.52	-26.49	-8.18	-7.67	-148.77	-42.27	-14.82	-10.74
Mean:		-131.03	-27.33	-8.62	-8.07	-150.58	-43.05	-15.34	-11.08
Std:		0.38	0.2	0.14	0.12	0.5	0.24	0.14	0.11

Comments: _____

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0701.gdb				0701.gdb			
Line #:		0.2				13.2			
Min:		-44.23	-11.66	-7.23	-7.05	-71.95	-28.35	-12.98	-8.19
Max:		-41.66	-10.09	-6.38	-6.61	-68.28	-26.74	-12.3	-7.74
Mean:		-43.15	-11.01	-6.86	-6.84	-70.21	-27.57	-12.65	-8
Std:		0.44	0.26	0.12	0.07	0.7	0.28	0.11	0.07

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 07/17/03

Project: SEDA/ODG
Location i.d.: E15-18,F13-18,K15-23
Survey Date: 07/01/03

Static Spike Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0701.gdb				0701.gdb			
Line #:	1.0				14.0			
Min:	388.39	277.12	147.79	55.47	388.22	267.68	143.64	54.42
Max:	392.73	280.25	149.43	56.25	393.71	271.7	145.63	55.47
Mean:	390.67	278.92	148.7	55.92	391.24	269.86	144.71	55.02
Std:	1.08	0.77	0.41	0.19	1.27	0.89	0.47	0.22

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0701.gdb				0701.gdb			
Line #:	2.1				15.1			
Min:	352.12	271.33	149.03	54.4	333.25	258.38	145.1	53.34
Max:	355.65	273.95	150.48	55.28	338.75	262.65	147.91	54.55
Mean:	353.88	272.66	149.78	54.88	336.17	261.08	146.93	54.03
Std:	0.68	0.51	0.29	0.16	0.99	0.74	0.45	0.2

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0701.gdb				0701.gdb			
Line #:	3.2				16.2			
Min:	421.7	275.58	142.52	53.03	381.93	254.23	134.86	51.2
Max:	424.79	277.4	143.59	53.6	385.23	256.6	136.11	51.8
Mean:	423.52	276.65	143.16	53.34	383.3	255.35	135.48	51.49
Std:	0.68	0.44	0.23	0.09	0.74	0.47	0.26	0.11

Comments: _____

Daily DGM QC Audit Form
EM-61 MK2 Data

QC Check by: RSS
Date: 07/17/03

Project: SEDA/ODG
Location i.d.: E15-18,F13-18,K15-23
Survey Date: 07/01/03

Cable Shake Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0701.gdb				0701.gdb			
Line #:		4.0				17.0			
Min:		-76.78	-9.45	-3.32	-5.03	-63.9	-12.84	-6.01	-5.91
Max:		-74.85	-8.51	-2.6	-4.41	-61.37	-11.58	-5.11	-5.23
Mean:		-75.82	-8.98	-2.86	-4.72	-62.72	-12.28	-5.56	-5.6
Std:		0.31	0.16	0.11	0.11	0.41	0.21	0.13	0.11

Comments: _____

Coil #2

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0701.gdb				0701.gdb			
Line #:		4.1				17.1			
Min:		-131.76	-27.99	-9.36	-8.6	-153.88	-44.25	-15.79	-11.53
Max:		-129.18	-26.85	-8.39	-7.71	-151.45	-42.92	-14.96	-10.74
Mean:		-130.47	-27.51	-8.86	-8.16	-152.69	-43.63	-15.35	-11.1
Std:		0.5	0.24	0.17	0.16	0.47	0.24	0.15	0.12

Comments: _____

Coil #3

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0701.gdb				0701.gdb			
Line #:		4.2				17.2			
Min:		-45.17	-12.42	-7.52	-7.31	-73.62	-28.89	-13.05	-8.26
Max:		-43.64	-11.33	-6.55	-6.38	-71.9	-27.65	-12.03	-7.46
Mean:		-44.52	-11.9	-7.17	-6.93	-72.96	-28.42	-12.7	-7.97
Std:		0.23	0.18	0.15	0.13	0.28	0.18	0.12	0.11

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: RSS

Project: SEDA/ODG

E15-18,F13-

Date: 7/17/03

Location i.d.: 18,K15-23

Survey Date: 7/1/03

File name: 0701.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
0701 AM Latency.map				
Coil #1	0.6	0.14	NA	NA
Coil #2	0.4	0.15	NA	NA
Coil #3	0.4	0.22	NA	NA

Comments: PM latency test was not used due to operator error.

Blind Seeds Detected

Seed ID	
WESTON 14	
Location	
Easting	736751.98
Northing	1012081.82
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
192	
Detected?	YES
Location	
Easting	736753.00
Northing	1012081.80
Dist. & Orient. from Seed	
Dist. (ft)	1.00
Orientation	East

Comments: WESTON 13 detected on 0701a map. Target pick appears on 0630 dataset. WESTON 22 detected on 0701b map. Targets 679 and 680 lie within anomaly footprint. Targets do not appear to be "merged."

Data Sampling

Velocity	
Average (mph)	2.23
Along Track / Across Track Sampling	
*Along Track (ft)	0.26
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	5.83
Cumulative	105.68
Total Data Gaps (acres)	
This Data Set	0.004
Cumulative	0.0389

* metric: $\leq 0.5\text{ ft}$

** metric: $\leq 3.0\text{ ft}$

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0701.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0701.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum_Clipped/Weston_Noise
Clipping Value: - 5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>1.71</u>	<u>2.02</u>
p.m.	<u>1.72</u>	<u>1.99</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Targets reviewed: 46,88,92,140,163,238.

Comments: Targets selected on 0701b appear to be to numerous and maybe
further refined ("merged") to better match anomalies.
Targets selected on 0701a appear on two separate data sets.
SNR levels exceed the DQO metric. This was observed in earlier data
sets conducted in high density target areas. A root cause analyses was
performed. Results substantiate that std dev. for SNR was higher in high
density (cluttered) target areas.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 07/18/03

Project: SEDA/ODG
Location i.d.: G13-18,H14-18,I13-18,J14-15
Survey Date: 07/02/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0702.gdb				0702.gdb			
Line #:	0.0				13.0			
Min:	-75.25	-11.53	-5.73	-7.37	-71.47	-16.8	-8.79	-8.46
Max:	-72.65	-10.62	-5.17	-6.9	-68.99	-15.53	-7.99	-7.87
Mean:	-73.63	-11.1	-5.44	-7.14	-70.14	-16.14	-8.37	-8.16
Std:	0.37	0.14	0.1	0.07	0.32	0.17	0.11	0.08

Comments: Anomalous spike observed in CH1 AM static test.

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0702.gdb				0702.gdb			
Line #:	0.1				13.1			
Min:	-138.89	-29.76	-9.43	-8.48	-151.63	-43.3	-15.54	-11.6
Max:	-135.42	-28.08	-8.24	-7.47	-148.74	-41.93	-14.79	-11.01
Mean:	-136.89	-28.85	-8.82	-7.92	-149.95	-42.61	-15.17	-11.31
Std:	0.59	0.29	0.24	0.21	0.48	0.21	0.12	0.1

Comments: Slight drift noted at start of data collection. PM Static drift observed at 16:51:45.

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0702.gdb				0702.gdb			
Line #:	0.2				13.2			
Min:	-39.19	-10.04	-7.45	-7.82	-71.43	-28.96	-13.99	-9.39
Max:	-37.3	-8.72	-6.78	-7.34	-69.22	-27.87	-13.34	-8.86
Mean:	-38.31	-9.49	-7.11	-7.6	-70.15	-28.37	-13.71	-9.16
Std:	0.3	0.19	0.09	0.07	0.41	0.17	0.09	0.08

Comments: Negative drift observed during data collection.

Daily DGM QC Audit Form
EM-61 MK2 Data

QC Check by: RSS
Date: 07/18/03

Project: SEDA/ODG
Location i.d.: G13-18,H14-18,I13-18,J14-15
Survey Date: 07/02/03

Static Spike Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0702.gdb				0702.gdb			
Line #:	1.0				14.0			
Min:	395.86	279.55	148.95	56.38	389.25	270.39	145.39	55.18
Max:	402.52	283.83	151.33	57.4	393.97	273.62	147.17	56.13
Mean:	398.74	281.56	150.17	56.85	391.77	272.04	146.31	55.66
Std:	1.21	0.81	0.44	0.19	1.04	0.72	0.39	0.18

Comments: Inconsistent data collection intervals observed in Static Spike test data.

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0702.gdb				0702.gdb			
Line #:	2.1				15.1			
Min:	385.83	294.03	161.47	59.9	333.48	259.19	145.57	53.11
Max:	390.1	296.94	163.07	60.75	336.86	261.7	147.1	54.01
Mean:	388.07	295.4	162.37	60.38	335.17	260.27	146.36	53.57
Std:	0.77	0.51	0.3	0.16	0.54	0.39	0.27	0.14

Comments: Negative drift (~1 mV) observed at the beginning of PM static test.

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0702.gdb				0702.gdb			
Line #:	3.2				16.2			
Min:	433.25	282.36	144.81	53.64	394.5	262.29	139.12	52.9
Max:	436.38	284.45	146.06	54.26	397.67	264.19	140.3	53.5
Mean:	434.95	283.52	145.55	54	396.55	263.39	139.77	53.22
Std:	0.69	0.46	0.25	0.11	0.61	0.41	0.23	0.1

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 07/18/03

Project: SEDA/ODG
Location i.d.: G13-18,H14-18,I13-18,J14-15
Survey Date: 07/02/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0702.gdb				0702.gdb			
Line #:	4.0				17.0			
Min:	-73.5	-11.5	-5.85	-7.39	-71.47	-16.75	-8.81	-8.47
Max:	-71.25	-10.4	-5.13	-6.88	-69.06	-15.03	-7.02	-7.13
Mean:	-72.51	-10.9	-5.45	-7.15	-70.4	-16.08	-8.29	-8.12
Std:	0.4	0.19	0.13	0.09	0.46	0.31	0.19	0.13

Comments: Anomalous spike at fiducial 181. Drift observed at end of data collection.

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0702.gdb				0702.gdb			
Line #:	4.1				17.1			
Min:	-136.62	-29.61	-9.75	-8.75	-153.51	-44.31	-15.77	-11.62
Max:	-133.88	-27.93	-8.19	-7.31	-151.14	-42.68	-14.79	-10.83
Mean:	-135.4	-28.74	-8.94	-7.99	-152.53	-43.41	-15.33	-11.33
Std:	0.52	0.41	0.41	0.38	0.42	0.25	0.15	0.12

Comments:

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0702.gdb				0702.gdb			
Line #:	4.2				17.2			
Min:	-39.83	-10.62	-7.57	-7.85	-73.3	-29.6	-14	-9.6
Max:	-38.76	-9.76	-7.01	-7.2	-68.79	-25.22	-10.27	-5.58
Mean:	-39.3	-10.29	-7.31	-7.54	-72.31	-28.92	-13.68	-9.06
Std:	0.19	0.15	0.1	0.08	0.42	0.34	0.31	0.3

Comments: Anomalous spike observed in PM Cable Shake data at fiducial 182.

NAVIGATION FUNCTION CHECKS

QC Check
 by: RSS Project: SEDA/ODG
 Date: 7/18/03 Location i.d.: G13-18,H14-18,113-18,J14-15
 Survey Date: 7/2/03
 File name: 0702.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.5	0.33	0.5	0.49
Coil #2	0.5	0.2	0.5	0.4
Coil #3	0.5	0.03	0.5	0.57

Comments: Deviations from target center observed in PM latency survey.

Blind Seeds Detected

Seed ID		Anomaly ID	
NA		NA	
Location		Location	
Easting	NA	Easting	NA
Northing	NA	Northing	NA
Seed Description		Dist. & Orient. from Seed	
Depth (ft)	NA	Dist. (ft)	NA
Orientation	NA	Orientation	NA

Comments: Weston seeded items were not surveyed.

Data Sampling

Velocity	
Average (mph)	1.63
Along Track / Across Track Sampling	
*Along Track (ft)	0.19
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	4.69
Cumulative	110.37
Total Data Gaps (acres)	
This Data Set	0.004
Cumulative	0.043

* metric: <= 0.5 ft
 ** metric: <= 3.0 ft

Comments: Data gaps were calculated from areas exhibiting line deviations that were not likely a result of inaccessibility. Additional gaps have been digitized as waypoints for field investigation and truthing.

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0702.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0702.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum_Clipped/Weston_Noise
Clipping Value: - 5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>1.49</u>	<u>1.74</u>
p.m.	<u>1.53</u>	<u>1.81</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

-Calculation from Weston_Noise

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Target cert:784,353,796,805,538,295.

Comments: Anomalous area identified at target 753. Approximately 9 minutes of data was collected at a static location (0 velocity). Additional areas exhibiting 0 mph are apparent in the survey grid. Response observed at this location is not representative of anomalous previously identified. (E736299.3,N1012056.3)

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS

Project: SEDA/ODG

Date: 07/19/03

Location i.d.: G12,H11-13,I10-12,J8-12,N5-6,O5-6,P5-6,Q-AA6, W-GG7,EE-GG8

Survey Date: 07/03/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0703.gdb				0703.gdb			
Line #:	L0:0				L11:0			
Min:	-79.53	-11.72	-5.48	-7.38	-70.73	-16.9	-8.77	-8.33
Max:	-75.49	-10.23	-4.86	-6.81	-67.84	-15.5	-7.8	-7.79
Mean:	-77.43	-10.88	-5.18	-7.08	-69.43	-16.22	-8.34	-8.05
Std:	0.79	0.2	0.09	0.08	0.46	0.22	0.11	0.08

Comments: Slight positive drift observed in Pre-survey CH1 data.

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0703.gdb				0703.gdb			
Line #:	L0.1:0				L11.1:0			
Min:	-139.6	-29.45	-9	-8.2	-157.03	-45.28	-15.94	-11.28
Max:	-135.97	-27.91	-8.14	-7.35	-152.89	-43.27	-15.04	-10.62
Mean:	-138.11	-28.65	-8.59	-7.82	-154.88	-44.35	-15.45	-10.9
Std:	0.52	0.22	0.14	0.12	0.69	0.31	0.14	0.11

Comments: Slight negative drift observed in Post-survey CH1 data.

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0703.gdb				0703.gdb			
Line #:	L0.2:0				L11.2:0			
Min:	-38.41	-10	-7.62	-7.9	-78.69	-31.24	-13.99	-9.11
Max:	-36.75	-8.85	-7.03	-7.43	-73.56	-29.17	-13.33	-8.58
Mean:	-37.61	-9.53	-7.37	-7.68	-76.2	-30.21	-13.7	-8.84
Std:	0.26	0.17	0.1	0.07	1.13	0.36	0.1	0.08

Comments: Negative drift observed in Post-survey ch1 and CH2 data.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS

Project: SEDA/ODG

Date: 07/19/03

Location i.d.: G12,H11-13,I10-12,J8-12,N5-6,O5-6,P5-6,Q-
AA6, W-GG7,EE-GG8

Survey Date: 07/03/03

Static Spike Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0703.gdb				0703.gdb			
Line #:	L1:0				L12:0			
Min:	405.37	288.07	153.77	58.4	366.22	254.77	136.63	51.62
Max:	411.46	291.84	155.85	59.28	372.97	259.48	139.34	52.71
Mean:	408.18	289.76	154.75	58.81	369.5	257.16	138.09	52.2
Std:	1.12	0.78	0.41	0.17	1.38	0.97	0.51	0.21

Comments: Inconsistent data collection intervals observed in Post-survey data from fiducial 354-852.

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0703.gdb				0703.gdb			
Line #:	L2.1:0				L13.1:0			
Min:	376.57	289.24	159.71	59.39	309.19	244.93	139.11	51.12
Max:	380.37	292.01	161.21	60.32	312.39	248.01	140.7	52.03
Mean:	378.49	290.94	160.55	59.88	310.88	246.62	139.99	51.61
Std:	0.67	0.49	0.28	0.16	0.6	0.46	0.28	0.17

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0703.gdb				0703.gdb			
Line #:	L3.2:0				L14.2:0			
Min:	456.13	297.24	153.2	57.41	384.36	258.78	139.04	53.45
Max:	459.99	299.59	154.36	58.05	389.38	261.78	140.77	54.3
Mean:	458.23	298.44	153.77	57.77	386.52	260.21	139.86	53.89
Std:	0.91	0.6	0.31	0.14	0.87	0.57	0.31	0.14

Comments: Inconsistent data collection intervals observed in Post-survey data from fiducial 485.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS

Project: SEDA/ODG

Date: 07/19/03

Location i.d.: AA6, W-GG7,EE-GG8

Survey Date: 07/03/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0703.gdb				0703.gdb			
Line #:	L4:0				L15:0			
Min:	-77.71	-11.49	-5.59	-7.42	-70.84	-17.06	-8.7	-8.34
Max:	-75.97	-10.56	-4.96	-6.77	-68.54	-15.7	-7.91	-7.73
Mean:	-76.91	-11.04	-5.29	-7.12	-69.88	-16.45	-8.36	-7.97
Std:	0.31	0.16	0.1	0.09	0.4	0.24	0.14	0.1

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0703.gdb				0703.gdb			
Line #:	L4.1:0				L15.1:0			
Min:	-137.72	-29.07	-9.11	-8.35	-157.65	-45.71	-15.84	-11.19
Max:	-135.56	-27.81	-8.13	-7.37	-155.99	-44.55	-15.18	-10.63
Mean:	-136.79	-28.53	-8.63	-7.81	-156.88	-45.07	-15.5	-10.88
Std:	0.4	0.24	0.22	0.18	0.34	0.21	0.12	0.11

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0703.gdb				0703.gdb			
Line #:	L4.2:0				L15.2:0			
Min:	-39.88	-10.87	-7.92	-7.92	-81.23	-32.12	-14.18	-9.11
Max:	-37.97	-9.85	-7.34	-7.54	-79.88	-31.38	-13.56	-8.59
Mean:	-38.89	-10.36	-7.65	-7.74	-80.54	-31.77	-13.89	-8.83
Std:	0.41	0.19	0.1	0.07	0.24	0.13	0.11	0.09

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: RSS

Project: SEDA/ODG
G12,H11-13,I10-12,J8-
12,N5-6,O5-6,P5-6,Q-

Date: 7/19/03

Location i.d.: AA6, W-GG7,EE-GGR
 Survey Date: 7/3/03
 File name: 0703.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0703AM Latency		0703PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.5	0.28	0.5	0.46
Coil #2	0.5	0.34	0.5	0.1
Coil #3	0.5	0.43	0.5	0.24

Comments: _____

Blind Seeds Detected

Seed ID	
WESTON 23	
Location	
Easting	736378.3
Northing	1011385.0
Seed Description	
Depth (ft)	0.00
Orientation	horizontal

Anomaly ID	
142	
Detected?	YES
Location	
Easting	736376.30
Northing	1011385.50
Dist. & Orient. from Seed	
Dist. (ft)	2.10
Orientation	West

Comments: Seeded item lies between two selected targets (142, 143).
Each of these targets lie greater than 24 in away from seed
location. Target selections fall outside of DQO due to
the anomaly size and response variation.

Data Sampling

Velocity	
Average (mph)	2.15
Along Track / Across Track Sampling	
* Along Track (ft)	0.25
** Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	6.03
Cumulative	116.4
Total Data Gaps (acres)	
This Data Set	0.005
Cumulative	0.048

* metric: <= 0.5 ft

** metric: <= 3.0 ft

Comments: Numerous data gaps visible in 0703a. The geometry of these
gaps appear as though total possible coverage was not
achieved. Elongate gaps need to be field verified.
GPS/Navigation "jumps" observed in 0703b. Static (0 mph)
positions are present throughout plot.

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0703.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0703.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum Clipped/Weston_Noise
Clipping Value: - 5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>1.53</u>	<u>1.78</u>
p.m.	<u>1.71</u>	<u>2.06</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100 mV
3 Anomalies > 100 mV

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Target cert: 159,84,67,100,128,86

Comments: Numerous anomaly picks observed in 0703b. Targets appear not to be "merged" to a common peak. Larger anomalies have multiple target picks.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 07/19/03

Project: SEDA/ODG
Location i.d.: Q6-16,S14-16,T14-16,U13-15,V10-13,II-KK8
Survey Date: 07/07/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0707.gdb				0707.gdb			
Line #:	0.0				18.0			
Min:	-90.53	-14.91	-6.89	-7.64	-72.31	-15.48	-7.84	-8.4
Max:	-86.33	-13.2	-5.97	-7.06	-69.62	-13.59	-7.02	-7.82
Mean:	-88.54	-14.14	-6.47	-7.33	-70.93	-14.33	-7.38	-8.08
Std:	0.82	0.3	0.13	0.08	0.41	0.21	0.12	0.09

Comments: Drift observed in Pre-survey CH 1 and CH 2 data.

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0707.gdb				0707.gdb			
Line #:	0.1				18.1			
Min:	-152.22	-33.9	-10.56	-8.54	-140.33	-36.54	-13.3	-10.7
Max:	-148.28	-32.08	-9.65	-7.82	-136.92	-35.2	-12.34	-10.06
Mean:	-150.07	-32.99	-10.09	-8.18	-138.96	-35.85	-12.85	-10.43
Std:	0.74	0.31	0.16	0.13	0.43	0.21	0.14	0.11

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0707.gdb				0707.gdb			
Line #:	0.2				18.2			
Min:	-38.9	-9.48	-8	-8.08	-53.17	-20.4	-11.47	-8.94
Max:	-36.47	-8.18	-7.04	-7.26	-50.7	-18.93	-10.75	-8.49
Mean:	-37.61	-8.89	-7.58	-7.7	-51.91	-19.53	-11.06	-8.72
Std:	0.34	0.21	0.15	0.12	0.31	0.17	0.1	0.07

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 07/19/03

Project: SEDA/ODG
Location i.d.: Q6-16,S14-16,T14-16,U13-15,V10-13,II-KK8
Survey Date: 07/07/03

Static SpikeTest

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0707.gdb				0707.gdb			
Line #:		1.0				19.0			
Min:		374.4	271.27	145.05	54.5	391.73	274.7	147.96	56.26
Max:		380.05	275.54	147.44	55.49	397.64	278.69	150.21	57.31
Mean:		377.18	273.26	146.06	54.95	394.79	276.75	149.12	56.81
Std:		1.19	0.87	0.46	0.19	1.32	0.91	0.49	0.2

Comments: Continuing high standard deviation noted in CH 1 due to drift. Pre-survey data displays an anomalous high at the beginning of data collection.

		Coil #2 Pre Survey				Coil #2 Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0707.gdb				0707.gdb			
Line #:		2.1				20.1			
Min:		362.69	282.74	156.47	57.92	355.01	272.4	151.29	55.44
Max:		367.61	285.81	158.24	59.13	359.33	275.29	153.03	56.25
Mean:		364.94	284.24	157.39	58.47	357.65	273.85	152.23	55.87
Std:		0.8	0.58	0.36	0.25	0.77	0.57	0.33	0.15

Comments: _____

		Coil #3 Pre Survey				Coil #3 Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0707.gdb				0707.gdb			
Line #:		3.2				21.2			
Min:		448.12	292.12	149.86	55.98	338.2	265.47	137.28	50.22
Max:		452.53	295.03	151.48	56.62	412.68	270.79	142.05	53.91
Mean:		450.02	293.34	150.7	56.28	408.95	268.89	140.88	53.33
Std:		0.85	0.55	0.29	0.12	6.86	0.65	0.48	0.36

Comments: Anomalous spikes observed in the beginning of Pre-survey data. Negative spike observed in Post-survey test.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 07/19/03

Project: SEDA/ODG
Location i.d.: Q6-16,S14-16,T14-16,U13-15,V10-13,II-KK8
Survey Date: 07/07/03

Cable Shake Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0707.gdb				0707.gdb			
Line #:		4.0				22.0			
Min:		-88.95	-15.14	-6.64	-7.68	-71.84	-15.05	-7.85	-8.3
Max:		-85.83	-13.64	-5.65	-6.91	-70.22	-13.82	-7.02	-7.79
Mean:		-87.38	-14.33	-6.13	-7.37	-71.12	-14.35	-7.39	-8.03
Std:		0.62	0.32	0.21	0.14	0.33	0.19	0.14	0.11

Comments: _____

Coil #2

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0707.gdb				0707.gdb			
Line #:		4.1				22.1			
Min:		-146.36	-32.17	-10	-8.53	-139.97	-36.17	-13.23	-10.68
Max:		-143.3	-31.07	-9.22	-7.74	-138.19	-35.05	-12.3	-10.07
Mean:		-144.9	-31.57	-9.61	-8.19	-139.12	-35.67	-12.68	-10.38
Std:		0.53	0.22	0.15	0.14	0.35	0.19	0.14	0.11

Comments: _____

Coil #3

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0707.gdb				0707.gdb			
Line #:		4.2				22.2			
Min:		-38.17	-9.78	-7.7	-7.91	-51.92	-19.64	-11.38	-8.94
Max:		-36.63	-8.83	-6.88	-7.07	-50.57	-18.17	-10.64	-8.4
Mean:		-37.42	-9.36	-7.33	-7.64	-51.14	-19.19	-10.96	-8.69
Std:		0.27	0.16	0.14	0.11	0.22	0.17	0.12	0.09

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: RSS

Project: SEDA/ODG

Date: 7/19/03

Location i.d.: Q6-16,S14-16,T14-16,U13-15,V10-13,JL-KK6

Survey Date: 7/7/03

File name: 0707.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0707AM Latency	0707PM Latency	0707AM Latency	0707PM Latency
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.55	0.39	0.2	0.45
Coil #2	0.55	0.33	0.2	0.43
Coil #3	0.55	0.2	0.2	0.45

Comments: _____

Blind Seeds Detected

Seed ID	
NA	
Location	
Easting	NA
Northing	NA
Seed Description	
Depth (ft)	NA
Orientation	NA

Anomaly ID	
NA	
Detected?	NA
Location	
Easting	NA
Northing	NA
Dist. & Orient. from Seed	
Dist. (ft)	NA
Orientation	NA

Comments: No Weston seeds surveyed.

Data Sampling

Velocity	
Average (mph)	1.88
Along Track / Across Track Sampling	
*Along Track (ft)	0.22
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	5.37
Cumulative	121.77
Total Data Gaps (acres)	
This Data Set	0.007
Cumulative	0.055

* metric: <= 0.5 ft
 ** metric: <= 3.0 ft

Comments: Zero velocity areas present within database.

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0707.gdb
 Leveling Performed: YES
 Latency Correction Performed: YES (no visible chevron effects)
 Audit Log File Name: 0707.rtf
 Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum Clipped/Weston_Noise
 Clipping Value: - 5/7
 Text Files Attached: YES
 Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	1.69	2.18
p.m.	1.48	2.28
Metric:	</= 3.25	</= 2.0

Drift:

% Lowest: 10
 % Highest: 70
 Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Anomaly cert:537, 485, 26, 21, 18, 27

Comments: SNR levels exceed the DQO metric. This was observed in earlier data sets conducted in high density target areas. A root cause analyses was performed. Results substantiate that std dev. for SNR was higher in high density (cluttered) target areas.
SNR appears to be larger due to the number of anomalies present within the data set. A suspect utility is present within 0707a where targets were selected. If anomaly is verified as a utility, targets should be removed. Weston created a merged target list on 0707b to further analyze target picks.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 07/21/03

Project: SEDA/ODG
Location i.d.: S3-8,U3-8,T3-T8,V3-V8,W7-8,W-Z3,Y4-6
Survey Date: 07/08/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0708.gdb				0708.gdb			
Line #:	0.0				14.0			
Min:	-89.96	-16.8	-7.12	-7.55	-265.89	-24.6	-16.66	-14.13
Max:	-85.06	-15.01	-6.12	-6.97	-44.17	-14.64	-7.57	-7.5
Mean:	-88.02	-16.02	-6.7	-7.28	-68.43	-15.87	-8.44	-8.31
Std:	0.73	0.31	0.14	0.09	13.74	0.57	0.49	0.27

Comments: Anomalous spike visible in Post-survey data. Response appears to decrease in Coils 2 and 3 respectively. Interference appears to be related to operator interference due to the response on all three coils.

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0708.gdb				0708.gdb			
Line #:	0.1				14.1			
Min:	-142.35	-32.13	-10.51	-8.74	-216.87	-51.27	-22.85	-18.43
Max:	-137.61	-30.24	-9.3	-7.83	-146.04	-42.37	-14.93	-10.94
Mean:	-140.22	-31.13	-9.88	-8.22	-152.41	-43.52	-15.45	-11.41
Std:	0.69	0.28	0.17	0.13	4.73	0.62	0.53	0.51

Comments: Anomalous spike visible in Post-survey data. Response appears greatest in Coil 1 data.

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0708.gdb				0708.gdb			
Line #:	0.2				14.2			
Min:	-47.94	-14.66	-9.21	-8.18	-74.59	-29.86	-14.27	-9.47
Max:	-44.49	-13.15	-8.27	-7.59	-69.34	-27.89	-12.75	-8.52
Mean:	-45.93	-13.84	-8.68	-7.91	-71.57	-28.94	-13.8	-9.2
Std:	0.38	0.2	0.11	0.08	0.85	0.36	0.14	0.09

Comments: Anomalous spike visible in Post-survey data. Response appears greatest in Coil 1 data.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 07/21/03

Project: SEDA/ODG
Location i.d.: S3-8,U3-8,T3-T8,V3-V8,W7-8,W-Z3,Y4-6
Survey Date: 07/08/03

Static Spike Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0708.gdb				0708.gdb			
Line #:	1.0				15.0			
Min:	362.86	262.74	141.11	53.05	374.5	259.88	139.47	52.65
Max:	368.9	266.89	143.38	54.16	379.72	263.37	141.51	53.56
Mean:	366.42	265.22	142.45	53.67	377.29	261.82	140.53	53.15
Std:	1.24	0.89	0.5	0.21	1.27	0.86	0.46	0.19

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0708.gdb				0708.gdb			
Line #:	2.1				16.1			
Min:	351.55	273.14	151.28	56.1	268.42	219.33	125.42	45.38
Max:	355.65	276.29	153.13	56.97	272.97	222.52	127.23	46.31
Mean:	353.44	274.66	152.05	56.5	270.26	221.08	126.23	45.8
Std:	0.7	0.54	0.31	0.14	0.69	0.52	0.3	0.15

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0708.gdb				0708.gdb			
Line #:	3.2				17.2			
Min:	427.54	280.35	145.75	54.85	407.34	271.68	145.2	56.06
Max:	434.62	284.5	147.94	55.68	411.93	274.62	146.56	56.65
Mean:	430.7	282.86	146.88	55.28	409.88	273.22	146.06	56.39
Std:	1.13	0.73	0.39	0.16	0.9	0.56	0.27	0.12

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 07/21/03

Project: SEDA/ODG
Location i.d.: S3-8,U3-8,T3-T8,V3-V8,W7-8,W-Z3,Y4-6
Survey Date: 07/08/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0708.gdb				0708.gdb			
Line #:	4.0				18.0			
Min:	-87.88	-16.69	-7.18	-7.63	-82.41	-17.32	-8.91	-8.57
Max:	-85.17	-14.56	-6.13	-6.86	-64	-14.02	-6.93	-6.77
Mean:	-86.51	-15.7	-6.63	-7.21	-68.48	-15.74	-8.28	-8.16
Std:	0.51	0.32	0.17	0.13	3.52	0.48	0.34	0.39

Comments: Two anomalous spikes were observed in Post-survey data. Response deviation appears greatest in Coil 2. Spikes evident in cable shake data are not apparent in Pre-survey 0709 data. Spikes event in cable shake/vibration test data will be further investigated.

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0708.gdb				0708.gdb			
Line #:	4.1				18.1			
Min:	-140.56	-32.3	-10.84	-8.99	-202.95	-46.36	-17.41	-13.39
Max:	-137.23	-30.3	-9.38	-7.68	-147.1	-43.03	-15.14	-11.05
Mean:	-138.86	-31.2	-10.16	-8.33	-157.47	-43.9	-15.58	-11.54
Std:	0.6	0.4	0.34	0.34	11.79	0.57	0.42	0.42

Comments: Two anomalous spikes were observed in Post-survey data. Response deviation appears greatest in Coil 2. Spikes evident in cable shake data are not apparent in Pre-survey 0709 data. Spikes event in cable shake/vibration test data will be further investigated.

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0708.gdb				0708.gdb			
Line #:	4.2				18.2			
Min:	-48.11	-15.58	-9.69	-8.68	-73.1	-29.49	-14.09	-9.35
Max:	-46.55	-14.19	-8.7	-7.66	-70.4	-27.21	-11.7	-7.3
Mean:	-47.37	-15	-9.29	-8.29	-72.23	-28.88	-13.55	-8.92
Std:	0.3	0.23	0.15	0.12	0.5	0.49	0.5	0.47

Comments: Two anomalous spikes were observed in Post-survey data. Response deviation appears greatest in Coil 2. Spikes evident in cable shake data are not apparent in Pre-survey 0709 data. Spikes event in cable shake/vibration test data will be further investigated.

NAVIGATION FUNCTION CHECKS

QC Check

by: RSS

Project: SEDA/ODG

Date: 7/21/03

Location i.d.: S3-8,U3-8,T3-T8,V3-
V8,W7-8,W-Z3,Y4-6

Survey Date: 7/8/03

File name: 0708.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
	0708AM Latency		NA	
Coil #1	0.3	0.88		
Coil #2	0.3	0.99		
Coil #3	0.3	1.0		

Comments: Large AM distance offsets observed. Appears coils deviated from spikes. No apparent chevron patterns observed in processed data. Post-survey latency test was not provided. Field crew apparently missed one of the spikes.

Blind Seeds Detected

Seed ID	
WESTON 12	
Location	
Easting	738209.35
Northing	1010536.26
Seed Description	
Depth (ft)	0.00
Orientation	horizontal

Anomaly ID	
478	
Detected?	YES
Location	
Easting	738209.50
Northing	1010537.30
Dist. & Orient. from Seed	
Dist. (ft)	0.90
Orientation	North

Comments: _____

Data Sampling

Velocity	
Average (mph)	1.86
Along Track / Across Track Sampling	
*Along Track (ft)	0.22
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	6.4
Cumulative	128.15
Total Data Gaps (acres)	
This Data Set	0.007
Cumulative	0.0619

* metric: \leq 0.5 ft

** metric: \leq 3.0 ft

Comments: Data gap observed at E737827.9, N1010520.9. Possible loss of GPS navigation (differential lost). Area calculated using Geosoft UXAREA GX.

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0708.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0708.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum_Clipped/Weston_Noise
Clipping Value: - 5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>1.62</u>	<u>1.95</u>
p.m.	<u>1.55</u>	<u>1.81</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Anomaly Cert: 562,566,433,237,30,65

Comments:

Daily DGM QC Audit Form
EM-61 MK2 Data

QC Check by: RSS
 Date: 07/22/03

Project: SEDA/ODG
 Location i.d.: II15-16, JJ14-16, KK13-16, LL10-16, MM10-17, NN11-15
 Survey Date: 07/09/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0709.gdb				0709.gdb			
Line #:	L0:0				L12:0			
Min:	-107.63	-20.01	-7.23	-7.58	-67.55	-13.38	-7.41	-8.33
Max:	-103.9	-18.35	-6.41	-7.07	-64.09	-11.9	-6.45	-7.72
Mean:	-105.73	-19.24	-6.87	-7.32	-65.89	-12.68	-6.87	-8.01
Std:	0.61	0.26	0.12	0.08	0.53	0.23	0.13	0.09

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0709.gdb				0709.gdb			
Line #:	L0.1:0				L12.1:0			
Min:	-148.44	-31.61	-9.2	-8.3	-136.16	-34.2	-12.1	-10.95
Max:	-145.48	-29.93	-8.24	-7.53	-133.48	-32.75	-11.21	-10.3
Mean:	-147.09	-30.79	-8.73	-7.91	-134.72	-33.41	-11.69	-10.66
Std:	0.5	0.25	0.16	0.14	0.47	0.24	0.12	0.11

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0709.gdb				0709.gdb			
Line #:	L0.2:0				L12.2:0			
Min:	-46.15	-12.44	-8.44	-8.08	-50.66	-18.71	-11.17	-9.14
Max:	-43.61	-11.21	-7.61	-7.59	-48	-17.24	-10.51	-8.62
Mean:	-44.82	-11.9	-8	-7.84	-49.22	-17.94	-10.85	-8.88
Std:	0.4	0.21	0.11	0.07	0.47	0.25	0.11	0.07

Comments: _____

Daily DGM QC Audit Form
EM-61 MK2 Data

QC Check by: RSS
Date: 07/22/03

Project: SEDA/ODG
Location i.d.: II15-16, JJ14-16, KK13-16, LL10-16, MM10-17, NN11-15
Survey Date: 07/09/03

Static Spike Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name		0709.gdb				0709.gdb			
Line #:		L1:0				L13:0			
Min:		371.96	276.1	149.61	56.84	391.48	273.14	146.49	55.04
Max:		376.81	279.36	151.54	57.69	398.08	277.69	149.01	56.28
Mean:		374.39	277.77	150.67	57.28	394.83	275.39	147.64	55.65
Std:		1.03	0.73	0.39	0.16	1.34	0.94	0.51	0.23

Comments: _____

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name		0709.gdb				0709.gdb			
Line #:		L2.1:0				L14.1:0			
Min:		389.49	301.78	167.49	62.65	351.8	269.64	149.8	53.9
Max:		392.91	304.27	169.17	63.84	358.07	274.7	152.7	55.26
Mean:		391.26	303.12	168.46	63.29	356.07	273.1	151.71	54.71
Std:		0.68	0.5	0.31	0.19	0.98	0.74	0.46	0.23

Comments: Drift observed at beginning of Post-survey data collection. Possible operator error when positioning the spike object under the instrument.

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name		0709.gdb				0709.gdb			
Line #:		L3.2:0				L15.2:0			
Min:		448.55	294.99	152.64	57.39	404.44	265.52	138.53	51.66
Max:		453.09	297.64	154.14	58	410.96	269.95	140.95	52.69
Mean:		450.97	296.46	153.4	57.72	406.96	267.65	139.59	52.21
Std:		0.87	0.56	0.29	0.12	1.08	0.7	0.39	0.17

Comments: Sample interval fluctuation observed in Post-survey data.

Daily DGM QC Audit Form
EM-61 MK2 Data

QC Check by: RSS
Date: 07/22/03

Project: SEDA/ODG
Location i.d.: II15-16, JJ14-16, KK13-16, LL10-16, MM10-17, NN11-15
Survey Date: 07/09/03

Cable Shake Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0709.gdb				0709.gdb			
Line #:		L4:0				L16:0			
Min:		-107.54	-20.44	-7.36	-7.67	-68.87	-13.9	-7.42	-8.48
Max:		-104.63	-18.78	-6.56	-7	-66.12	-12.53	-6.68	-7.6
Mean:		-106.23	-19.65	-6.99	-7.39	-67.6	-13.24	-7.03	-7.99
Std:		0.51	0.27	0.13	0.11	0.49	0.22	0.15	0.14

Comments: _____

Coil #2

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0709.gdb				0709.gdb			
Line #:		L4.1:0				L16.1:0			
Min:		-146.84	-30.96	-9.14	-8.22	-138.14	-34.67	-12.07	-10.96
Max:		-144.85	-29.96	-8.44	-7.64	-135.93	-33.59	-11.43	-10.27
Mean:		-145.94	-30.49	-8.77	-7.96	-137.02	-34.13	-11.74	-10.61
Std:		0.37	0.2	0.14	0.12	0.4	0.2	0.12	0.12

Comments: _____

Coil #3

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0709.gdb				0709.gdb			
Line #:		L4.2:0				L16.2:0			
Min:		-44.29	-11.59	-8.06	-8.18	-53.08	-19.55	-11.39	-9.18
Max:		-42.06	-10.51	-7.41	-7.62	-51.66	-18.66	-10.58	-8.56
Mean:		-43.12	-11.03	-7.72	-7.91	-52.37	-19.12	-10.97	-8.86
Std:		0.42	0.19	0.12	0.1	0.29	0.16	0.12	0.11

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: RSS

Project: SEDA/ODG

Date: 7/22/03

Location i.d.: 17.NN11-15

Survey Date: 7/9/03

File name: 0709.gdb

115-16, JJ14-16, KK13-16, LL10-16, MM10-17, NN11-15

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
	0709AM Latency		0709PM Latency	
Coil #1	0.5	0.37	0.4	0.52
Coil #2	0.5	0.34	0.4	0.49
Coil #3	0.5	0.27	0.4	0.3

Comments: _____

Blind Seeds Detected

Seed ID	
WESTON 35	
Location	
Easting	740144.86
Northing	1011968.45
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
65	
Detected?	YES
Location	
Easting	740143.80
Northing	1011967.80
Dist. & Orient. from Seed	
Dist. (ft)	1.20
Orientation	SW

Comments: _____

Data Sampling

Velocity	
Average (mph)	2.02
Along Track / Across Track Sampling	
*Along Track (ft)	0.24
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	7.35
Cumulative	135.5
Total Data Gaps (acres)	
This Data Set	0.003
Cumulative	0.0649

* metric: \leq 0.5 ft
 ** metric: \leq 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0709.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0709.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum_Clipped/Weston_Noise
Clipping Value: - 5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	2.12	2.98
p.m.	1.66	2.12
Metric:	</= 3.25	</= 2.0

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Anomaly Cert: 88,111,39,92,50,67

Comments:

SNR levels exceed the DQO metric. This was observed in earlier data sets conducted in high density target areas. A root cause analyses was performed. Results substantiate that std dev. for SN was higher in high density (cluttered) target areas. Increased mean background noise and similar standard deviation values are apparent in areas with large amounts of clutter.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS

Project: SEDA/ODG

Date: 07/22/03

CC12-13; DD11-13; EE10-12;
FF9-13; EE19-22; FF19-22;
Location i.d.: GG19-22;
Survey Date: 07/10/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0710.gdb				0710.gdb			
Line #:	0.0				L14:0			
Min:	-108.16	-20.23	-7.28	-7.48	-72.13	-12.14	-6.41	-8.29
Max:	-98.36	-16.56	-6.02	-6.88	-69.13	-10.35	-5.51	-7.66
Mean:	-103.66	-18.78	-6.8	-7.21	-70.68	-11.33	-5.92	-7.99
Std:	1.8	0.62	0.21	0.09	0.47	0.25	0.12	0.09

Comments: Positive drift observed in CH 1 Pre-survey data. Drift increased Std values.

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0710.gdb				0710.gdb			
Line #:	0.1				L14.1:0			
Min:	-152.89	-33.61	-9.92	-8.48	-131.72	-29.45	-9.99	-10.29
Max:	-146.46	-30.52	-8.55	-7.67	-129.12	-27.72	-8.73	-9.34
Mean:	-149.45	-32.06	-9.19	-8.06	-130.39	-28.57	-9.43	-9.86
Std:	1.04	0.47	0.21	0.14	0.43	0.26	0.16	0.15

Comments:

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0710.gdb				0710.gdb			
Line #:	0.2				L14.2:0			
Min:	-61.94	-19.1	-10.81	-8.76	-38.1	-12.04	-8.95	-8.66
Max:	-54.14	-15.69	-9.66	-8.17	-35.82	-10.23	-8.22	-8.13
Mean:	-58.68	-17.53	-10.28	-8.47	-37.06	-11.25	-8.58	-8.4
Std:	2.03	0.85	0.25	0.1	0.32	0.19	0.1	0.08

Comments: Fluctuation observed in Pre-survey CH 1 data. Std exceeds DQO metric. Other channels appear not to be effected. Drift correction removed fluctuation.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS

Project: SEDA/ODG

Date: 07/22/03

CC12-13; DD11-13; EE10-12;
FF9-13; EE19-22; FF19-22;
Location i.d.: GG19-22;

Static SpikeTest

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0710.gdb				0710.gdb			
Line #:	1.0				L15:0			
Min:	368.06	272.43	147.13	55.82	363.56	260.3	140.06	52.51
Max:	375.91	277.9	150.12	56.93	368.48	263.76	141.82	53.27
Mean:	372.04	274.84	148.44	56.31	366.5	262.23	141.08	52.92
Std:	1.22	0.9	0.48	0.2	1.13	0.81	0.43	0.16

Comments: Slight response deviation observed in Pre-survey data. Values fall within DQO metric

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0710.gdb				0710.gdb			
Line #:	2.1				L16.1:0			
Min:	346.58	274.92	153.27	56.87	302.96	239.98	133.31	47.12
Max:	350.5	277.49	154.57	57.63	307.82	244.06	135.62	48.21
Mean:	348.63	276.27	153.96	57.25	305.39	242.31	134.36	47.66
Std:	0.72	0.48	0.27	0.15	0.75	0.57	0.33	0.16

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0710.gdb				0710.gdb			
Line #:	3.2				L17.2:0			
Min:	419.28	278.22	143.79	53.78	419.92	272.92	140.19	51.74
Max:	425.55	282.02	145.99	54.66	423.9	275.71	141.65	52.49
Mean:	422.22	280.11	144.78	54.18	422.1	274.52	140.94	52.1
Std:	1.11	0.65	0.32	0.14	0.87	0.57	0.28	0.14

Comments: Sample rate fluctuation observed in Pre-survey data. Removal of effected area appears to not significantly change Std values.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS

Project: SEDA/ODG

Date: 07/22/03

CC12-13; DD11-13; EE10-12;
FF9-13; EE19-22; FF19-22;
Location i.d.: GG19-22;

Cable Shake Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0710.gdb				0710.gdb			
Line #:		4.0				L18:0			
Min:		-97.53	-16.97	-6.38	-7.32	-72.13	-12.28	-6.46	-8.47
Max:		-95.47	-15.76	-5.63	-6.77	-69.88	-10.55	-5.52	-7.7
Mean:		-96.5	-16.33	-5.99	-7.07	-71.01	-11.46	-6.03	-8.07
Std:		0.38	0.2	0.13	0.1	0.5	0.3	0.18	0.14

Comments: _____

Coil #2

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0710.gdb				0710.gdb			
Line #:		4.1				L18.1:0			
Min:		-145.59	-31.13	-9.1	-8.39	-131.41	-29.08	-10	-10.42
Max:		-142.8	-29.76	-8.29	-7.7	-128.87	-27.81	-8.97	-9.37
Mean:		-144.27	-30.26	-8.68	-8.01	-130.08	-28.54	-9.49	-9.85
Std:		0.54	0.24	0.14	0.12	0.46	0.23	0.16	0.17

Comments: _____

Coil #3

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0710.gdb				0710.gdb			
Line #:		4.2				L18.2:0			
Min:		-51.97	-14.79	-9.36	-8.42	-37.42	-11.43	-8.68	-8.67
Max:		-50.35	-13.98	-8.85	-8.01	-36.03	-10.61	-8.15	-8.15
Mean:		-51.13	-14.4	-9.06	-8.21	-36.53	-10.99	-8.45	-8.39
Std:		0.27	0.15	0.1	0.08	0.27	0.14	0.1	0.1

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: RSS

Project: SEDA/ODG

CC12-13; DD11-13; EE10-12;

FF9-13; EE19-22; FF19-22;

GG19-22; HH18-21; II17-20;

Date: 7/22/03

Location i.d.: JJ17-20; KK17-18

Survey Date: 7/10/03

File name: 0710.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0710AM Latency		0710PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.65	0.12	0.5	1.00
Coil #2	0.5	0.13	0.5	0.8
Coil #3	0.5	0.04	0.5	0.65

Comments: Appears navigation deviates from latency track in PM data collection.

Blind Seeds Detected

Seed ID	
WESTON 37	
Location	
Easting	740429.38
Northing	1012649.76
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
80	
Detected?	YES
Location	
Easting	740428.00
Northing	1012649.80
Dist. & Orient. from Seed	
Dist. (ft)	1.36
Orientation	West

Comments: _____

Data Sampling

Velocity	
Average (mph)	1.88
Along Track / Across Track Sampling	
* Along Track (ft)	0.22
** Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	5.85
Cumulative	141.35
Total Data Gaps (acres)	
This Data Set	0.006
Cumulative	0.071

* metric: $\leq 0.5\text{ ft}$

** metric: $\leq 3.0\text{ ft}$

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0710.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0710.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum_Clipped/Weston_Noise
Clipping Value: - 5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)	
a.m.	1.24	3.10	lines 6-10
p.m.	1.42	1.91	lines 11-12
Metric:	</= 3.25	</= 2.0	

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Anomaly cert: 2145,3186,473,462,1458,4175

Comments:

Increased noise levels are apparent in AM data. This was observed in earlier data sets conducted in high density target areas. A root cause analyses was performed. Results substantiate that std dev. for SN was higher in high density (cluttered) target areas. Negative values below -5 mV appear to be dummied in grid. This process gives the appearance of data gaps however has no apparent effect on target picks. Buried cable line observed in 0710b. Target selections are visible on linear anomaly. If the utility is primarily non-ferrous, the area should be manually scanned for potential targets.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS

Date: 07/23/03

Project: SEDA/ODG

 KK-LL19; NN19-24; OO19-

Location i.d.: 26; PP19-27; QQ19-27

Survey Date: 07/11/03

Static Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name:		0711.gdb				0711.gdb			
Line #:		L0:0				L12:0			
Min:		-122.1	-26.76	-9.56	-8.05	-72.38	-15.06	-8.14	-8.83
Max:		-116.98	-24.63	-8.67	-7.49	-69.22	-13.47	-6.98	-8.08
Mean:		-119.87	-25.77	-9.15	-7.77	-70.95	-14.27	-7.62	-8.45
Std:		1.07	0.41	0.15	0.08	0.47	0.25	0.15	0.11

Comments: Slight 1-2 mV deviation from mean values observed in Pre-survey data. Data falls within DQO metric.

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name:		0711.gdb				0711.gdb			
Line #:		L0.1:0				L12.1:0			
Min:		-168.46	-40.21	-12.18	-8.85	-136.59	-34.05	-12.1	-11.05
Max:		-164.28	-38.19	-11.18	-8.14	-132.64	-32.15	-11.21	-10.28
Mean:		-166.39	-39.13	-11.73	-8.48	-134.59	-32.99	-11.69	-10.68
Std:		0.72	0.32	0.17	0.13	0.55	0.28	0.14	0.12

Comments: _____

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name:		0711.gdb				0711.gdb			
Line #:		L0.2:0				L12.2:0			
Min:		-59.33	-18.51	-10.94	-8.76	-47.47	-17.5	-11.08	-9.18
Max:		-54.98	-16.42	-9.99	-8.17	-44.5	-15.77	-10.21	-8.71
Mean:		-57.57	-17.69	-10.45	-8.45	-45.77	-16.54	-10.6	-8.93
Std:		0.94	0.38	0.15	0.09	0.46	0.25	0.12	0.08

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS

Date: 07/23/03

Project: SEDA/ODG

 KK-LL19; NN19-24; OO19-

Location i.d.: 26; PP19-27; QQ19-27

Survey Date: 07/11/03

Static Spike Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0711.gdb				0711.gdb			
Line #:		L1:0				L13:0			
Min:		329.57	250.63	136.43	51.47	367.58	259.15	138.26	51.57
Max:		336.68	255.19	138.93	52.41	375.58	264.34	141.26	52.91
Mean:		332.73	252.91	137.75	51.93	372.76	262.24	140.18	52.37
Std:		1.42	0.96	0.51	0.2	1.41	1	0.55	0.26

Comments: Positive drift observed in CH1 and CH2 Post-survey data. This type of drift increases std values.
Drift is removed using the drift correcting algorithm.

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0711.gdb				0711.gdb			
Line #:		L2.1:0				L14.1:0			
Min:		347.16	276.94	155.32	57.79	348.56	268.03	148.74	53.38
Max:		352.04	280.94	157.07	58.82	353.09	271.33	150.64	54.6
Mean:		349.83	279.5	156.37	58.41	351.3	269.95	149.72	54.09
Std:		0.91	0.65	0.35	0.18	0.73	0.53	0.31	0.2

Comments:

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0711.gdb				0711.gdb			
Line #:		L3.2:0				L15.2:0			
Min:		419.32	276.87	142.45	52.93	410.37	267.85	138.49	51.43
Max:		423.05	279.29	143.76	53.55	413.91	269.87	139.66	52.09
Mean:		421.64	278.39	143.21	53.27	412.2	268.99	139.12	51.78
Std:		0.8	0.51	0.27	0.12	0.74	0.47	0.25	0.11

Comments:

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS

Date: 07/23/03

Project: SEDA/ODG

 KK-LL19; NN19-24; OO19-

Location i.d.: 26; PP19-27; QQ19-27

Survey Date: 07/11/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0711.gdb				0711.gdb			
Line #:	L4:0				L16:0			
Min:	-121.46	-27.02	-9.75	-8.27	-71.2	-15.14	-8.85	-10
Max:	-115.92	-25.12	-9.07	-7.64	-68.4	-13.09	-7	-7.86
Mean:	-119.23	-26.11	-9.4	-7.91	-70.02	-13.93	-7.57	-8.45
Std:	1.17	0.3	0.13	0.11	0.54	0.36	0.24	0.21

Comments: Two broad fluctuations observed in Pre-survey CH1 data. Response geometry does not appear to reflect electronic or instrumentation problems.

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0711.gdb				0711.gdb			
Line #:	L4.1:0				L16.1:0			
Min:	-167.47	-39.94	-12.1	-8.69	-134.43	-33	-12.07	-11.24
Max:	-164.26	-38.6	-11.26	-8.02	-132.03	-31.74	-11.1	-10.28
Mean:	-166.12	-39.23	-11.67	-8.4	-133.26	-32.35	-11.48	-10.67
Std:	0.63	0.26	0.17	0.13	0.42	0.22	0.16	0.12

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0711.gdb				0711.gdb			
Line #:	L4.2:0				L16.2:0			
Min:	-58.09	-18.12	-10.98	-8.7	-45.08	-16.88	-11.16	-9.73
Max:	-55.29	-16.77	-10.12	-8.23	-43.06	-15.1	-9.93	-8.57
Mean:	-56.68	-17.49	-10.51	-8.5	-44.13	-15.73	-10.37	-8.93
Std:	0.53	0.24	0.14	0.08	0.43	0.27	0.17	0.15

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check
by: RSS

Project: SEDA/ODG

Date: 7/23/03

Location i.d.: KK-L19; NN19-24;
OO19-26; PP19-27;
QQ19-27;
Survey Date: 7/11/03
File name: 0711.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0711AM Latency		0711PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.5	0.07	0.4	0.93
Coil #2	0.5	0.05	0.4	0.7
Coil #3	0.5	0.25	0.4	0.5

Comments: Post-survey latency test appears to deviate from spike objects. No apparent chevron patterns observed in data.

Blind Seeds Detected

Seed ID	
WESTON 38	
Location	
Easting	740754.7
Northing	1012805.865
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
383	
Detected?	YES
Location	
Easting	740756.00
Northing	1012807.30
Dist. & Orient. from Seed	
Dist. (ft)	1.40
Orientation	East

Comments: WESTON 40 was detected by two targets each at opposite ends of the anomaly footprint.

Data Sampling

Velocity	
Average (mph)	2.01
Along Track / Across Track Sampling	
*Along Track (ft)	0.24
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	7.7
Cumulative	149.05
Total Data Gaps (acres)	
This Data Set	0.003
Cumulative	0.074

* metric: ≤ 0.5 ft
** metric: ≤ 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0711.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0711.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum_Clipped/Weston_Noise
Clipping Value: - 5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>1.63</u>	<u>1.59</u>
p.m.	<u>1.78</u>	<u>1.73</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Anomaly cert: 215,128,56,95,21,197

Comments: Numerous targets appear on anomalies displaying larger footprints.
High amplitude areas should be identified and targets should be limited
to representative peaks to better select extensive anomalous areas.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 07/23/03

Project: SEDA/ODG
Location i.d.: HH23; I123-24; KK24; KK33-34; LL24; LL28-34; MM18-31; NN25-31
OO27-31; PP28-31;

Survey Date: 07/12/03

Static Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0612.gdb				0612.gdb			
Line #:		L0:0				L10:0			
Min:		-86.08	-14.78	-6.61	-7.22	-68.19	-12.05	-6.76	-8.27
Max:		-81.57	-13.3	-5.73	-6.71	-65.1	-10.55	-5.7	-7.51
Mean:		-83.62	-14.05	-6.16	-6.97	-66.52	-11.18	-6.18	-7.87
Std:		0.51	0.23	0.12	0.08	0.41	0.21	0.14	0.11

Comments: _____

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0612.gdb				0612.gdb			
Line #:		L0.1:0				L10.1:0			
Min:		-143.57	-30.47	-9.32	-8.03	-133.15	-30.7	-10.41	-10.43
Max:		-139.43	-28.74	-8.22	-7.32	-130.5	-29.2	-9.46	-9.66
Mean:		-141.74	-29.74	-8.78	-7.7	-131.9	-29.97	-9.94	-10.06
Std:		0.53	0.24	0.16	0.13	0.41	0.23	0.14	0.14

Comments: _____

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0612.gdb				0612.gdb			
Line #:		L0.2:0				L10.2:0			
Min:		-38.91	-9.1	-7.57	-7.94	-40.86	-13.4	-9.29	-8.7
Max:		-36.15	-7.45	-6.81	-7.35	-39.34	-12.33	-8.66	-8.15
Mean:		-37.7	-8.44	-7.23	-7.62	-40.08	-12.8	-8.95	-8.43
Std:		0.44	0.25	0.11	0.08	0.22	0.14	0.09	0.08

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 07/23/03

Project: SEDA/ODG
Location i.d.: HH23; I123-24; KK24; KK33-34; LL24; LL28-34; MM18-31; NN25-31
OO27-31; PP28-31;

Static Spike Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0612.gdb				0612.gdb			
Line #:		L1:0				L11:0			
Min:		385.82	275.55	146.97	55.35	384.22	268.78	142.63	53.02
Max:		390.77	279.51	148.92	56.35	391.33	273.38	145.11	54
Mean:		388.56	277.64	148.05	55.93	388.08	271.18	143.95	53.53
Std:		1.21	0.85	0.45	0.18	1.41	0.97	0.52	0.21

Comments: _____

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0612.gdb				0612.gdb			
Line #:		L2.1:0				L12.1:0			
Min:		353.28	275.8	152.43	56.44	359.8	276.39	153.11	55.34
Max:		357.08	278.6	154.24	57.35	363.52	278.93	154.55	56.18
Mean:		355.22	277.19	153.42	56.92	361.59	277.63	153.94	55.82
Std:		0.79	0.58	0.33	0.18	0.7	0.53	0.29	0.15

Comments: _____

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0612.gdb				0612.gdb			
Line #:		L3.2:0				L13.2:0			
Min:		436.69	285.07	145.77	54.07	437.28	285.33	147.88	55.57
Max:		440.37	287.43	147.11	54.77	440.91	287.9	149.55	56.28
Mean:		438.59	286.41	146.53	54.44	439.29	286.93	148.87	55.97
Std:		0.94	0.6	0.32	0.14	0.76	0.5	0.27	0.14

Comments: _____

Daily DGM QC Audit Form
EM-61 MK2 Data

QC Check by: RSS
 Date: 07/23/03

Project: SEDA/ODG
 Location i.d.: HH23; II23-24; KK24; KK33-34; LL24; LL28-34; MM18-31; NN25-31
OO27-31; PP28-31;

Cable Shake Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0612.gdb				0612.gdb			
Line #:		L4:0				L 14:0			
Min:		-82.31	-13.95	-6.51	-7.7	-67.57	-12.28	-6.77	-8.25
Max:		-78.66	-12.92	-5.81	-6.77	-65.23	-10.79	-5.74	-7.57
Mean:		-80.37	-13.46	-6.11	-7.1	-66.57	-11.47	-6.32	-7.9
Std:		0.7	0.18	0.13	0.1	0.43	0.24	0.14	0.1

Comments: _____

Coil #2

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0612.gdb				0612.gdb			
Line #:		L4.1:0				L 14.1:0			
Min:		-141.06	-30.06	-9.19	-8.06	-133.05	-30.88	-10.42	-10.45
Max:		-137.92	-28.73	-8.33	-7.35	-131.13	-29.67	-9.69	-9.69
Mean:		-139.31	-29.39	-8.7	-7.7	-132.2	-30.28	-10.09	-10.12
Std:		0.46	0.22	0.15	0.12	0.35	0.21	0.13	0.16

Comments: _____

Coil #3

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0612.gdb				0612.gdb			
Line #:		L4.2:0				L 14.2:0			
Min:		-39.86	-9.9	-7.77	-8.15	-41.67	-13.7	-9.31	-8.7
Max:		-38.47	-9.14	-7.22	-7.5	-40.1	-12.75	-8.69	-8.27
Mean:		-39.13	-9.51	-7.51	-7.75	-40.71	-13.16	-9.04	-8.47
Std:		0.23	0.14	0.09	0.08	0.23	0.14	0.09	0.08

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: RSS

Project: SEDA/ODG

HH23; IJ23-24; KK24;
KK33-34; LL24; LL28-
34; MM18-31; NN25-
31; OO27-31; PP28-

Date: 7/23/03

Location i.d.: 31

Survey Date: 7/12/03

File name: 0712.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0712AM Latency		0712PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.5	0.30	0.4	0.42
Coil #2	0.5	0.18	0.4	0.45
Coil #3	0.5	0.23	0.4	0.51

Comments: PM latency correction values are being refined to remove chevron patterns and offsets observed in 0712b.
Data corrected and resubmitted 7/25.

Blind Seeds Detected

Seed ID	
WESTON 39	
Location	
Easting	740686.7
Northing	1013495.7
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
See Below	
Detected?	YES
Location	
Easting	
Northing	
Dist. & Orient. from Seed	
Dist. (ft)	
Orientation	

Comments: Targets 163 and 168 detected within the anomaly footprint are 4.4 and 2.9.
WESTON 28 lies between these two targets. WESTON 39
lies just south of line 8.2. The anomaly footprint extends
into the survey area.

Data Sampling

Velocity	
Average (mph)	1.87
Along Track / Across Track Sampling	
*Along Track (ft)	0.22
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	6.44
Cumulative	155.27
Total Data Gaps (acres)	
This Data Set	0.015
Cumulative	0.089

* metric: ≤ 0.5 ft
** metric: ≤ 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0712.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0712.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum Clipped/Weston_Noise
Clipping Value: - 5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>1.50</u>	<u>1.59</u>
p.m.	<u>1.48</u>	<u>1.77</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Target Cert: 29,210,216,219,246,163

Comments: Periodic increased noise levels observed in Coil 3 survey data (0712a).
Target picks were chosen along some of these anomalous areas.
Data were reanalyzed and submitted with targets removed where cross
lines did not display similar amplitudes in noisy areas. 0712b data
was corrected for latency effects subsequent to QC on 7/23.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 07/24/03

Project: SEDA/ODG
Location i.d.: JJ24; EE-LL25; FF-LL26; HH-LL2
Survey Date: 07/14/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0714.gdb				0714.gdb			
Line #:	1.0				15.0			
Min:	-79.42	-12.43	-5.93	-7.56	-73.42	-18.28	-8.41	-8.42
Max:	-73.66	-10.85	-5.09	-6.98	-67.18	-14.09	-5.99	-5.87
Mean:	-75.66	-11.5	-5.57	-7.28	-69.88	-16.52	-7.88	-7.85
Std:	0.72	0.25	0.11	0.08	0.87	0.4	0.24	0.23

Comments: Increased noise levels evident in pre-survey CH 1 data.

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0714.gdb				0714.gdb			
Line #:	1.1				15.1			
Min:	-141.54	-29.4	-8.7	-8.3	-156.85	-46.2	-16.29	-12.13
Max:	-138.4	-27.64	-7.87	-7.67	-152.24	-43.79	-15.18	-11.13
Mean:	-139.88	-28.42	-8.27	-7.98	-154.18	-44.95	-15.75	-11.63
Std:	0.47	0.22	0.13	0.11	0.67	0.35	0.15	0.16

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0714.gdb				0714.gdb			
Line #:	1.2				15.2			
Min:	-36.92	-8.52	-7.38	-7.95	-66.23	-26.84	-13.37	-9.5
Max:	-34.51	-6.99	-6.59	-7.44	-63.16	-24.96	-12.64	-8.79
Mean:	-35.92	-7.87	-6.99	-7.71	-64.63	-25.94	-13	-9.14
Std:	0.34	0.21	0.11	0.08	0.5	0.27	0.12	0.1

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 07/24/03

Project: SEDA/ODG
Location i.d.: JJ24; EE-LL25; FF-LL26; HH-LL2
Survey Date: 07/14/03

Static SpikeTest

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0714.gdb				0714.gdb			
Line #:	2.0				15.0			
Min:	382.95	271.79	144.19	53.78	396.49	277.06	151.34	58.85
Max:	390.44	277.25	146.94	55.08	538.84	410.58	246.36	110.5
Mean:	386.13	274.16	145.41	54.34	421.87	301.3	168.74	67.49
Std:	1.29	0.96	0.5	0.21	38.67	40.33	29.69	14.61

Comments: CH 1: approximate 4 mV deviation during pre-survey test.
Anomalous spike in post-survey test for approximately 20sec. Noise evident in peak of response.

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0714.gdb				0714.gdb			
Line #:	3.1				16.1			
Min:	401.15	306.78	169.26	63.14	331.97	258.99	146.57	53.68
Max:	409.8	313.7	173.14	64.88	337.46	262.88	148.98	54.82
Mean:	404.78	309.46	170.97	63.95	334.93	260.97	147.74	54.24
Std:	1.26	0.95	0.56	0.31	0.88	0.63	0.38	0.19

Comments: Noise evident at start of pre-survey test.

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0714.gdb				0714.gdb			
Line #:	4.2				16.2			
Min:	451.75	295.18	151.7	56.72	384.7	255.17	135.34	51.43
Max:	455.78	297.98	153.01	57.37	388.81	258.54	136.95	52.09
Mean:	453.79	296.55	152.38	57.05	387.1	257.14	136.21	51.78
Std:	0.97	0.63	0.32	0.13	0.87	0.57	0.3	0.13

Comments:

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 07/24/03

Project: SEDA/ODG
Location i.d.: JJ24; EE-LL25; FF-LL26; HH-LL2
Survey Date: 07/14/03

Cable Shake Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0714.gdb				0714.gdb			
Line #:		5.0				19.0			
Min:		-75.78	-12.12	-5.96	-7.59	-107.95	-23.05	-9.85	-8.76
Max:		-73.58	-10.88	-5.16	-6.89	-74.41	-4.69	3	0.24
Mean:		-74.71	-11.43	-5.62	-7.32	-89.42	-14.94	-3.68	-4.4
Std:		0.42	0.22	0.13	0.11	6.77	2.89	2.11	1.49

Comments: Increased noise levels evident in post-survey CH 1 data. Intermittant spikes observed throughout data collection. PM survey data displayed similar noise and was removed during processing.

Coil #2

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0714.gdb				0714.gdb			
Line #:		5.1				19.1			
Min:		-141.04	-29.42	-8.97	-8.49	-155.33	-45.38	-15.92	-11.97
Max:		-138.01	-27.82	-8.12	-7.68	-152.25	-43.82	-15.07	-11.18
Mean:		-139.33	-28.6	-8.56	-8.11	-153.86	-44.66	-15.53	-11.59
Std:		0.58	0.25	0.14	0.13	0.55	0.33	0.15	0.16

Comments:

Coil #3

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0714.gdb				0714.gdb			
Line #:		5.2				19.2			
Min:		-37.73	-9.21	-7.49	-7.97	-66.14	-26.67	-13.48	-9.54
Max:		-36.27	-8.21	-6.9	-7.49	-63.66	-25.32	-12.61	-8.88
Mean:		-37.04	-8.64	-7.2	-7.74	-64.75	-26.02	-12.9	-9.12
Std:		0.27	0.15	0.1	0.08	0.44	0.25	0.13	0.11

Comments:

NAVIGATION FUNCTION CHECKS

QC Check

by: RSS

Project: SEDA/ODG

Date: 7/24/03

Location i.d.: JJ24; EE-LL25; FF-LL26; HH-LL27
 0714/03

Survey Date: 0714/03

File name: 0714.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.4	0.19	0.6	0.70
Coil #2	0.4	0.2	0.6	0.79
Coil #3	0.4	0.22	0.4	0.85

Comments: PM latency navigation appears to deviate from spikes.
 No apparent chevron effects observed in PM data.

Blind Seeds Detected

Seed ID	
WESTON 29	
Location	
Easting	739886.29
Northing	1013171.56
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
540	
Detected?	YES
Location	
Easting	739886.80
Northing	1013169.80
Dist. & Orient. from Seed	
Dist. (ft)	1.40
Orientation	South

Comments: WESTON 36 detected by target 822 with offset 0.32 feet, S.

Data Sampling

Velocity	
Average (mph)	1.76
Along Track / Across Track Sampling	
*Along Track (ft)	0.21
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	5.41
Cumulative	160.68
Total Data Gaps (acres)	
This Data Set	0.002
Cumulative	0.091

* metric: <= 0.5 ft

** metric: <= 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0714.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0714.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum Clipped/Weston_Noise
Clipping Value: - 5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>1.56</u>	<u>1.89</u>
p.m.	<u>1.47</u>	<u>1.94</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Anomaly Cert: 632,248,762,722,705,561

Comments: Excessive noise was observed in coil 1 data collected along lines 12 and 13. This data was removed during processing and recollected 0804.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 07/24/03

Project: SEDA/ODG
Location i.d.: CC25, CC29, GG25, GG29, KK25, KK29
Survey Date: 07/15/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0715.gdb				0715.gdb			
Line #:	L0:0				L11:0			
Min:	-76.9	-12.97	-6.44	-7.76	-64.57	-14.91	-8.23	-8.59
Max:	-72.23	-11.19	-5.69	-7.23	-61.87	-13.29	-7.33	-7.93
Mean:	-74.27	-11.94	-6.04	-7.48	-63.35	-14.14	-7.81	-8.28
Std:	0.74	0.27	0.12	0.08	0.42	0.21	0.12	0.09

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0715.gdb				0715.gdb			
Line #:	L0.1:0				L11.1:0			
Min:	-145	-30.25	-8.13	-6.98	-148.9	-40.61	-13.51	-9.78
Max:	-141.05	-28.51	-7.17	-6.28	-145.26	-39.09	-12.63	-9.11
Mean:	-142.83	-29.25	-7.59	-6.63	-147.35	-39.87	-13.05	-9.48
Std:	0.6	0.25	0.14	0.11	0.52	0.23	0.13	0.12

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0715.gdb				0715.gdb			
Line #:	L0.2:0				L11.2:0			
Min:	-38.04	-9.09	-7.6	-7.98	-63.87	-25.14	-13.11	-9.26
Max:	-35.5	-7.76	-6.85	-7.48	-60.93	-23.75	-12.37	-8.8
Mean:	-36.62	-8.41	-7.24	-7.74	-62.54	-24.57	-12.71	-9.03
Std:	0.38	0.2	0.1	0.07	0.47	0.2	0.1	0.08

Comments: _____

Daily DGM QC Audit Form
EM-61 MK2 Data

QC Check by: RSS
Date: 07/24/03

Project: SEDA/ODG
Location i.d.: CC25, CC29, GG25, GG29, KK25, KK29
Survey Date: 07/15/03

Static Spike Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0715.gdb				0715.gdb			
Line #:	L1:0				L12:0			
Min:	375.76	266.03	140.8	52.28	365.33	253.38	135.43	50.51
Max:	381.2	269.84	142.78	53.19	370.59	257.03	137.18	51.34
Mean:	378.81	268.02	141.87	52.82	368.65	255.49	136.4	50.99
Std:	1.11	0.77	0.4	0.16	1.17	0.81	0.43	0.18

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0715.gdb				0715.gdb			
Line #:	L2.1:0				L13.1:0			
Min:	366.95	285.76	158.82	59.06	333.38	259.14	145.46	53.2
Max:	372.37	289.51	160.99	60.55	336.86	262.01	147.29	54.13
Mean:	370.69	288.31	160.14	59.94	335.24	260.75	146.47	53.68
Std:	0.77	0.57	0.35	0.23	0.75	0.55	0.33	0.17

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0715.gdb				0715.gdb			
Line #:	L3.2:0				L14.2:0			
Min:	453.79	296.2	152.17	57.02	411.43	271.4	142.68	54.08
Max:	457.64	298.66	153.47	57.68	415.55	274.07	144.1	54.83
Mean:	455.88	297.49	152.85	57.36	413.72	272.88	143.52	54.47
Std:	0.9	0.57	0.29	0.13	0.98	0.64	0.34	0.15

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 07/24/03

Project: SEDA/ODG
Location i.d.: CC25, CC29, GG25, GG29, KK25, KK29
Survey Date: 07/15/03

Cable Shake Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0715.gdb				0715.gdb			
Line #:		L4:0				L15:0			
Min:		-73.34	-11.84	-6.3	-7.78	-64.51	-14.56	-8.21	-8.56
Max:		-70.45	-10.78	-5.39	-7.23	-62.36	-13.53	-7.47	-8.06
Mean:		-71.94	-11.36	-5.86	-7.49	-63.36	-14.01	-7.84	-8.29
Std:		0.49	0.21	0.13	0.1	0.35	0.2	0.11	0.09

Comments: _____

Coil #2

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0715.gdb				0715.gdb			
Line #:		L4.1:0				L15.1:0			
Min:		-141.98	-29.41	-8.05	-6.93	-149.53	-40.61	-13.52	-9.78
Max:		-138.91	-28.08	-7.26	-6.37	-147.33	-39.43	-12.65	-9.13
Mean:		-140.44	-28.82	-7.61	-6.67	-148.36	-40.07	-13.04	-9.49
Std:		0.51	0.24	0.14	0.11	0.41	0.19	0.13	0.13

Comments: _____

Coil #3

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0715.gdb				0715.gdb			
Line #:		L4.2:0				L15.2:0			
Min:		-37.56	-9.4	-7.81	-8	-63.56	-24.74	-12.91	-9.15
Max:		-36.31	-8.37	-7.05	-7.51	-61.8	-24.03	-12.37	-8.8
Mean:		-36.88	-8.88	-7.36	-7.76	-62.6	-24.43	-12.62	-9.01
Std:		0.23	0.19	0.12	0.1	0.28	0.15	0.08	0.07

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: RSS

Project: SEDA/ODG

Date: 7/24/03

Location i.d.: CC25, CC28, GG25,
GG28, KK25, KK28

Survey Date: 7/15/03

File name: 0715.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0715AM Latency		0715PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.2	0.70	0.3	0.40
Coil #2	0.2	0.72	0.3	0.44
Coil #3	0.2	0.61	0.3	0.39

Comments: Navigation appears to be off on Pre-survey latency test. No
apparent chevron effects observed in AM survey lines.

Blind Seeds Detected

Seed ID	
WESTON 27	
Location	
Easting	739765.84
Northing	1012836.23
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
1392	
Detected?	YES
Location	
Easting	739414.50
Northing	1013593.30
Dist. & Orient. from Seed	
Dist. (ft)	0.45
Orientation	West

Comments: _____

Data Sampling

Velocity	
Average (mph)	1.78
Along Track / Across Track Sampling	
*Along Track (ft)	0.21
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	3.78
Cumulative	164.46
Total Data Gaps (acres)	
This Data Set	0.002
Cumulative	0.093

* metric: <= 0.5 ft
 ** metric: <= 3.0 ft

Comments: Total gaps for this data set include inaccessible areas.

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0715.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0715.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum Clipped/Weston_Noise
Clipping Value: - 5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>1.39</u>	<u>2.09</u>
p.m.	<u>1.51</u>	<u>2.08</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Target Cert: 1441, 1249, 877, 161, 378, 228

Comments: SNR levels exceed the DQO metric. This was observed in earlier data sets conducted in high density target areas. A root cause analyses was performed. Results substantiate that std dev for SNR was higher in high density (cluttered) target areas.

Daily DGM QC Audit Form
EM-61 MK2 Data

QC Check by: JAW
Date: 07/25/03

Project: SEDA/ODG
Location i.d.: GG-LL29; GG-LL30; GG-LL31
Survey Date: 07/16/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0716.gdb				0716.gdb			
Line #:	L0:0				L12:0			
Min:	-121.61	-27.13	-9.78	-8.02	-71.04	-10.62	-5.11	-7.25
Max:	-111.23	-23.44	-8.59	-7.43	-68.00	-9.09	-4.22	-6.64
Mean:	-115.45	-25.12	-9.29	-7.72	-69.70	-9.81	-4.77	-6.99
Std:	2.09	0.65	0.2	0.08	0.48	0.2	0.12	0.08

Comments: Drift of approx. 10 mV observed in channel one. Fails to meet DQO metric.

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0716.gdb				0716.gdb			
Line #:	L0.1:0				L12.1:0			
Min:	-175	-43.01	-13.15	-9.25	-126.97	-29.57	-10.66	-10.68
Max:	-167.46	-39.91	-11.9	-8.57	-123.44	-27.98	-9.74	-10
Mean:	-170.88	-41.35	-12.55	-8.88	-125.59	-28.78	-10.2	-10.33
Std:	1.32	0.53	0.18	0.11	0.41	0.24	0.15	0.12

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0716.gdb				0716.gdb			
Line #:	L0.2:0				L12.2:0			
Min:	-61.73	-19.58	-11.21	-8.62	-42.03	-14.27	-9.32	-8.52
Max:	-54.76	-16.52	-10.03	-8.21	-38.33	-12.86	-8.46	-8.07
Mean:	-58.42	-18.02	-10.66	-8.4	-40.72	-13.39	-8.84	-8.33
Std:	1.47	0.62	0.2	0.07	0.35	0.19	0.1	0.07

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 07/25/03

Project: SEDA/ODG
Location i.d.: GG-LL29; GG-LL30; GG-LL31
Survey Date: 07/16/03

Static Spike Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0716.gdb				0716.gdb			
Line #:	L1:0				L13:0			
Min:	369.84	276.27	150.48	57.82	376.56	265.33	140.2	51.47
Max:	375.99	279.64	152.43	58.66	381.55	268.76	142.24	52.43
Mean:	373.07	278.13	151.45	58.27	379.19	267.24	141.2	51.99
Std:	1.16	0.74	0.4	0.16	1.16	0.84	0.45	0.2

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0716.gdb				0716.gdb			
Line #:	L2.1:0				L14.1:0			
Min:	343.06	276.53	155.41	58.34	384.16	288.12	157.88	56.46
Max:	347.68	279.68	157.22	59.54	388.10	290.63	159.47	57.54
Mean:	345.46	278.02	156.33	58.92	386.00	289.57	158.68	56.99
Std:	0.77	0.57	0.36	0.26	0.78	0.55	0.32	0.18

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0716.gdb				0716.gdb			
Line #:	L3.2:0				L15.2:0			
Min:	438.07	289.73	149.98	56.51	422.17	274.92	141.76	52.49
Max:	444.1	292.73	151.37	57.24	426.28	277.36	143.3	53.21
Mean:	441.29	291.39	150.73	56.91	424.44	276.3	142.59	52.83
Std:	1.38	0.69	0.31	0.14	0.74	0.47	0.25	0.12

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: JAW
Date: 07/25/03

Project: SEDA/ODG
Location i.d.: GG-LL29; GG-LL30; GG-LL31
Survey Date: 07/16/03

Cable Shake Test

		Coil #1				Coil #1			
		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0716.gdb				0716.gdb			
Line #:		L4:0				L16:0			
Min:		-112.56	-24.52	-9.3	-8.08	-71.59	-10.63	-5.1	-7.35
Max:		-109.3	-23.15	-8.54	-7.36	-69.9	-9.4	-4.34	-6.69
Mean:		-110.99	-23.84	-8.94	-7.74	-70.74	-9.9	-4.75	-6.97
Std:		0.6	0.23	0.14	0.11	0.33	0.19	0.13	0.1

Comments: _____

		Coil #2				Coil #2			
		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0716.gdb				0716.gdb			
Line #:		L4.1:0				L16.1:0			
Min:		-168.86	-41.03	-12.8	-9.16	-126.47	-29.07	-10.42	-10.67
Max:		-166.45	-39.53	-12	-8.32	-124.14	-27.6	-9.39	-9.85
Mean:		-167.73	-40.38	-12.43	-8.76	-125.27	-28.35	-9.97	-10.25
Std:		0.48	0.24	0.15	0.15	0.41	0.27	0.17	0.16

Comments: _____

		Coil #3				Coil #3			
		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0716.gdb				0716.gdb			
Line #:		L4.2:0				L16.2:0			
Min:		-55.47	-17.07	-10.72	-8.73	-40.32	-13.27	-9.02	-8.68
Max:		-53.69	-16.22	-9.97	-8.23	-38.92	-12.48	-8.33	-8.11
Mean:		-54.59	-16.72	-10.3	-8.46	-39.69	-12.85	-8.7	-8.37
Std:		0.3	0.15	0.12	0.1	0.22	0.14	0.1	0.09

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: JAW

Project: SEDA/ODG

Date: 7/24/03

GG-LL29; GG-
Location i.d.: LL30; GG-LL31

Survey Date: 7/16/03

File name: 0716.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.5	0.14	0.5	0.59
Coil #2	0.5	0.19	0.5	0.47
Coil #3	0.5	0.3	0.5	0.46

Comments: Post-survey latency test appears to deviate from spike objects. No apparent chevron patterns observed in data.

Blind Seeds Detected

Seed ID		Anomaly ID	
Weston 30		123	
Location		Detected?	Yes
Easting	739766.98	Location	
Northing	1013620.21	Easting	739766.80
Seed Description		Northing	1013620.80
Depth (ft)	0.00	Dist. & Orient. from Seed	
Orientation	Horizontal	Dist. (ft)	0.62
		Orientation	SW

Comments: _____

Data Sampling

Velocity	
Average (mph)	1.62
Along Track / Across Track Sampling	
*Along Track (ft)	0.19
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	6.11
Cumulative	170.57
Total Data Gaps (acres)	
This Data Set	0.002
Cumulative	0.095

* metric: ≤ 0.5 ft

** metric: ≤ 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0716.gdb
Leveling Performed: Yes
Latency Correction Performed: Yes (no visible chevron effects)
Audit Log File Name: 0716.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: sum_clipped&Weston_noise
Clipping Value: - 5/7
Text Files Attached: Yes
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)	
a.m.	<u>1.49</u>	<u>1.68</u>	Lines 6-7
p.m.	<u>1.39</u>	<u>1.64</u>	Lines 8-10
Metric:	<u></= 3.25</u>	<u></= 2.0</u>	

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Anomaly Cert. 65, 149, 164
315, 509, 750

Comments:

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 07/26/03

Project: SEDA/ODG
Location i.d.: DD-LL32; DD-LL33;
Survey Date: 07/17/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0717.gdb				0717.gdb			
Line #:	L0:0				L12:0			
Min:	-83.89	-10.49	-4.57	-6.46	-76.47	-17.74	-8.15	-8.04
Max:	-80.69	-9.22	-3.95	-6	-73.2	-15.93	-7.28	-7.4
Mean:	-82.2	-9.92	-4.24	-6.25	-74.99	-16.86	-7.69	-7.72
Std:	0.49	0.18	0.1	0.07	0.48	0.23	0.13	0.1

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0717.gdb				0717.gdb			
Line #:	L0.1:0				L12.1:0			
Min:	-137.41	-26.95	-7.48	-7.57	-150.64	-43.45	-15.38	-11.63
Max:	-134.05	-25.7	-6.49	-6.87	-146.06	-41.34	-14.31	-10.92
Mean:	-136.1	-26.35	-6.98	-7.23	-148.64	-42.44	-14.95	-11.26
Std:	0.47	0.21	0.15	0.13	0.81	0.32	0.14	0.12

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0717.gdb				0717.gdb			
Line #:	L0.2:0				L12.2:0			
Min:	-43.02	-10.75	-7.94	-7.83	-60.38	-22.45	-11.1	-8.56
Max:	-40.42	-9.28	-7.25	-7.33	-55.75	-20.46	-10.16	-7.92
Mean:	-41.96	-10.23	-7.63	-7.56	-58.28	-21.43	-10.66	-8.24
Std:	0.43	0.26	0.1	0.08	1.04	0.39	0.13	0.09

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 07/26/03

Project: SEDA/ODG
Location i.d.: DD-LL32; DD-LL33;
Survey Date: 07/17/03

Static SpikeTest

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0717.gdb				0717.gdb			
Line #:	L1:0				L13:0			
Min:	400.9	287.82	153	57.98	383.27	268.97	145.45	55.31
Max:	405.82	291.39	154.88	58.86	388.91	272.81	147.45	56.39
Mean:	403.75	289.87	154.15	58.53	386.56	271.01	146.58	55.88
Std:	1.14	0.81	0.41	0.17	1.38	0.96	0.52	0.22

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0717.gdb				0717.gdb			
Line #:	L2.1:0							
Min:	358.08	279.44	154.99	57.55				
Max:	361.79	281.9	156.51	58.57				
Mean:	359.99	280.8	155.87	58.07				
Std:	0.7	0.49	0.28	0.17				

Comments: Post-survey data was not collected due to operator error.

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0717.gdb				0717.gdb			
Line #:	L3.2:0				L14.2:0			
Min:	447.2	293.54	151.06	56.66	-65.75	-26.4	-11	-8.47
Max:	450.83	295.53	152.11	57.21	466.72	354.45	213.36	106.38
Mean:	449.18	294.56	151.66	56.93	324.14	218.35	115.99	43.32
Std:	0.78	0.47	0.25	0.11	163.97	102.41	53.71	21.95

Comments: Spike object removed prior to completing post-survey data collection.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 07/26/03

Project: SEDA/ODG
Location i.d.: DD-LL32; DD-LL33;
Survey Date: 07/17/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0717.gdb				0717.gdb			
Line #:	L4:0				L15:0			
Min:	-82.27	-10.45	-4.5	-6.56	-75.91	-17.18	-8.41	-8.3
Max:	-79.41	-9.29	-3.79	-5.95	-73.18	-15.84	-7.22	-7.45
Mean:	-80.83	-9.95	-4.15	-6.28	-74.6	-16.54	-7.65	-7.78
Std:	0.44	0.19	0.13	0.1	0.52	0.29	0.15	0.11

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0717.gdb				0717.gdb			
Line #:	L4.1:0				L15.1:0			
Min:	-135.81	-26.89	-7.43	-7.61	-151.51	-43.27	-15.28	-11.65
Max:	-132.34	-25.41	-6.72	-6.94	-149.14	-42.19	-14.51	-10.89
Mean:	-134.27	-26.29	-7.04	-7.31	-150.44	-42.79	-14.91	-11.26
Std:	0.63	0.24	0.13	0.12	0.45	0.22	0.14	0.13

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0717.gdb				0717.gdb			
Line #:	L4.2:0				L15.2:0			
Min:	-43.03	-11.05	-7.96	-7.87	-61.94	-22.93	-11.03	-8.47
Max:	-41.31	-10.26	-7.28	-7.37	-60.34	-21.63	-10.36	-7.82
Mean:	-42.05	-10.67	-7.63	-7.6	-61.25	-22.46	-10.77	-8.21
Std:	0.27	0.16	0.1	0.09	0.32	0.18	0.13	0.1

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: RSS

Project: SEDA/ODG

Date: 7/26/03

DD-LL32;

Location i.d.: DD-LL33;

Survey Date: 7/17/03

File name: 0717.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
	0717AM Latency		NA	
Coil #1	0.7	0.26		
Coil #2	0.5	0.16		
Coil #3	0.5	0.12		

Comments: AM Latency values used for entire survey. PM latency was not collected correctly.

Blind Seeds Detected

Seed ID	
WESTON 26	
Location	
Easting	739278.91
Northing	1014147.80
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
530	
Detected?	YES
Location	
Easting	739278.00
Northing	1014147.50
Dist. & Orient. from Seed	
Dist. (ft)	0.65
Orientation	SW

Comments: WESTON 31=Detected Target 319 (Offset 1.74 S)
WESTON 33=Detected Target 300 (Offset 1.76 W)

Data Sampling

Velocity	
Average (mph)	1.69
Along Track / Across Track Sampling	
*Along Track (ft)	0.2
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	4.6
Cumulative	175.17
Total Data Gaps (acres)	
This Data Set	0.002
Cumulative	0.097

* metric: \leq 0.5 ft

** metric: \leq 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0717.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0717.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum Clipped,Weston_Noise
Clipping Value: - 5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>1.45</u>	<u>1.71</u>
p.m.	<u>1.46</u>	<u>1.73</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Target Cert: 235,247,372,118,708,506

Comments: Navigational "jumps" observed throughout dataset. Possible loss of differential due to heavy vegetation adjacent to data gaps.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Project: SEDA/ODG

Date: 08/07/03

DD-KK34; II-KK35; JJ-KK36; GG-KK37; GG-KK38; FF-JJ39; CC-
Location i.d.: EE41; BB-EE42
Survey Date: 07/18/03

Static Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0718.gdb				0718.gdb			
Line #:		L0:0				L12:0			
Min:		-101.42	-15.98	-4.93	-6.67	-64.06	-8.11	-4.03	-6.92
Max:		-96.5	-14.06	-4.12	-6.19	-60.9	-6.63	-3.03	-6.14
Mean:		-98.66	-14.85	-4.49	-6.42	-62.48	-7.35	-3.61	-6.5
Std:		0.89	0.33	0.13	0.08	0.46	0.23	0.16	0.14

Comments: _____

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0718.gdb				0718.gdb			
Line #:		L0.1:0				L12.1:0			
Min:		-150.16	-33.67	-10.98	-9.21	-133.93	-34.07	-12.24	-11.19
Max:		-145.93	-31.63	-9.51	-8.23	-130.08	-32.11	-11.17	-10.4
Mean:		-147.79	-32.54	-10.18	-8.7	-131.95	-32.91	-11.67	-10.75
Std:		0.68	0.32	0.23	0.17	0.61	0.26	0.15	0.11

Comments: _____

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0718.gdb				0718.gdb			
Line #:		L0.2:0				L12.2:0			
Min:		-36.76	-7.12	-6.75	-7.7	-46.4	-16.2	-9.79	-8.79
Max:		-33.68	-5.5	-5.69	-6.99	-43.51	-14.59	-8.75	-7.95
Mean:		-35.25	-6.28	-6.11	-7.27	-44.77	-15.33	-9.28	-8.33
Std:		0.59	0.31	0.14	0.11	0.48	0.28	0.18	0.14

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Project: SEDA/ODG

Date: 08/07/03

DD-KK34; II-KK35; JJ-KK36; GG-
KK37; GG-KK38; FF-JJ39; CC-
Location i.d.: EE41; BB-EE42
Survey Date: 07/18/03

Static SpikeTest

Coil #1

Pre Survey					Post Survey			
CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4	
File Name: 0718.gdb					0718.gdb			
Line #: L1:0					L13:0			
Min:	377.46	279.06	151.47	57.4	403.14	282.72	150.86	56.89
Max:	382.96	282.52	153.25	58.38	411.82	287.36	153.41	58.02
Mean:	380.56	281.15	152.49	57.98	408.33	285.18	152.29	57.49
Std:	1.2	0.84	0.44	0.2	1.43	0.93	0.5	0.21

Comments: _____

Coil #2

Coil #2

Pre Survey					Post Survey			
CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4	
File Name: 0718.gdb					0718.gdb			
Line #: L2.1:0					L14.1:0			
Min:	369.81	287.37	159.24	59.48	355.76	272.41	151.47	55.01
Max:	376.11	292.86	162.86	60.92	359.8	275.19	153.3	55.89
Mean:	373.35	290.97	161.55	60.19	358	273.73	152.41	55.47
Std:	0.98	0.85	0.61	0.32	0.73	0.53	0.32	0.17

Comments: _____

Coil #3

Coil #3

Pre Survey					Post Survey			
CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4	
File Name: 0718.gdb					0718.gdb			
Line #: L3.2:0					L15.2:0			
Min:	450.43	295.69	151.59	56.5	427.34	280.53	146.41	54.98
Max:	454.99	298.36	152.99	57.14	431.05	282.62	147.93	55.82
Mean:	453.01	297.01	152.33	56.81	429.58	281.75	147.2	55.48
Std:	0.83	0.52	0.25	0.1	0.72	0.46	0.27	0.16

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Project: SEDA/ODG

Date: 08/07/03

DD-KK34; II-KK35; JJ-KK36; GG-
KK37; GG-KK38; FF-JJ39; CC-
Location i.d.: EE41; BB-EE42
Survey Date: 07/18/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0718.gdb				0718.gdb			
Line #:	L4:0				L16:0			
Min:	-94.27	-13.58	-4.38	-6.58	-63.85	-7.75	-4.03	-6.71
Max:	-91.19	-12.26	-3.42	-5.87	-61.7	-6.52	-3.16	-6.09
Mean:	-93.09	-13.13	-4.06	-6.34	-62.78	-7.28	-3.58	-6.47
Std:	0.67	0.25	0.15	0.12	0.41	0.2	0.15	0.11

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0718.gdb				0718.gdb			
Line #:	L4.1:0				L16.1:0			
Min:	-146.62	-32.24	-10.53	-9.22	-134.71	-34.14	-12.03	-11.09
Max:	-142.64	-30.6	-9.33	-8.14	-132.34	-32.79	-11	-9.97
Mean:	-144.72	-31.42	-9.81	-8.7	-133.81	-33.38	-11.67	-10.69
Std:	0.84	0.3	0.21	0.17	0.46	0.24	0.16	0.14

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0718.gdb				0718.gdb			
Line #:	L4.2:0				L16.2:0			
Min:	-35.73	-6.76	-6.2	-7.61	-47.41	-16.52	-9.61	-8.5
Max:	-33.55	-5.34	-5.35	-6.84	-45.83	-15.41	-8.97	-7.88
Mean:	-34.38	-5.72	-5.65	-7.14	-46.59	-15.9	-9.33	-8.27
Std:	0.37	0.21	0.13	0.1	0.26	0.18	0.13	0.1

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check
by: MDS

Project: SEDA/ODG

Date: 8/7/03

Location i.d.: DD-KK34; II-KK35; JJ-KK36; GG-KK37; GG-KK38; FF-JJ39; CC-EE41; BB-EE42

Survey Date: 7/18/03

File name: 0718.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0718AM Latency		0718PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.3	0.23	0.2	0.24
Coil #2	0.5	0.23	0.2	0.23
Coil #3	0.6	0.24	0.2	0.23

Comments: _____

Blind Seeds Detected

Seed ID	
Weston 33	
Location	
Easting	740104.49
Northing	1014070.16
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
98	
Detected?	Yes
Location	
Easting	740104.30
Northing	1014066.80
Dist. & Orient. from Seed	
Dist. (ft)	1.95
Orientation	NW

Comments: Five targets selected near Weston Seed 33 within a 10 foot radius
Weston 25 - three picked targets- Target ID 721 = .49'
Target ID 657 = 0.65' Target ID 651 = 2.35'

Data Sampling

Velocity	
Average (mph)	2.07
Along Track / Across Track Sampling	
*Along Track (ft)	0.24
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	4.48
Cumulative	179.65
Total Data Gaps (acres)	
This Data Set	0.002
Cumulative	0.099

* metric: ≤ 0.5 ft
 ** metric: ≤ 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0718.gdb
Leveling Performed: Yes
Latency Correction Performed: Yes (no visible chevron effects)
Audit Log File Name: 0718.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: sum clipped & Weston_Noise
Clipping Value: - 5/7
Text Files Attached: Yes
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	1.89	2.11
p.m.	1.64	1.86
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

<u>3</u>	Anomalies <	<u>100</u>
<u>3</u>	Anomalies >	<u>100</u>

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Less than 100 - Target ID = 102, 154, 384
Greater than 100 Target ID = 280, 100, 255

Comments:

A target density of approximately 179 targets/acre was calculated for the 0718a.map (AM data).
This value is significantly higher than that of the 0718b.map (PM data) at 65 targets/acre.
A previous root cause analysis submitted 26 June 2003 determined that areas exhibiting
a high concentration of anomalies would affect the SNR by increasing
mean and std. dev. values. It has been determined that the likely cause of the
AM std. dev. failure is a result of a high target density observed in 18 July 2003 AM data

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS

Project: SEDA/ODG

Date: 07/28/03

Z30-31; Z34-36; AA30-36; BB34-36; CC28-31;
Location i.d.: 36; CC28-31;

Survey Date: 07/19/03

Static Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0719.gdb				0719.gdb			
Line #:		0.0				12.0			
Min:		-76.79	-7.74	-2.85	-6.04	-72	-10.67	-4.49	-6.45
Max:		-72.37	-6.42	-2.04	-5.49	-68.83	-8.91	-3.74	-5.99
Mean:		-74.78	-7.07	-2.45	-5.79	-70.45	-9.79	-4.11	-6.22
Std:		0.69	0.24	0.11	0.08	0.44	0.23	0.1	0.07

Comments: Slight deviations observed in AM data due to possible instrument movement.

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0719.gdb				0719.gdb			
Line #:		0.1				12.1			
Min:		-135.87	-27.25	-8.02	-7.93	-139.65	-36.13	-12.58	-10.39
Max:		-131.87	-25.7	-7.14	-7.23	-136.29	-34.43	-11.69	-9.54
Mean:		-133.39	-26.43	-7.59	-7.6	-138.27	-35.38	-12.11	-9.98
Std:		0.51	0.24	0.14	0.11	0.48	0.29	0.13	0.12

Comments: _____

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0719.gdb				0719.gdb			
Line #:		0.2				12.2			
Min:		-33.14	-4.95	-5.15	-7.11	-49.91	-17.24	-9.73	-8.33
Max:		-30.65	-3.73	-4.56	-6.72	-46.09	-15.41	-8.99	-7.83
Mean:		-31.45	-4.22	-4.89	-6.95	-47.51	-16.06	-9.33	-8.07
Std:		0.35	0.16	0.08	0.06	0.69	0.33	0.11	0.08

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS

Project: SEDA/ODG

Date: 07/28/03

Z30-31; Z34-36; AA30-36; BB34-36; CC28-31;
Location i.d.: 36; CC28-31;

Survey Date: 07/19/03

Static Spike Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0719.gdb				0719.gdb			
Line #:	1.0				13.0			
Min:	404.58	289.29	154.9	58.81	388.82	273.83	146.83	55.6
Max:	411.77	294.49	157.57	59.92	394.15	277.92	148.68	56.59
Mean:	408.28	292.33	156.25	59.34	391.75	276.05	147.86	56.09
Std:	1.32	0.92	0.48	0.2	1.2	0.82	0.44	0.17

Comments: Sample interval variation observed at the end of data collection.

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0719.gdb				0719.gdb			
Line #:	2.1				14.1			
Min:	377.92	291.46	161.2	60.07	348.29	268.48	150.48	55.28
Max:	382.8	294.51	163.12	61.43	354.06	272.02	152.32	56.52
Mean:	380.36	292.95	162.12	60.7	351.43	270.18	151.39	56.04
Std:	0.8	0.59	0.37	0.25	0.78	0.54	0.32	0.17

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0719.gdb				0719.gdb			
Line #:	3.2				15.2			
Min:	463.66	304.04	156.69	58.8	409.23	270.09	141.38	53.44
Max:	467.91	306.26	157.88	59.45	413.44	272	142.56	54
Mean:	465.86	305.28	157.35	59.17	411.65	271.17	142.03	53.73
Std:	0.78	0.49	0.27	0.12	0.71	0.43	0.23	0.1

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS

Project: SEDA/ODG

Date: 07/28/03

Location i.d.: Z30-31; Z34-36; AA30-36; BB34-36; CC28-31;

Survey Date: 07/19/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0719.gdb				0719.gdb			
Line #:	4.0				16.0			
Min:	-75.87	-7.34	-2.58	-5.98	-71.74	-10.8	-4.69	-6.61
Max:	-72.22	-5.97	-1.74	-5.42	-68.33	-9.14	-3.54	-5.76
Mean:	-73.94	-6.69	-2.22	-5.7	-69.75	-9.99	-4.17	-6.15
Std:	0.76	0.26	0.13	0.11	0.56	0.29	0.16	0.14

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0719.gdb				0719.gdb			
Line #:	4.1				16.1			
Min:	-134.4	-27.02	-8.08	-7.96	-139.42	-36.58	-12.59	-10.3
Max:	-130.34	-25.62	-7.45	-7.26	-137.17	-35.27	-11.72	-9.54
Mean:	-132.87	-26.43	-7.77	-7.65	-138.21	-35.88	-12.17	-9.96
Std:	0.72	0.22	0.12	0.11	0.44	0.22	0.14	0.14

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0719.gdb				0719.gdb			
Line #:	4.2				16.2			
Min:	-33.07	-5.55	-5.55	-7.4	-52.15	-18.4	-10.34	-8.66
Max:	-31.29	-4.31	-4.87	-6.92	-50.07	-16.7	-9.12	-7.44
Mean:	-32.13	-4.91	-5.2	-7.14	-50.97	-17.7	-9.72	-8.05
Std:	0.35	0.22	0.13	0.08	0.41	0.3	0.2	0.19

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check
by: RSS

Project: SEDA/ODG

Date: 7/28/03

Z30-31; Z34-36; AA30-36; BB34-36; CC28-31;
Location i.d.: 31
Survey Date: 7/19/03
File name: 0719.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
	0719AM Latency		NA	
Coil #1	0.5	0.21		
Coil #2	0.5	0.26		
Coil #3	0.7	0.38		

Comments: Morning survey only.

Blind Seeds Detected

Seed ID	
NA	
Location	
Easting	
Northing	
Seed Description	
Depth (ft)	
Orientation	

Anomaly ID	
NA	
Detected?	
Location	
Easting	
Northing	
Dist. & Orient. from Seed	
Dist. (ft)	
Orientation	

Comments: No WESTON seeded items in survey area.

Data Sampling

Velocity	
Average (mph)	2.24
Along Track / Across Track Sampling	
*Along Track (ft)	0.26
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	2.74
Cumulative	182.39
Total Data Gaps (acres)	
This Data Set	0.001
Cumulative	0.100

* metric: \leq 0.5 ft
** metric: \leq 3.0 ft

Comments: Navigation "jumps" observed adjacent to inaccessible areas. The loss of differential correction is possibly the cause.

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0719.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0719.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum Clipped/Weston_Noise
Clipping Value: - 5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>1.51</u>	<u>2.26</u>
p.m.	<u>NA</u>	<u>NA</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Target Cert: 1011,922,940,745,674,773

Comments: SNR levels exceed the DQO metric. This was observed in earlier data sets conducted in high density target areas. A root cause analyses was performed. Results substantiate that std dev. for SNR was higher in high density (cluttered) target areas.
Data gaps observed where values below -5mV were clipped.
Example E738762.92, N1013864.41.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS

Project: SEDA/ODG

Date: 07/28/03

Z30-31; Z34-36; AA30-36; BB34-36; CC28-31;

Location i.d.: 36; CC28-31;
Survey Date: 07/19/03

Static Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name		0719.gdb				0719.gdb			
Line #:		0.0				12.0			
Min:		-76.79	-7.74	-2.85	-6.04	-72	-10.67	-4.49	-6.45
Max:		-72.37	-6.42	-2.04	-5.49	-68.83	-8.91	-3.74	-5.99
Mean:		-74.78	-7.07	-2.45	-5.79	-70.45	-9.79	-4.11	-6.22
Std:		0.69	0.24	0.11	0.08	0.44	0.23	0.1	0.07

Comments: Slight deviations observed in AM data due to possible instrument movement.

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name		0719.gdb				0719.gdb			
Line #:		0.1				12.1			
Min:		-135.87	-27.25	-8.02	-7.93	-139.65	-36.13	-12.58	-10.39
Max:		-131.87	-25.7	-7.14	-7.23	-136.29	-34.43	-11.69	-9.54
Mean:		-133.39	-26.43	-7.59	-7.6	-138.27	-35.38	-12.11	-9.98
Std:		0.51	0.24	0.14	0.11	0.48	0.29	0.13	0.12

Comments:

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name		0719.gdb				0719.gdb			
Line #:		0.2				12.2			
Min:		-33.14	-4.95	-5.15	-7.11	-49.91	-17.24	-9.73	-8.33
Max:		-30.65	-3.73	-4.56	-6.72	-46.09	-15.41	-8.99	-7.83
Mean:		-31.45	-4.22	-4.89	-6.95	-47.51	-16.06	-9.33	-8.07
Std:		0.35	0.16	0.08	0.06	0.69	0.33	0.11	0.08

Comments:

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS

Project: SEDA/ODG

Date: 07/28/03

Location i.d.: Z30-31; Z34-36; AA30-36; BB34-36; CC28-31;

Survey Date: 07/19/03

Static SpikeTest

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0719.gdb				0719.gdb			
Line #:	1.0				13.0			
Min:	404.58	289.29	154.9	58.81	388.82	273.83	146.83	55.6
Max:	411.77	294.49	157.57	59.92	394.15	277.92	148.68	56.59
Mean:	408.28	292.33	156.25	59.34	391.75	276.05	147.86	56.09
Std:	1.32	0.92	0.48	0.2	1.2	0.82	0.44	0.17

Comments: Sample interval variation observed at the end of data collection.

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0719.gdb				0719.gdb			
Line #:	2.1				14.1			
Min:	377.92	291.46	161.2	60.07	348.29	268.48	150.48	55.28
Max:	382.8	294.51	163.12	61.43	354.06	272.02	152.32	56.52
Mean:	380.36	292.95	162.12	60.7	351.43	270.18	151.39	56.04
Std:	0.8	0.59	0.37	0.25	0.78	0.54	0.32	0.17

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0719.gdb				0719.gdb			
Line #:	3.2				15.2			
Min:	463.66	304.04	156.69	58.8	409.23	270.09	141.38	53.44
Max:	467.91	306.26	157.88	59.45	413.44	272	142.56	54
Mean:	465.86	305.28	157.35	59.17	411.65	271.17	142.03	53.73
Std:	0.78	0.49	0.27	0.12	0.71	0.43	0.23	0.1

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS

Project: SEDA/ODG

Date: 07/28/03

Z30-31; Z34-36; AA30-36; BB34-
Location i.d.: 36; CC28-31;

Survey Date: 07/19/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0719.gdb				0719.gdb			
Line #:	4.0				16.0			
Min:	-75.87	-7.34	-2.58	-5.98	-71.74	-10.8	-4.69	-6.61
Max:	-72.22	-5.97	-1.74	-5.42	-68.33	-9.14	-3.54	-5.76
Mean:	-73.94	-6.69	-2.22	-5.7	-69.75	-9.99	-4.17	-6.15
Std:	0.76	0.26	0.13	0.11	0.56	0.29	0.16	0.14

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0719.gdb				0719.gdb			
Line #:	4.1				16.1			
Min:	-134.4	-27.02	-8.08	-7.96	-139.42	-36.58	-12.59	-10.3
Max:	-130.34	-25.62	-7.45	-7.26	-137.17	-35.27	-11.72	-9.54
Mean:	-132.87	-26.43	-7.77	-7.65	-138.21	-35.88	-12.17	-9.96
Std:	0.72	0.22	0.12	0.11	0.44	0.22	0.14	0.14

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0719.gdb				0719.gdb			
Line #:	4.2				16.2			
Min:	-33.07	-5.55	-5.55	-7.4	-52.15	-18.4	-10.34	-8.66
Max:	-31.29	-4.31	-4.87	-6.92	-50.07	-16.7	-9.12	-7.44
Mean:	-32.13	-4.91	-5.2	-7.14	-50.97	-17.7	-9.72	-8.05
Std:	0.35	0.22	0.13	0.08	0.41	0.3	0.2	0.19

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: RSS

Project: SEDA/ODG

Z30-31; Z34-36; AA30-

36; BB34-36; CC28-

Date: 7/28/03

Location i.d.: 31

Survey Date: 7/19/03

File name: 0719.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0719AM Latency		NA	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.5	0.21		
Coil #2	0.5	0.26		
Coil #3	0.7	0.38		

Comments: Morning survey only.

Blind Seeds Detected

Seed ID	
NA	
Location	
Easting	
Northing	
Seed Description	
Depth (ft)	
Orientation	

Anomaly ID	
NA	
Detected?	
Location	
Easting	
Northing	
Dist. & Orient. from Seed	
Dist. (ft)	
Orientation	

Comments: No WESTON seeded items in survey area.

Data Sampling

Velocity	
Average (mph)	2.24
Along Track/Across Track Sampling	
*Along Track (ft)	0.26
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	2.74
Cumulative	182.39
Total Data Gaps (acres)	
This Data Set	0.001
Cumulative	0.100

* metric: ≤ 0.5 ft

** metric: ≤ 3.0 ft

Comments: Navigation "jumps" observed adjacent to inaccessible areas. The loss of differential correction is possibly the cause.

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0719.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0719.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum Clipped/Weston_Noise
Clipping Value: - 5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>1.51</u>	<u>2.26</u>
p.m.	<u>NA</u>	<u>NA</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Target Cert: 1011,922,940,745,674,773

Comments: SNR levels exceed the DQO metric. This was observed in earlier data sets conducted in high density target areas. A root cause analyses was performed. Results substantiate that std dev. for SNR was higher in high density (cluttered) target areas.
Data gaps observed where values below -5mV were clipped.
Example E738762.92, N1013864.41.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Project: SEDA/ODG

Date: 08/18/03

CC31-42; DD-
Location i.d.: GG37; DD-EE39
Survey Date: 07/21/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0730.gdb				0730.gdb			
Line #:	L0:0				L15:0			
Min:	-180.51	-42.01	-10.39	-6.48	-161.54	-38.13	-10.84	-6.85
Max:	-172.5	-39.04	-9.39	-5.98	-153.68	-34.3	-8.33	-6
Mean:	-177.29	-40.81	-9.96	-6.23	-157.99	-36.5	-9.37	-6.49
Std:	1.67	0.56	0.15	0.07	1.71	1.01	0.46	0.16

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0730.gdb				0730.gdb			
Line #:	L0.1:0				L15.1:0			
Min:	-158.91	-36.62	-10.82	-8.25	-148.7	-36.49	-12.13	-10.15
Max:	-153.62	-34.4	-9.73	-7.36	-144.1	-34.11	-10.11	-9.35
Mean:	-156.86	-35.7	-10.24	-7.78	-146.95	-35.59	-10.75	-9.74
Std:	1.24	0.44	0.18	0.16	0.58	0.3	0.16	0.12

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0730.gdb				0730.gdb			
Line #:	L0.2:0				L15.2:0			
Min:	-42.72	-10.61	-7.45	-7.5	-85.64	-32.18	-14.72	-8.97
Max:	-37.26	-7.98	-6.12	-6.87	-78.66	-28.76	-12.76	-8.43
Mean:	-39.7	-9.14	-6.74	-7.18	-81.86	-30.46	-13.42	-8.69
Std:	1.39	0.63	0.25	0.11	1.3	0.52	0.13	0.08

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Project: SEDA/ODG

Date: 08/18/03

CC31-42; DD-
Location i.d.: GG37; DD-EE39
Survey Date: 07/21/03

Static Spike Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0730.gdb				0730.gdb			
Line #:	L1:0				L16:0			
Min:	296.55	250.48	143.24	55.57	303.3	247.81	140.68	53.87
Max:	305.28	256.18	146.15	56.85	310.42	253.02	143.51	55.27
Mean:	302.34	254.13	145.02	56.37	307.14	250.35	142.13	54.64
Std:	2.01	1.23	0.63	0.26	1.22	0.94	0.53	0.23

Comments: +/- 4.3 mV drift observed in coil #1, channel 1 (presurvey test)

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0730.gdb				0730.gdb			
Line #:	L2.1:0				L17.1:0			
Min:	377.28	295.59	165.39	62.12	345.64	271.57	152.95	55.58
Max:	382.19	298.97	167.09	62.99	349.82	274.03	154.36	56.41
Mean:	380.05	297.58	166.26	62.54	347.35	272.88	153.66	56.03
Std:	0.98	0.58	0.31	0.16	0.64	0.46	0.26	0.13

Comments:

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0730.gdb				0730.gdb			
Line #:	L3.2:0				L18.2:0			
Min:	435.84	287.65	148.57	55.43	360.29	244.85	130.72	49.17
Max:	440.42	290.38	149.9	56.04	365.25	247.6	132.07	49.71
Mean:	438.64	289.19	149.27	55.76	362.59	246.38	131.4	49.46
Std:	0.9	0.55	0.27	0.11	0.8	0.44	0.22	0.1

Comments:

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Project: SEDA/ODG

Date: 08/18/03

CC31-42; DD-
Location i.d.: GG37; DD-EE39
Survey Date: 07/21/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0730.gdb				0730.gdb			
Line #:	L4:0				L19:0			
Min:	-181.05	-42.11	-10.32	-6.5	-157.5	-36.22	-9.33	-6.87
Max:	-174.47	-39.66	-9.33	-5.89	-154.78	-34.61	-8.49	-5.93
Mean:	-178.34	-41.18	-9.92	-6.25	-156.2	-35.55	-8.89	-6.37
Std:	1.38	0.54	0.22	0.12	0.55	0.27	0.14	0.16

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0730.gdb				0730.gdb			
Line #:	L4.1:0				L19.1:0			
Min:	-156.27	-35.51	-10.54	-8.58	-148.39	-36.49	-11.1	-10.15
Max:	-153.77	-33.56	-8.95	-6.99	-145.84	-35.09	-10.32	-9.36
Mean:	-155.02	-34.6	-9.77	-7.72	-147.21	-35.68	-10.68	-9.71
Std:	0.51	0.4	0.36	0.41	0.45	0.24	0.14	0.16

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0730.gdb				0730.gdb			
Line #:	L4.2:0				L19.2:0			
Min:	-43.92	-10.46	-6.98	-7.27	-86.18	-33.04	-14.51	-9.17
Max:	-42.49	-9.69	-6.39	-6.68	-83.01	-30.9	-13.31	-8.17
Mean:	-43.16	-10.06	-6.7	-7.01	-84.69	-32.17	-13.91	-8.71
Std:	0.27	0.14	0.11	0.1	0.59	0.35	0.22	0.18

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: MDS
Date: 8/18/03

Project: SEDA/ODG
Location i.d.: CC31-42; DD-GG37; DD-EE39
Survey Date: 7/21/03
File name: 0721.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0721AM Latency		0721PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.6	0.58	0.5	0.37
Coil #2	0.4	0.45	0.55	0.40
Coil #3	0.4	0.80	0.55	0.59

Comments: _____

Blind Seeds Detected

Seed ID	
Weston 28	
Location	
Easting	739765.84
Northing	1012836.23
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
Target ID 549	
Detected?	Yes
Location	
Easting	739766.30
Northing	1012838.00
Dist. & Orient. from Seed	
Dist. (ft)	1.83
Orientation	NNE

Comments: _____

Data Sampling

Velocity	
Average (mph)	1.62
Along Track / Across Track Sampling	
*Along Track (ft)	0.19
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	3.94
Cumulative	186.33
Total Data Gaps (acres)	
This Data Set	0.003
Cumulative	0.103

* metric: <= 0.5 ft
 ** metric: <= 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0721.gdb
Leveling Performed: Yes
Latency Correction Performed: Yes (no visible chevron effects)
Audit Log File Name: 0721.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: sum_clipped & Weston_Noise
Clipping Value: - 5/7
Text Files Attached: Yes
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)	
a.m.	<u>1.78</u>	<u>2.05</u>	Lines 6-9
p.m.	<u>2.16</u>	<u>2.37</u>	Line 10
Metric:	<u></= 3.25</u>	<u></= 2.0</u>	Lines 11-13 deleted

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Target ID's < 100 = 460, 129, 165
Target ID's < 100 = 604, 261, 453

Comments:

Daily DGM QC Audit Form
EM-61 MK2 Data

QC Check by: RSS
Date: 07/30/03

Project: SEDA/ODG
Location i.d.: LL23; I122-LL22; I1-LL21
Survey Date: 07/22/03

Static Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0722.gdb				0722.gdb			
Line #:		L0:0				L18:0			
Min:		-201.6	-47.71	-11.81	-7.39	-121.23	-23.68	-7	-7.11
Max:		-193.52	-45.13	-10.71	-6.67	-117.69	-22	-5.96	-6.56
Mean:		-197.51	-46.52	-11.26	-7.01	-119.42	-22.92	-6.47	-6.8
Std:		1.83	0.53	0.2	0.1	0.56	0.25	0.13	0.08

Comments: _____

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0722.gdb				0722.gdb			
Line #:		L0.1:0				L18.1:0			
Min:		-212.37	-58.26	-17.1	-9.62	-137.36	-33.29	-11.43	-10.69
Max:		-205.83	-55.9	-15.93	-8.8	-134.66	-31.83	-10.35	-9.94
Mean:		-209.26	-57.02	-16.45	-9.17	-136.18	-32.42	-10.9	-10.34
Std:		1.31	0.39	0.2	0.14	0.38	0.23	0.13	0.11

Comments: _____

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0722.gdb				0722.gdb			
Line #:		L0.2:0				L18.2:0			
Min:		-108.54	-34.55	-14.15	-9.13	-49.82	-16.68	-10.19	-8.82
Max:		-101.79	-31.46	-13.21	-8.53	-46.83	-14.98	-9.31	-8.28
Mean:		-104.57	-32.94	-13.76	-8.88	-48.14	-15.7	-9.71	-8.54
Std:		1.24	0.6	0.13	0.1	0.59	0.28	0.12	0.08

Comments: Pre-survey sample interval variation-observed at start of data collection.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 07/30/03

Project: SEDA/ODG
Location i.d.: LL23; I122-LL22; II-LL21
Survey Date: 07/22/03

Static SpikeTest

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0722.gdb				0722.gdb			
Line #:	L1:0				L19:0			
Min:	103.43	245.11	141.76	55.88	341.93	261.84	144.14	54.51
Max:	311.41	267.27	163.85	73.95	346.69	265.28	145.92	55.33
Mean:	277.33	251.08	145.97	57.63	344.53	263.71	145.19	54.94
Std:	24.93	3.27	3.72	3.62	1.11	0.82	0.44	0.2

Comments: Spikes in pre-survey data due to radio interference.

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0722.gdb				0722.gdb			
Line #:	L2.1:0				L20.1:0			
Min:	283.23	248.95	145.93	56.13	354.33	273.15	151.32	54.28
Max:	288.42	252.43	148.11	57.11	358.13	275.7	153.05	55.33
Mean:	286.26	250.68	146.77	56.64	356.19	274.54	152.26	54.85
Std:	0.95	0.54	0.31	0.19	0.74	0.55	0.34	0.19

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0722.gdb				0722.gdb			
Line #:	L3.2:0				L21.2:0			
Min:	367.69	259.39	137.58	51.95	383.3	250.85	127.51	45.17
Max:	372.06	262.18	138.92	52.67	387.2	253.17	128.9	45.86
Mean:	370.27	260.57	138.26	52.33	385	251.97	128.15	45.54
Std:	0.79	0.51	0.25	0.13	0.71	0.43	0.24	0.12

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 07/30/03

Project: SEDA/ODG
Location i.d.: LL23; II22-LL22; II-LL21
Survey Date: 07/22/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0722.gdb				0722.gdb			
Line #:	L4:0				L22:0			
Min:	-194.8	-46.69	-12.15	-7.65	-122.05	-24.02	-6.91	-7.11
Max:	-189.18	-44.23	-10.84	-6.66	-119.8	-22.96	-6.3	-6.57
Mean:	-191.75	-45.3	-11.28	-7.05	-121.1	-23.51	-6.64	-6.81
Std:	1.28	0.5	0.24	0.14	0.46	0.2	0.12	0.1

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0722.gdb				0722.gdb			
Line #:	L4.1:0				L22.1:0			
Min:	-199.15	-54.51	-16.87	-9.69	-138.17	-33.18	-11.13	-10.6
Max:	-190.48	-50.83	-15.34	-8.94	-135.51	-32.04	-10.36	-9.93
Mean:	-195.6	-53.02	-16.15	-9.3	-137.23	-32.54	-10.76	-10.27
Std:	2.24	0.87	0.33	0.13	0.5	0.2	0.14	0.13

Comments: Drift in data observed from -199 to -190 mV

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0722.gdb				0722.gdb			
Line #:	L4.2:0				L22.2:0			
Min:	-92.03	-27.96	-12.57	-8.89	-47.26	-15.42	-9.91	-8.92
Max:	-89.78	-26.53	-11.53	-8.12	-45.47	-14.5	-9.28	-8.39
Mean:	-91.04	-27.25	-11.99	-8.46	-46.59	-14.91	-9.53	-8.61
Std:	0.39	0.29	0.2	0.12	0.3	0.17	0.11	0.09

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: RSS

Project: SEDA/ODG

Date: 7/30/03

LL23; II22-

Location i.d.: LL22; II-LL21

Survey Date: 7/22/03

File name: 0722.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
	0722AM Latency		0722PM Latency	
Coil #1	0.4	0.14	0.3	0.56
Coil #2	0.3	0.43	0.3	0.58
Coil #3	0.3	0.49	0.3	0.53

Comments: _____

Blind Seeds Detected

Seed ID		Anomaly ID	
NA		NA	
Location		Location	
Easting	NA	Detected?	NA
Northing	NA	Location	
Seed Description		Easting	NA
Depth (ft)	NA	Northing	NA
Orientation	NA	Dist. & Orient. from Seed	
		Dist. (ft)	NA
		Orientation	NA

Comments: No Weston seeded item surveyed.

Data Sampling

Velocity	
Average (mph)	1.87
Along Track / Across Track Sampling	
*Along Track (ft)	0.22
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	3.72
Cumulative	190.05
Total Data Gaps (acres)	
This Data Set	0.003
Cumulative	0.1059

* metric: $\leq 0.5\text{ ft}$

** metric: $\leq 3.0\text{ ft}$

Comments: Velocity exceeding DQO was observed, removed, and reprocessed. Data gaps were digitized for field evaluation.

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0722.gdb
Leveling Performed: Yes
Latency Correction Performed: Yes (no visible chevron effects)
Audit Log File Name: 0722.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum Clipped / Weston_Noise
Clipping Value: - 5/7
Text Files Attached: Yes
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>1.65</u>	<u>1.86</u>
p.m.	<u>1.48</u>	<u>1.62</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Target cut: 208, 55, 141, 339, 382, 360

Comments: Suspect noise observed at E 740028 N 1012553. Targets were selected on this feature.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Date: 08/18/03

Project: SEDA/ODG

Q-U41; Q-U42; T-

Location i.d.: U43

Survey Date: 07/23/03

Static Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0723.gdb				0723.gdb			
Line #:		L0:0				L16:0			
Min:		-157.93	-31.35	-7.25	-6.4	-145.37	-32.86	-8.89	-7.22
Max:		-151.45	-29.41	-6.45	-5.98	-139.14	-30.12	-7.71	-6.55
Mean:		-156.19	-30.21	-6.94	-6.21	-141.75	-31.3	-8.27	-6.81
Std:		0.69	0.27	0.11	0.06	1.35	0.62	0.22	0.09

Comments: _____

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0723.gdb				0723.gdb			
Line #:		L0.1:0				L16.1:0			
Min:		-175.3	-42.77	-12.68	-8.81	-167.36	-44.51	-13.68	-10.97
Max:		-168.22	-40.09	-11.47	-8.13	-149.59	-37.05	-11.12	-10.2
Mean:		-171.96	-41.46	-12.08	-8.45	-158.71	-40.62	-12.35	-10.64
Std:		1.03	0.44	0.17	0.11	5.09	1.94	0.55	0.13

Comments: +/- 8.5 mV drift observed in coil #2, channel 1 (postsurvey test)

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0723.gdb				0723.gdb			
Line #:		L0.2:0				L16.2:0			
Min:		-69.7	-22.12	-11.78	-8.71	-81.63	-31	-14.9	-10.19
Max:		-65.38	-20.07	-10.82	-8.22	-77.75	-28.7	-14.04	-9.67
Mean:		-67.46	-21.13	-11.33	-8.44	-79.75	-29.79	-14.42	-9.92
Std:		0.77	0.37	0.14	0.08	0.54	0.42	0.14	0.08

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Date: 08/18/03

Project: SEDA/ODG

Q-U41; Q-U42; T-

Location i.d.: U43

Survey Date: 07/23/03

Static SpikeTest

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0723.gdb				0723.gdb			
Line #:	L1:0				L17:0			
Min:	322.58	264.61	147.85	56.54	333.33	264.54	150.25	58.81
Max:	327.99	267.57	149.48	57.21	340.58	268.83	152.23	59.75
Mean:	325.73	266.25	148.8	56.91	337.36	266.96	151.42	59.29
Std:	1.05	0.7	0.37	0.15	1.74	0.94	0.47	0.19

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0723.gdb				0723.gdb			
Line #:	L2.1:0				L18.1:0			
Min:	332.9	270.57	152.73	57.01	344.5	271.64	153.59	55.6
Max:	338.19	273.5	154.43	57.82	349.13	274.25	155.15	56.85
Mean:	335.39	272.1	153.55	57.44	347.05	273.13	154.39	56.24
Std:	1.01	0.61	0.29	0.15	0.82	0.55	0.3	0.22

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0723.gdb				0723.gdb			
Line #:	L3.2:0				L19.2:0			
Min:	384.1	256.71	131.51	47.53	392.97	267.45	142.83	54.77
Max:	388.31	259.16	132.75	48.1	396.94	269.96	144.33	55.43
Mean:	386.18	257.88	132.12	47.78	395.27	268.85	143.72	55.16
Std:	0.89	0.53	0.27	0.11	0.85	0.54	0.29	0.13

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Date: 08/18/03

Project: SEDA/ODG

Q-U41; Q-U42; T-

Location i.d.: U43

Survey Date: 07/23/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0723.gdb				0723.gdb			
Line #:	L4:0				L20:0			
Min:	-158.16	-31.26	-7.36	-6.52	-143.22	-30.33	-7.74	-6.86
Max:	-153.51	-29.52	-6.7	-6.1	-140.31	-29.28	-7.11	-6.29
Mean:	-156.35	-30.45	-7.07	-6.31	-141.99	-29.72	-7.42	-6.59
Std:	0.97	0.32	0.12	0.08	0.54	0.2	0.12	0.09

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0723.gdb				0723.gdb			
Line #:	L4.1:0				L20.1:0			
Min:	-169.53	-40.83	-12.03	-8.74	-144.18	-34.76	-10.85	-10.7
Max:	-165.81	-38.95	-11.16	-8.13	-141.27	-33.79	-10.02	-10.01
Mean:	-167.68	-39.93	-11.64	-8.44	-142.76	-34.27	-10.33	-10.29
Std:	0.8	0.43	0.17	0.1	0.45	0.2	0.14	0.11

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0723.gdb				0723.gdb			
Line #:	L4.2:0				L20.2:0			
Min:	-66.03	-20.57	-11.08	-8.56	-79.34	-29.47	-14.66	-10.22
Max:	-63.29	-19.19	-10.52	-8.15	-75.35	-28.18	-13.99	-9.67
Mean:	-64.87	-20.03	-10.84	-8.34	-77.27	-28.82	-14.36	-9.97
Std:	0.72	0.32	0.11	0.07	1.2	0.32	0.13	0.1

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: MDS
 Date: 8/18/03

Project: SEDA/ODG
 Location i.d.: Q-U41; Q-U42; T-U43
 Survey Date: 7/23/03
 File name: 0723.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0723AM Latency		0723PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.4	0.20	0.3	0.35
Coil #2	0.4	0.09	0.3	0.43
Coil #3	0.4	0.27	0.3	0.68

Comments: _____

Blind Seeds Detected

Seed ID	
No Weston Seeds	
Location	
Easting	NA
Northing	NA
Seed Description	
Depth (ft)	NA
Orientation	NA

Anomaly ID	
NA	
Detected?	NA
Location	
Easting	NA
Northing	NA
Dist. & Orient. from Seed	
Dist. (ft)	NA
Orientation	NA

Comments: _____

Data Sampling

Velocity	
Average (mph)	1.66
Along Track / Across Track Sampling	
*Along Track (ft)	0.19
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	3.42
Cumulative	193.45
Total Data Gaps (acres)	
This Data Set	0.001
Cumulative	0.107

* metric: <= 0.5 ft
 ** metric: <= 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0723.gdb
Leveling Performed: Yes
Latency Correction Performed: Yes (no visible chevron effects)
Audit Log File Name: 0723.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: sum_clipped & Weston_Noise
Clipping Value: - 5/7
Text Files Attached: Yes
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>1.74</u>	<u>1.84</u>
p.m.	<u>1.60</u>	<u>1.76</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Target ID's >100 = 303, 483, 84
Target ID's < 100 = 209, 118, 221

Comments:

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS

Date: 08/01/03

Project: SEDA/ODG

X33-36; X38-40; Y34-37; Y38-40; Z37-40; X-Z42

Location i.d.:

Survey Date: 07/25/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0725.gdb				0725.gdb			
Line #:	L0:0				L8:0			
Min:	-129.07	-24.7	-5.94	-6.04	-117.13	-26.16	-7.67	-6.8
Max:	-125.88	-23.37	-5.24	-5.62	-113.74	-24.63	-6.97	-6.22
Mean:	-127.3	-24.06	-5.64	-5.84	-115.37	-25.42	-7.33	-6.52
Std:	0.46	0.18	0.09	0.07	0.56	0.24	0.11	0.09

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0725.gdb				0725.gdb			
Line #:	L0.1:0				L8.1:0			
Min:	-193	-54.26	-17.64	-10.29	-199.38	-65.05	-21.98	-12.93
Max:	-188.99	-52.26	-16.33	-9.38	-194.75	-63.13	-21.14	-12.26
Mean:	-190.87	-53.2	-17.06	-9.81	-197.34	-64.16	-21.52	-12.6
Std:	0.6	0.29	0.21	0.16	0.76	0.29	0.13	0.12

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0725.gdb				0725.gdb			
Line #:	L0.2:0				L8.2:0			
Min:	-111.27	-25.85	-10.12	-8.6	-101.44	-28	-11.54	-8.87
Max:	-108.24	-24.38	-9.27	-7.95	-96.38	-25.96	-10.74	-8.4
Mean:	-109.65	-25.21	-9.72	-8.26	-98.69	-26.96	-11.11	-8.66
Std:	0.4	0.22	0.15	0.11	1.05	0.38	0.11	0.08

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS

Project: SEDA/ODG

Date: 08/01/03

Location i.d.:

 X33-36; X38-40; Y34-37; Y38-40; Z37-40; X-Z42

Survey Date: 07/25/03

Static Spike Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0725.gdb				0725.gdb			
Line #:	L1:0				L9:0			
Min:	350.34	269.85	149.56	57.35	363.34	271.83	151.39	58.84
Max:	356.18	274.09	151.95	58.42	367.71	275.07	153.26	59.75
Mean:	353.48	272.11	150.77	57.9	365.65	273.6	152.45	59.36
Std:	1.14	0.85	0.48	0.19	1.14	0.84	0.48	0.2

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0725.gdb				0725.gdb			
Line #:	L2.1:0				L10.1:0			
Min:	299.4	251.36	144.9	54.98	280.24	236.34	140.07	52.92
Max:	303.13	254.66	146.87	56.11	284.27	238.96	141.75	53.79
Mean:	301.46	252.91	145.89	55.58	282.25	237.56	140.87	53.34
Std:	0.66	0.59	0.42	0.24	0.77	0.45	0.29	0.14

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0725.gdb				0725.gdb			
Line #:	L5.2:0				L11.2:0			
Min:	354.64	268.39	145.43	55.22	332.3	245.46	133.41	50.77
Max:	359.29	271.53	147.21	56.09	339.03	250.16	135.3	51.56
Mean:	357.16	269.82	146.21	55.59	336.72	247.26	134.37	51.15
Std:	0.91	0.58	0.31	0.14	0.85	0.57	0.31	0.14

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS

Date: 08/01/03

Project: SEDA/ODG

X33-36; X38-40; Y34-37; Y38-40; Z37-40; X-Z42

Location i.d.:

Survey Date: 07/25/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0725.gdb				0725.gdb			
Line #:	L6:0				L12:0			
Min:	-128.17	-24.74	-6.19	-6.17	-116.02	-25.82	-7.98	-7.14
Max:	-125.33	-23.61	-5.21	-5.58	-113.29	-24.45	-6.67	-5.83
Mean:	-126.74	-24.22	-5.68	-5.86	-114.68	-25.18	-7.34	-6.49
Std:	0.49	0.2	0.15	0.1	0.53	0.24	0.19	0.17

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0725.gdb				0725.gdb			
Line #:	L6.1:0				L12.1:0			
Min:	-193.17	-55.66	-18.34	-10.8	-198.88	-64.6	-21.96	-12.99
Max:	-190.66	-54.16	-17.33	-9.7	-195.42	-63.31	-20.93	-12.17
Mean:	-192.17	-54.93	-17.9	-10.17	-197.37	-64.05	-21.42	-12.59
Std:	0.41	0.24	0.17	0.16	0.57	0.24	0.16	0.14

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0725.gdb				0725.gdb			
Line #:	L6.2:0				L12.2:0			
Min:	-122.28	-29.05	-10.98	-8.31	-99.44	-27.48	-11.54	-9.09
Max:	-119.84	-27.91	-9.9	-7.53	-97.2	-26.32	-10.79	-8.31
Mean:	-121.22	-28.47	-10.26	-7.98	-98.38	-26.97	-11.17	-8.68
Std:	0.44	0.21	0.15	0.11	0.42	0.2	0.13	0.12

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: RSS

Project: SEDA/ODG

X33-36; X38-40; Y34-37; Y38-40; Z37-40; X-

Date: 8/1/03

Location i.d.: Z42

Survey Date: 7/25/03

File name: 0725.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0725AM Latency		0725PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.7	0.45	0.55	0.31
Coil #2	0.5	0.33	0.3	0.31
Coil #3	0.5	0.29	0.3	0.47

Comments: _____

Blind Seeds Detected

Seed ID	
NA	
Location	
Easting	NA
Northing	NA
Seed Description	
Depth (ft)	NA
Orientation	NA

Anomaly ID	
NA	
Detected?	NA
Location	
Easting	NA
Northing	NA
Dist. & Orient. from Seed	
Dist. (ft)	NA
Orientation	NA

Comments: Weston seeded items were not surveyed.

Data Sampling

Velocity	
Average (mph)	2.02
Along Track / Across Track Sampling	
*Along Track (ft)	0.24
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	2.7
Cumulative	196.17
Total Data Gaps (acres)	
This Data Set	0.004
Cumulative	0.111

* metric: ≤ 0.5 ft

** metric: ≤ 3.0 ft

Comments: Data gaps include potential inaccessible areas.

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0725.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0725.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum Clipped/Weston_Noise
Clipping Value: - 5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	1.68	1.94
p.m.	1.74	2.00
Metric:	</= 3.25	</= 2.0

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Target Cert: 158, 143, 108, 195, 182, 47

Comments: SNR levels exceed the DQO metric. This was observed in earlier data sets conducted in high density target areas. A root cause analyses was performed. Results substantiate that std dev. for SNR was higher in high density (cluttered) target areas.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS
Date: 08/06/03

Project: SEDA/ODG
Location i.d.: K-L24; J20-24
Survey Date: 07/26/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0726a.gdb				0726b.gdb			
Line #:	L4:0				L10:0			
Min:	-120.38	-20.2	-5.41	-7.25	-116.6	-25.78	-9.24	-8.48
Max:	-117.96	-19.1	-4.79	-6.72	-113.8	-24.34	-8.32	-7.9
Mean:	-119.33	-19.66	-5.04	-7.01	-115.28	-25.13	-8.71	-8.2
Std:	0.41	0.18	0.1	0.07	0.46	0.21	0.11	0.09

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0726a.gdb				0726b.gdb			
Line #:	L4.1:0				L10.1:0			
Min:	-171.52	-48.58	-18.88	-13.2	-149.93	-43.97	-17.07	-14.64
Max:	-167.32	-46.54	-17.55	-12.07	-147.2	-42.17	-16.22	-13.75
Mean:	-169.56	-47.55	-18.19	-12.62	-148.59	-43.06	-16.59	-14.22
Std:	0.57	0.31	0.24	0.2	0.43	0.25	0.13	0.16

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0726a.gdb				0726b.gdb			
Line #:	L4.2:0				L10.2:0			
Min:	-110.37	-25.56	-11.25	-10.09	-121.33	-40.28	-16.64	-11.58
Max:	-108.11	-24.39	-10.63	-9.57	-118.81	-39.04	-16.01	-11.02
Mean:	-109.25	-25.01	-10.93	-9.86	-120.21	-39.75	-16.29	-11.25
Std:	0.34	0.17	0.09	0.07	0.34	0.18	0.09	0.08

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS
Date: 08/06/03

Project: SEDA/ODG
Location i.d.: K-L24; J20-24
Survey Date: 07/26/03

Static SpikeTest

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0726a.gdb				0726b.gdb			
Line #:	L5:0				L18:0			
Min:	374.36	285.4	157.31	60.49	342.92	260.41	143.98	54.89
Max:	379.38	289.51	159.46	61.47	347.22	263.32	145.87	55.76
Mean:	377.13	287.6	158.62	61.03	345.46	262.07	144.97	55.32
Std:	1.09	0.83	0.45	0.18	0.95	0.72	0.4	0.16

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0726a.gdb				0726b.gdb			
Line #:	L6.1:0				L19.1:0			
Min:	332.32	266.47	151.08	57.5	295.98	241.54	138.98	51.68
Max:	336.11	269.68	153.17	58.94	300.59	244.58	140.98	52.59
Mean:	334.28	268.17	152.13	58.25	298.18	243.12	140.21	52.17
Std:	0.71	0.71	0.39	0.35	0.75	0.52	0.31	0.16

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0726a.gdb				0726b.gdb			
Line #:	L7.2:0				L20.2:0			
Min:	350.05	263.16	142.07	53.81	366.5	265.46	142.12	53.39
Max:	353.01	265.46	143.33	54.44	369.98	267.83	143.2	53.97
Mean:	351.77	264.28	142.78	54.15	368.61	266.53	142.73	53.7
Std:	0.65	0.46	0.25	0.12	0.65	0.44	0.23	0.11

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS
Date: 08/06/03

Project: SEDA/ODG
Location i.d.: K-L24; J20-24
Survey Date: 07/26/03

Cable Shake Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0726a.gdb				0726b.gdb			
Line #:		L8:0				L21:0			
Min:		-120.11	-20.47	-5.44	-7.27	-118.09	-25.17	-8.18	-8.17
Max:		-117.73	-19.47	-4.82	-6.78	-114.48	-23.52	-7.21	-7.32
Mean:		-119.11	-19.95	-5.18	-7.04	-116.27	-24.28	-7.62	-7.81
Std:		0.41	0.19	0.12	0.09	0.62	0.29	0.18	0.15

Comments: _____

Coil #2

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0726a.gdb				0726b.gdb			
Line #:		L8.1:0				L21.1:0			
Min:		-171.73	-49.13	-19.11	-13.44	-182.45	-58.82	-22.94	-16.28
Max:		-169.26	-47.79	-18.05	-12.37	-179.97	-57.3	-21.93	-14.87
Mean:		-170.57	-48.34	-18.48	-12.75	-181.36	-58.13	-22.46	-15.39
Std:		0.44	0.23	0.18	0.15	0.53	0.26	0.18	0.19

Comments: _____

Coil #3

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0726a.gdb				0726b.gdb			
Line #:		L8.2:0				L21.2:0			
Min:		-111.58	-26.61	-11.84	-10.63	-100.65	-27.9	-13.66	-11.48
Max:		-109.18	-24.77	-10.07	-9.09	-96.07	-25.89	-11.57	-9.38
Mean:		-110.28	-25.72	-11.03	-9.81	-97.87	-26.87	-12.58	-10.47
Std:		0.46	0.31	0.28	0.24	0.95	0.35	0.33	0.29

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: MDS

Project: SEDA/ODG

K-L24; J20-

Date: 8/6/03

Location i.d.: 24

Survey Date: 7/26/03

File name: 0726a.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.5	0.46	0.4	0.09
Coil #2	0.5	0.54	0.4	0.27
Coil #3	0.5	0.57	0.4	0.35

Comments: _____

Blind Seeds Detected

Seed ID	
NA	
Location	
Easting	NA
Northing	NA
Seed Description	
Depth (ft)	NA
Orientation	NA

Anomaly ID	
NA	
Detected?	NA
Location	
Easting	NA
Northing	NA
Dist. & Orient. from Seed	
Dist. (ft)	NA
Orientation	NA

Comments: No Weston seeds surveyed.

Data Sampling

Velocity	
Average (mph)	1.72
Along Track/Across Track Sampling	
*Along Track (ft)	0.22
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	2.04
Cumulative	198.21
Total Data Gaps (acres)	
This Data Set	0.006
Cumulative	0.117

* metric: ≤ 0.5 ft

** metric: ≤ 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0726.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0726a.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum Clipped/Weston_Noise
Clipping Value: - 5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)	
a.m.	<u>1.76</u>	<u>2.10</u>	Lines 10-15
p.m.	<u>NA</u>	<u>NA</u>	See QC0726b
Metric:	<u></= 3.25</u>	<u></= 2.0</u>	

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Anomaly Cert: 404, 429, 415, 216, 234, 214

Comments: SNR exceeds the Std. Dev metric. Larger anomalies are present within data set.
SNR levels exceed the DQO metric. This was observed in earlier data sets conducted in high density target areas. A root cause analyses was performed. Results substantiate that std dev for SNR was higher in high density (cluttered) target areas.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS
Date: 08/06/03

Project: SEDA/ODG
Location i.d.: K-L24; J20-24
Survey Date: 07/26/03

Static Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0726b.gdb				0726b.gdb			
Line #:		L0:0				L10:0			
Min:		-114.2	-23.29	-7.84	-8.28	-116.6	-25.78	-9.24	-8.48
Max:		-110.93	-21.76	-6.97	-7.79	-113.8	-24.34	-8.32	-7.9
Mean:		-112.7	-22.56	-7.4	-8.03	-115.28	-25.13	-8.71	-8.2
Std:		0.59	0.26	0.11	0.08	0.46	0.21	0.11	0.09

Comments: _____

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0726b.gdb				0726b.gdb			
Line #:		L0.1:0				L10.1:0			
Min:		-166.78	-50.43	-19.59	-15.23	-149.93	-43.97	-17.07	-14.64
Max:		-162.52	-48.35	-18.64	-14.42	-147.2	-42.17	-16.22	-13.75
Mean:		-164.76	-49.46	-19.12	-14.87	-148.59	-43.06	-16.59	-14.22
Std:		0.81	0.38	0.15	0.12	0.43	0.25	0.13	0.16

Comments: _____

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0726b.gdb				0726b.gdb			
Line #:		L0.2:0				L10.2:0			
Min:		-132.06	-43.31	-17	-11.43	-121.33	-40.28	-16.64	-11.58
Max:		-127.64	-40.95	-16.1	-10.87	-118.81	-39.04	-16.01	-11.02
Mean:		-129.93	-42.14	-16.57	-11.18	-120.21	-39.75	-16.29	-11.25
Std:		0.89	0.41	0.14	0.08	0.34	0.18	0.09	0.08

Comments: _____

Daily DGM QC Audit Form
EM-61 MK2 Data

QC Check by: MDS
 Date: 08/06/03

Project: SEDA/ODG
 Location i.d.: K-L24; J20-24
 Survey Date: 07/26/03

Static SpikeTest

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0726b.gdb				0726b.gdb			
Line #:	L1:0				L11:0			
Min:	348.35	261.81	143.46	54.04	330.45	250.61	137.23	51.85
Max:	355.81	266.78	146.35	55.19	335.98	254.35	139.56	52.83
Mean:	351.91	264.46	145	54.65	334.07	252.91	138.73	52.41
Std:	1.2	0.89	0.5	0.2	1.04	0.78	0.42	0.18

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0726b.gdb				0726b.gdb			
Line #:	L2.1:0				L12.1:0			
Min:	308.42	247.59	141.09	51.36	315.81	248.07	139.81	50.14
Max:	313.19	251.3	143.23	52.52	318.95	250.35	141.44	51.01
Mean:	311.18	249.42	142.11	51.95	317.58	249.34	140.66	50.6
Std:	0.76	0.59	0.36	0.19	0.62	0.47	0.31	0.16

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0726b.gdb				0726b.gdb			
Line #:	L3.2:0				L13.2:0			
Min:	323.66	243.2	134.84	51.45	311.47	231.05	126.53	47.61
Max:	326.73	245.13	136.06	52.25	314.27	233.04	127.83	48.28
Mean:	325.12	244.15	135.46	51.85	312.94	232	127.2	47.96
Std:	0.57	0.4	0.24	0.12	0.58	0.42	0.24	0.12

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS
Date: 08/06/03

Project: SEDA/ODG
Location i.d.: K-L24; J20-24
Survey Date: 07/26/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0726b.gdb				0726b.gdb			
Line #:	L4:0				L14:0			
Min:	-118.97	-25.58	-8.32	-8.24	-117.23	-26.33	-9.28	-8.47
Max:	-116.08	-24.05	-7.49	-7.5	-114.56	-24.62	-8.35	-7.73
Mean:	-117.79	-24.87	-7.88	-7.88	-115.92	-25.39	-8.88	-8.07
Std:	0.6	0.28	0.13	0.12	0.54	0.31	0.15	0.12

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0726b.gdb				0726b.gdb			
Line #:	L4.1:0				L14.1:0			
Min:	-175.54	-54.36	-20.7	-15.43	-149.23	-43.38	-16.76	-14.58
Max:	-172.89	-53.08	-19.64	-14.52	-146.72	-42.04	-15.93	-13.73
Mean:	-174.17	-53.78	-20.3	-14.97	-148.15	-42.72	-16.35	-14.14
Std:	0.47	0.23	0.16	0.13	0.43	0.26	0.14	0.17

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0726b.gdb				0726b.gdb			
Line #:	L4.2:0				L14.2:0			
Min:	-142.86	-47.86	-18.2	-11.56	-122.89	-41.08	-16.61	-11.1
Max:	-140.44	-46.42	-17.27	-10.74	-119.71	-39.02	-15.7	-10.54
Mean:	-141.63	-47.15	-17.75	-11.2	-120.97	-39.94	-16.14	-10.84
Std:	0.46	0.27	0.14	0.11	0.64	0.36	0.16	0.11

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: MDS

Project: SEDA/ODG

 K-L24; J20-

Date: 8/6/03

Location i.d.: 24

Survey Date: 7/26/03

File name: 0726b.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
	NA		0726b Post Latency	
Coil #1			0.3	0.37
Coil #2			0.3	0.43
Coil #3			0.3	0.54

Comments: Navigation off during Pre survey latency. Can be attributed to operator error.

Blind Seeds Detected

Seed ID	
WESTON 15	
Location	
Easting	736570.73
Northing	1012561.73
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
91	
Detected?	YES
Location	
Easting	736572.50
Northing	1012561.50
Dist. & Orient. from Seed	
Dist. (ft)	1.80
Orientation	E

Comments: Target 92 falls within the seeded item footprint.

Data Sampling

Velocity	
Average (mph)	1.93
Along Track / Across Track Sampling	
*Along Track (ft)	0.23
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	1.4
Cumulative	192.83
Total Data Gaps (acres)	
This Data Set	0.006
Cumulative	0.117

* metric: <= 0.5 ft

** metric: <= 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0726b.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0726.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum Clipped/Weston_Noise
Clipping Value: - 5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)	
a.m.	<u>NA</u>	<u>NA</u>	See QC0726a
p.m.	<u>1.66</u>	<u>1.88</u>	Lines 6-8
Metric:	<u></= 3.25</u>	<u></= 2.0</u>	

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Anomaly Cert: 82, 96, 111, 118, 135, 161

Comments:

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Date: 08/20/03

Project: SEDA/ODG

720-24; 119-22; H19-
21; G18-19; F18;

Location i.d.: E18

Survey Date: 07/28/03

Static Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0728.gdb				0728.gdb			
Line #:		L0:0				L20:0			
Min:		-126.67	-21.04	-4.92	-6.1	-111.51	-20.74	-6.41	-7.25
Max:		-123.55	-19.68	-4.22	-5.62	-108.46	-19.38	-5.57	-6.7
Mean:		-125.35	-20.43	-4.58	-5.84	-109.93	-20.02	-5.99	-6.97
Std:		0.5	0.17	0.09	0.07	0.44	0.17	0.11	0.09

Comments: _____

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0728.gdb				0728.gdb			
Line #:		L0.1:0				L20.1:0			
Min:		-149.91	-33.75	-10.24	-8.25	-140.92	-35.35	-12.17	-11.04
Max:		-146.92	-32.63	-9.42	-7.64	-138.64	-34.22	-11.2	-10.28
Mean:		-148.31	-33.21	-9.83	-7.94	-139.81	-34.82	-11.69	-10.69
Std:		0.45	0.17	0.12	0.1	0.35	0.19	0.15	0.12

Comments: _____

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0728.gdb				0728.gdb			
Line #:		L0.2:0				L20.2:0			
Min:		-126.01	-34.75	-12.59	-8.77	-122.12	-37.86	-14.3	-9.52
Max:		-123.51	-33.48	-11.88	-8.28	-119.86	-36.53	-13.66	-9.08
Mean:		-124.77	-34.11	-12.22	-8.46	-121.18	-37.17	-13.99	-9.28
Std:		0.34	0.2	0.11	0.08	0.34	0.17	0.1	0.08

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Date: 08/20/03

Project: SEDA/ODG

T20-24; T19-22; H19-

21; G18-19; F18;

Location i.d.: E18

Survey Date: 07/28/03

Static Spike Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0728.gdb				0728.gdb			
Line #:	L1:0				L21:0			
Min:	348.54	269.24	146.83	55.12	376.38	281.8	155.14	59.64
Max:	352.49	272.24	148.42	55.82	380.78	285.04	156.98	60.5
Mean:	350.4	270.7	147.65	55.48	378.8	283.72	156.21	60.08
Std:	0.9	0.68	0.37	0.15	0.83	0.63	0.36	0.15

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0728.gdb				0728.gdb			
Line #:	L2.1:0				L22.1:0			
Min:	347.73	273.27	151.52	56.14	345.99	269.26	150.93	54.88
Max:	351.42	275.68	153.18	56.95	349.7	271.69	152.5	55.9
Mean:	349.91	274.59	152.48	56.49	347.96	270.56	151.83	55.42
Std:	0.68	0.5	0.29	0.14	0.6	0.45	0.29	0.21

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0728.gdb				0728.gdb			
Line #:	L3.2:0				L23.2:0			
Min:	330.06	247.47	134.18	50.39	367.05	271.49	150.86	59.17
Max:	333.42	249.33	135.28	50.89	369.59	273.42	152.01	59.83
Mean:	332.03	248.64	134.85	50.64	368.28	272.41	151.43	59.48
Std:	0.57	0.39	0.2	0.09	0.61	0.44	0.25	0.12

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Date: 08/20/03

Project: SEDA/ODG

J20-24; T19-22; H19-

21; G18-19; F18;

Location i.d.: E18

Survey Date: 07/28/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0728.gdb				0728.gdb			
Line #:	L4:0				L24:0			
Min:	-125.04	-20.86	-5.19	-6.26	-111.59	-20.94	-6.41	-7.25
Max:	-121.83	-19.52	-4.07	-5.21	-109.57	-19.86	-5.85	-6.52
Mean:	-123.77	-20.15	-4.51	-5.82	-110.54	-20.29	-6.08	-6.96
Std:	0.56	0.25	0.2	0.16	0.41	0.2	0.1	0.11

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0728.gdb				0728.gdb			
Line #:	L4.1:0				L24.1:0			
Min:	-147.63	-33.58	-10.54	-8.45	-142.39	-35.68	-12.08	-11.4
Max:	-144.9	-32.44	-9.55	-7.6	-139.49	-34.3	-11.14	-10.32
Mean:	-146.4	-33	-10.04	-8.05	-140.89	-35.11	-11.6	-10.68
Std:	0.56	0.23	0.19	0.18	0.49	0.23	0.17	0.16

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0728.gdb				0728.gdb			
Line #:	L4.2:0				L24.2:0			
Min:	-126.81	-35.53	-12.93	-8.89	-123.98	-38.44	-14.4	-9.65
Max:	-124.02	-34.27	-12.05	-8.19	-122.06	-37.48	-13.85	-9
Mean:	-125.47	-34.82	-12.48	-8.5	-123.24	-37.98	-14.12	-9.31
Std:	0.5	0.22	0.14	0.12	0.29	0.15	0.09	0.09

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: MDS

Project: SEDA/ODG

Date: 8/20/03

J20-24; H19-22; H19-21;
 Location i.d.: G18-19; F18; E18
 Survey Date: 7/28/03
 File name: 0728.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.5	1.44	0.5	0.37
Coil #2	0.5	1.36	0.5	0.41
Coil #3	0.5	1.67	0.4	0.45

Comments: _____

Blind Seeds Detected

Seed ID	
No Weston Seeded Items	
Location	
Easting	NA
Northing	NA
Seed Description	
Depth (ft)	NA
Orientation	NA

Anomaly ID	
NA	
Detected?	NA
Location	
Easting	NA
Northing	NA
Dist. & Orient. from Seed	
Dist. (ft)	NA
Orientation	NA

Comments: _____

Data Sampling

Velocity	
Average (mph)	1.88
Along Track / Across Track Sampling	
*Along Track (ft)	0.22
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	3.72
Cumulative	201.93
Total Data Gaps (acres)	
This Data Set	0.001
Cumulative	0.118

* metric: \leq 0.5 ft
 ** metric: \leq 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0728.gdb
Leveling Performed: Yes
Latency Correction Performed: Yes (no visible chevron effects)
Audit Log File Name: 0728.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: sum_clipped & Weston_Noise
Clipping Value: - 5/7
Text Files Attached: Yes
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>1.69</u>	<u>1.89</u>
p.m.	<u>1.82</u>	<u>1.94</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Target ID's >100 = 141, 543, 321
Target ID's < 100 = 100, 216, 396

Comments:

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Project: SEDA/ODG

T23-24; R22-23;
G20-23; F21-22;
E19-22; U40-43;

Date: 08/20/03

Location i.d.: V40-43

Survey Date: 07/29/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0729.gdb				0729.gdb			
Line #:	L0:0				L18:0			
Min:	-120.9	-21.05	-5.78	-6.66	-115.79	-25.92	-8.17	-7.22
Max:	-118.21	-19.99	-5.18	-6.22	-113.23	-24.57	-7.49	-6.65
Mean:	-119.64	-20.57	-5.48	-6.4	-114.57	-25.18	-7.8	-6.92
Std:	0.43	0.16	0.09	0.07	0.43	0.19	0.09	0.08

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0729.gdb				0729.gdb			
Line #:	L0.1:0				L18.1:0			
Min:	-149.5	-32.97	-10.09	-8.68	-147.23	-43.71	-14.53	-9.75
Max:	-146.77	-31.65	-9.35	-7.91	-143.86	-41.94	-13.84	-9.16
Mean:	-148.22	-32.32	-9.76	-8.32	-145.76	-42.8	-14.2	-9.48
Std:	0.47	0.21	0.13	0.12	0.46	0.22	0.11	0.08

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0729.gdb				0729.gdb			
Line #:	L0.2:0				L18.2:0			
Min:	-121.05	-31.73	-11.14	-8.49	-162.51	-56.22	-21.4	-12.82
Max:	-118.49	-30.52	-10.51	-7.91	-158.72	-54.49	-20.55	-12.08
Mean:	-119.86	-31.03	-10.83	-8.19	-160.66	-55.32	-20.99	-12.47
Std:	0.36	0.2	0.1	0.07	0.63	0.26	0.13	0.13

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Project: SEDA/ODG

Date: 08/20/03

T23-24; F22-23;
G20-23; F21-22;
E19-22; U40-43;
Location i.d.: V40-43
Survey Date: 07/29/03

Static SpikeTest

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0729.gdb				0729.gdb			
Line #:	L1:0				L19:0			
Min:	378.02	287.21	158.01	60.96	359.82	269.08	148.9	57.46
Max:	382.7	290.39	159.71	61.79	363.97	272.27	150.77	58.29
Mean:	380.59	288.98	158.99	61.43	362.14	270.81	149.94	57.88
Std:	1.08	0.77	0.43	0.17	1.07	0.81	0.45	0.18

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0729.gdb				0729.gdb			
Line #:	L2.1:0				L20.1:0			
Min:	361.07	284.28	158.75	59.38	316.15	248.01	139.93	53.82
Max:	364.88	286.92	160.38	60.24	319.65	250.16	141.25	54.52
Mean:	363.31	285.89	159.75	59.88	318.04	249.22	140.66	54.2
Std:	0.71	0.5	0.29	0.14	0.75	0.56	0.32	0.14

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0729.gdb				0729.gdb			
Line #:	L3.2:0				L21.2:0			
Min:	395.04	292.06	160.7	62.75	346.35	264.83	152.18	58.28
Max:	400.85	295.6	162.81	63.72	350	267.9	154.05	59.27
Mean:	397.81	293.89	161.7	63.21	348.32	266.17	153.13	58.76
Std:	0.94	0.65	0.37	0.16	0.63	0.47	0.28	0.18

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Project: SEDA/ODG

T23-24; H22-23;
G20-23; F21-22;
E19-22; U40-43;

Date: 08/20/03

Location i.d.: V40-43

Survey Date: 07/29/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0729.gdb				0729.gdb			
Line #:	L4:0				L22:0			
Min:	-118.86	-20.47	-5.67	-6.59	-116.46	-26.1	-8.2	-7.15
Max:	-115.23	-19.43	-5.01	-6.14	-114.38	-24.74	-7.45	-6.57
Mean:	-117.59	-19.97	-5.34	-6.35	-115.5	-25.52	-7.86	-6.91
Std:	0.56	0.19	0.12	0.09	0.41	0.21	0.12	0.1

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0729.gdb				0729.gdb			
Line #:	L4.1:0				L22.1:0			
Min:	-146.54	-32.3	-10.31	-8.93	-147.76	-43.58	-14.56	-9.88
Max:	-142.33	-30.34	-9.03	-7.81	-145.83	-42.49	-13.84	-8.6
Mean:	-144.59	-31.39	-9.61	-8.35	-146.88	-43.04	-14.16	-9.43
Std:	0.63	0.36	0.23	0.25	0.39	0.19	0.11	0.14

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0729.gdb				0729.gdb			
Line #:	L4.2:0				L22.2:0			
Min:	-122.03	-32.71	-11.72	-8.75	-165.5	-57.03	-21.51	-12.86
Max:	-117.6	-30.7	-10.68	-8.02	-162.99	-55.88	-20.59	-12.03
Mean:	-119.51	-31.49	-11.16	-8.31	-164.1	-56.48	-21.08	-12.45
Std:	0.95	0.44	0.2	0.11	0.38	0.2	0.15	0.13

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: MDS
 Date: 8/20/03

Project: SEDA/ODG
T23-24; H22-23; G20-23; F21-22;
 E19-22; U40-43; V40-43
 Location i.d.: _____
 Survey Date: 7/29/03
 File name: 0729.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0729AM Latency		0729PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.5	0.87	NA	NA
Coil #2	0.5	0.90	NA	NA
Coil #3	0.5	0.89	NA	NA

Comments: Line 17 (PM latency) deleted by GPS filter due to bad gps data.

Blind Seeds Detected

Seed ID	
Weston 21	
Location	
Easting	736243.45
Northing	1012750.86
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
Target ID 957	
Detected?	Yes
Location	
Easting	736242.30
Northing	1012751.80
Dist. & Orient. from Seed	
Dist. (ft)	1.50
Orientation	NW

Comments: _____

Data Sampling

Velocity	
Average (mph)	2.03
Along Track / Across Track Sampling	
*Along Track (ft)	0.24
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	4.47
Cumulative	206.4
Total Data Gaps (acres)	
This Data Set	0.002
Cumulative	0.120

* metric: $\leq 0.5\text{ ft}$
 ** metric: $\leq 3.0\text{ ft}$

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0729.gd
Leveling Performed: Yes
Latency Correction Performed: Yes (no visible chevron effects)
Audit Log File Name: 0729.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: sum_clipped & Weston_Noise
Clipping Value: - 5/7
Text Files Attached: Yes
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)	
a.m.	<u>1.83</u>	<u>2.05</u>	Lines 6-10
p.m.	<u>1.93</u>	<u>2.18</u>	Lines 11-16
Metric:	<u></= 3.25</u>	<u></= 2.0</u>	

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Target ID's >100 = 900, 961, 581
Target ID's < 100 = 247, 399, 576

Comments:

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Date: 08/14/03

Project: SEDA/ODG

No entire

Location i.d.: grids

Survey Date: 07/30/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0730.gdb				0730.gdb			
Line #:	L0:0				L9:0			
Min:	-117.85	-25.68	-8	-6.97	-117.18	-26.94	-8.69	-7.13
Max:	-113.73	-23.92	-7.15	-6.44	-112.02	-25.29	-7.81	-6.55
Mean:	-115.74	-24.83	-7.53	-6.71	-114.39	-26.2	-8.26	-6.85
Std:	0.71	0.28	0.12	0.08	0.67	0.28	0.12	0.08

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0730.gdb				0730.gdb			
Line #:	L0.1:0				L9.1:0			
Min:	-156.07	-46.61	-16.14	-11.46	-159.82	-49.99	-18.05	-11.68
Max:	-151.58	-44.19	-15.12	-10.59	-155.31	-47.88	-17.18	-11.1
Mean:	-153.64	-45.28	-15.61	-10.94	-157.65	-49.03	-17.65	-11.4
Std:	0.85	0.37	0.16	0.12	0.72	0.29	0.13	0.08

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0730.gdb				0730.gdb			
Line #:	L0.2:0				L9.2:0			
Min:	-105.47	-24.7	-10.38	-10.43	-105.35	-27.52	-11.26	-10.74
Max:	-102.05	-22.84	-9.18	-9.49	-96.21	-24.9	-10.35	-9.95
Mean:	-103.95	-23.73	-9.71	-9.93	-102.64	-26.38	-10.82	-10.34
Std:	0.52	0.26	0.17	0.14	1.43	0.43	0.14	0.13

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Project: SEDA/ODG

Date: 08/14/03

No entire

Location i.d.: grids

Survey Date: 07/30/03

Static Spike Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0730.gdb				0730.gdb			
Line #:	L1:0				L10:0			
Min:	358.7	270.16	150.16	58.31	339.64	255.76	141.89	54.83
Max:	363.57	273.53	152.3	59.25	346.93	260.52	144.68	56.17
Mean:	361.37	271.96	151.3	58.82	343.81	258.45	143.57	55.56
Std:	1.19	0.88	0.5	0.21	1.44	1.02	0.58	0.26

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0730.gdb				0730.gdb			
Line #:	L2.1:0				L11.1:0			
Min:	330.16	257.56	144.33	54.41	274.05	220.08	123.97	45.85
Max:	333.66	260.36	145.88	55.37	280.49	225.04	126.51	47.2
Mean:	332.02	258.99	145.15	54.91	277.82	223.06	125.3	46.56
Std:	0.77	0.6	0.34	0.18	1.42	0.95	0.55	0.27

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0730.gdb				0730.gdb			
Line #:	L3.2:0				L12.2:0			
Min:	406.35	296.3	162.41	59.7	342.88	254.26	139.71	49.82
Max:	409.96	298.89	164.03	60.69	349.16	257.9	141.65	50.9
Mean:	408.11	297.66	163.23	60.22	345.18	256.13	140.51	50.31
Std:	0.69	0.48	0.29	0.17	0.92	0.55	0.28	0.17

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Date: 08/14/03

Project: SEDA/ODG

No entire

Location i.d.: grids

Survey Date: 07/30/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0730.gdb				0730.gdb			
Line #:	L4:0				L13:0			
Min:	-120.15	-26.78	-8.13	-6.99	-119.57	-28.09	-8.89	-7.04
Max:	-117.82	-25.78	-7.46	-6.41	617.75	669.21	599.82	549.94
Mean:	-119.14	-26.3	-7.82	-6.67	-112.77	-22.52	-4.32	-2.85
Std:	0.47	0.18	0.12	0.1	57.98	54.19	45.12	42.37

Comments: Last four readings on all coils show spike of 700 mV for PM test. Remainder of test indicate stable readings

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0730.gdb				0730.gdb			
Line #:	L4.1:0				L13.1:0			
Min:	-159.53	-48.02	-16.5	-11.38	-163.61	-51.4	-18.39	-11.71
Max:	-156.92	-46.44	-15.66	-10.62	-54.41	-25.75	-7.42	-6.01
Mean:	-158.06	-47.2	-16.12	-10.98	-161.67	-50.55	-17.8	-11.32
Std:	0.48	0.26	0.17	0.14	7.79	1.76	0.86	0.44

Comments: Fiducials 363-366 show deviation from rest of test for pm. Remainder of test indicate stable readings

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0730.gdb				0730.gdb			
Line #:	L4.2:0				L13.2:0			
Min:	-106.34	-25.35	-10.31	-11.55	-117.82	-56.61	-11.37	-11.99
Max:	-104.13	-23.82	-9.32	-8.42	-84.25	-28.49	7.4	-5.38
Mean:	-105.27	-24.57	-9.76	-9.96	-112.11	-29.37	-10.83	-10.01
Std:	0.33	0.25	0.18	0.48	1.6	2.51	1.16	0.33

Comments:

NAVIGATION FUNCTION CHECKS

QC Check

by: MDS

Project: SEDA/ODG

Date: 8/14/03

Location i.d.: No entire grids

Survey Date: 7/30/03

File name: 0730.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
0730AM Latency	0730PM Latency			
Coil #1	0.4	1.22	0.4	1.21
Coil #2	0.4	1.18	0.4	1.17
Coil #3	0.4	1.12	0.4	1.10

Comments: _____

Blind Seeds Detected

Seed ID	
Weston 10	
Location	
Easting	738070.05
Northing	1014614.37
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
130	
Detected?	Yes
Location	
Easting	738071.80
Northing	1014613.80
Dist. & Orient. from Seed	
Dist. (ft)	1.80
Orientation	Southeast

Comments: _____

Data Sampling

Velocity	
Average (mph)	2.01
Along Track / Across Track Sampling	
* Along Track (ft)	0.24
** Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	0
Cumulative	206.4
Total Data Gaps (acres)	
This Data Set	0
Cumulative	0.12

* metric: ≤ 0.5 ft

** metric: ≤ 3.0 ft

Comments: Data Package 0730 was recollected on 0801. Use 0801 Data

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0730.gdb
Leveling Performed: Yes
Latency Correction Performed: Yes (no visible chevron effects)
Audit Log File Name: 0730.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: sum clipped & Weston_Noise
Clipping Value: - 5/7
Text Files Attached: Yes
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	NA	NA
p.m.	1.75	2.03
Metric:	</= 3.25	</= 2.0

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Target ID < 100 (80, 232, 33)
Target ID > 100 (245, 31, 119)

Comments: Data Package 0730 was recollected on 0801. Use 0801 Data

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Date: 08/19/03

Project: SEDA/ODG

Q-U41; Q-U42;

Location i.d.: T-U43

Survey Date: 07/31/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0731.gdb				0731.gdb			
Line #:	L0:0				L14:0			
Min:	-126.7	-22.01	-5.98	-6.29	-132.84	-33.61	-11.4	-8.16
Max:	-120.62	-20.05	-5.14	-5.7	-129.22	-31.98	-10.58	-7.57
Mean:	-123.5	-21.05	-5.57	-6.03	-131.17	-32.75	-11.04	-7.86
Std:	1.05	0.3	0.12	0.08	0.62	0.25	0.13	0.09

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0731.gdb				0731.gdb			
Line #:	L0.1:0				L14.1:0			
Min:	-142.37	-31.48	-10.71	-10.04	-141.74	-38.15	-12.61	-10.97
Max:	-137.5	-29.57	-9.8	-9.25	-138.68	-36.21	-11.77	-10.16
Mean:	-140.22	-30.6	-10.28	-9.6	-140.33	-37.33	-12.19	-10.56
Std:	0.91	0.31	0.13	0.11	0.45	0.23	0.12	0.13

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0731.gdb				0731.gdb			
Line #:	L0.2:0				L14.2:0			
Min:	-119.03	-22.33	-7.42	-7.42	-98.13	-25.08	-11.89	-10.81
Max:	-113.88	-19.77	-6.32	-6.59	-93.23	-22.76	-10.26	-9.49
Mean:	-116.61	-21.03	-6.82	-7	-95.58	-23.9	-11.06	-10.11
Std:	0.73	0.34	0.17	0.15	0.73	0.39	0.33	0.32

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Date: 08/19/03

Project: SEDA/ODG

Q-U41; Q-U42;

Location i.d.: T-U43

Survey Date: 07/31/03

Static Spike Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0731.gdb				0731.gdb			
Line #:	L1:0				L15:0			
Min:	289.71	231.6	125.99	46.15	335.96	256.6	142.97	55.41
Max:	296.82	237.28	129.02	47.47	343.97	261.92	146.26	56.81
Mean:	293.32	234.13	127.34	46.8	339.74	259.38	144.6	56.1
Std:	1.58	1.2	0.65	0.26	1.61	1.19	0.68	0.29

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0731.gdb				0731.gdb			
Line #:	L2.1:0				L16.1:0			
Min:	279.94	227.96	122.84	42.3	352.23	271.08	153	56.21
Max:	287.38	232.81	125.31	43.35	356.72	274.64	155.36	57.48
Mean:	284.27	230.52	124.09	42.87	354.86	273.12	154.34	56.84
Std:	1.51	1.12	0.59	0.22	0.92	0.73	0.45	0.24

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0731.gdb				0731.gdb			
Line #:	L3.2:0				L17.2:0			
Min:	300.01	236.03	127.2	44.78	375.76	270.43	144.04	52.94
Max:	306.13	239.44	129.03	45.84	381.54	275.09	146.45	54.14
Mean:	303.33	237.76	128.15	45.37	378.83	273.04	145.24	53.55
Std:	1.29	0.69	0.36	0.18	1.23	0.86	0.47	0.22

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Date: 08/19/03

Project: SEDA/ODG

Q-U41; Q-U42;

Location i.d.: T-U43

Survey Date: 07/31/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0731.gdb				0731.gdb			
Line #:	L4:0				L18:0			
Min:	-576.06	-476.9	-260.88	-196.68	-134.47	-34.27	-11.63	-8.07
Max:	-54.48	3220.05	4.42	3193.97	-131.52	-32.93	-10.79	-7.49
Mean:	-127.35	-20.21	-11.99	3.97	-133.05	-33.54	-11.17	-7.84
Std:	52.99	170.44	37.06	164.73	0.63	0.25	0.13	0.1

Comments: Large spike in the data occuring approx. FID 295-325 in all coils (presurvey).

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0731.gdb				0731.gdb			
Line #:	L4.1:0				L18.1:0			
Min:	-137.92	-30.35	-11.95	-10.06	-144.4	-39.02	-12.73	-10.84
Max:	129.12	200.69	150.58	147.95	-142.34	-37.65	-12.02	-10.19
Mean:	-127.85	-23.9	-5.97	-7.34	-143.26	-38.34	-12.37	-10.55
Std:	33.99	27.24	18.47	15.23	0.4	0.22	0.13	0.13

Comments: Large spike in the data isolated between FID's 295-325 in all coils (presurvey).

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0731.gdb				0731.gdb			
Line #:	L4.2:0				L18.2:0			
Min:	-354.95	-3019.07	-299.22	-861.9	-101.65	-26.05	-11.76	-10.38
Max:	2231.04	343417.58	42.15	-3.9	-98.79	-24.51	-10.56	-9.33
Mean:	-111.31	833.04	-14.91	-21.34	-100.38	-25.23	-11.07	-9.82
Std:	120.64	17173.73	38.03	68.38	0.54	0.33	0.26	0.26

Comments: Large spike in the data occuring approx. FID 295-325 in all coils (presurvey).

NAVIGATION FUNCTION CHECKS

QC Check

by: MDS
Date: 8/19/03

Project: SEDA/ODG
Location i.d.: Q-U41; Q-U42; T-U43
Survey Date: 7/31/03
File name: 0731.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.45	0.31	NA	NA
Coil #2	0.45	0.69	NA	NA
Coil #3	0.45	0.25	NA	NA

Comments: PM Latency values disrupted by second GPS basestation
turned on at the same frequency (unable to track data)
two basestations being broadcast

Blind Seeds Detected

Seed ID	
No Weston Seeded Items	
Location	
Easting	NA
Northing	NA
Seed Description	
Depth (ft)	NA
Orientation	NA

Anomaly ID	
NA	
Detected?	NA
Location	
Easting	NA
Northing	NA
Dist. & Orient. from Seed	
Dist. (ft)	NA
Orientation	NA

Comments: _____

Data Sampling

Velocity	
Average (mph)	1.65
Along Track / Across Track Sampling	
* Along Track (ft)	0.19
** Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	0.33
Cumulative	206.73
Total Data Gaps (acres)	
This Data Set	0.00
Cumulative	0.12

* metric: ≤ 0.5 ft
** metric: ≤ 3.0 ft

Comments: Note sureveyed area is only for redo portion of 0723.gdb data

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0731.gdb
Leveling Performed: Yes
Latency Correction Performed: Yes (no visible chevron effects)
Audit Log File Name: 0731.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: sum_clipped & Weston_Noise
Clipping Value: - 5/7
Text Files Attached: Yes
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>NA</u>	<u>NA</u>
p.m.	<u>1.81</u>	<u>2.00</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) _____ Anomalies)

Certification that anomaly selections are reasonable:

Target ID's < 100 = 12, 122, 199
Target ID's > 100 = 16, NA, NA

Comments:

After switching boxes between coils, cleaning connections, and switching
GPS cables data quality enhanced and function checks
within DQO metrics. Will use afternoon data and r-collect morning

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Date: 08/14/03

Project: SEDA/ODG
U37-38; V37-

Location i.d.: 38
Survey Date: 08/01/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0801.gdb				0801.gdb			
Line #:	L0:0				L11:0			
Min:	-148.19	-33.99	-10.12	-7.9	-140.15	-35.37	-11.35	-7.87
Max:	-141.98	-31.33	-8.96	-7.24	-135.8	-33.13	-10.34	-7.29
Mean:	-145.49	-32.81	-9.56	-7.54	-138.2	-34.43	-10.92	-7.57
Std:	1.38	0.52	0.19	0.1	0.81	0.37	0.15	0.09

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0801.gdb				0801.gdb			
Line #:	L0.1:0				L11.1:0			
Min:	-153.71	-37.25	-11.65	-10.5	-138.19	-34.92	-10.85	-10.42
Max:	-143.69	-33.04	-9.62	-9.64	-134.79	-33.34	-9.73	-9.81
Mean:	-149.43	-35.45	-10.68	-10.08	-136.75	-34.18	-10.21	-10.09
Std:	2.51	1.09	0.4	0.14	0.44	0.23	0.15	0.11

Comments: Approximate 5 mV drift observed at FID 1900-3300 in pre-survey test

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0801.gdb				0801.gdb			
Line #:	L0.2:0				L11.2:0			
Min:	-120.33	-28.34	-12.21	-11.15	-116.86	-29.88	-12.75	-10.59
Max:	-110.89	-24.37	-9.83	-9.71	-113.29	-27.59	-11.27	-9.33
Mean:	-115.67	-26.59	-10.86	-10.46	-115.16	-28.78	-12.06	-9.92
Std:	1.79	0.71	0.42	0.32	0.57	0.41	0.24	0.31

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Date: 08/14/03

Project: SEDA/ODG

U37-38; V37-

Location i.d.: 38

Survey Date: 08/01/03

Static Spike Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name		0801.gdb				0801.gdb			
Line #:		L1:0				L12:0			
Min:		322.53	256.06	142.38	54.29	326.56	252.98	140.73	54.49
Max:		331.53	262.49	146.17	56.24	332.23	257.17	142.97	55.43
Mean:		327.9	259.8	144.62	55.47	329.8	255.53	142.01	54.99
Std:		1.96	1.4	0.88	0.42	1.15	0.84	0.46	0.2

Comments: _____

Coil #2

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name		0801.gdb				0801.gdb			
Line #:		L2.1:0				L13.1:0			
Min:		350.89	275.53	155	56.58	336.75	262.37	149.26	54.15
Max:		357.08	280.42	157.95	57.83	341.38	266.26	151.18	55.51
Mean:		353.97	278.3	156.6	57.22	338.71	264.22	150.09	54.94
Std:		1.09	0.74	0.43	0.22	0.83	0.62	0.35	0.23

Comments: _____

Coil #3

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name		0801.gdb				0801.gdb			
Line #:		L3.2:0				L14.2:0			
Min:		350.4	262.55	140.18	50.6	358.68	264.15	141.28	52.08
Max:		358.49	267.98	143.01	51.8	364.51	268.33	143.26	53.46
Mean:		354.15	265.14	141.69	51.23	361.56	266.36	142.21	52.75
Std:		1.27	0.93	0.51	0.22	1.1	0.72	0.39	0.25

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Date: 08/14/03

Project: SEDA/ODG

 U37-38; V37-

Location i.d.: 38

Survey Date: 08/01/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0801.gdb				0801.gdb			
Line #:	L4:0				L15:0			
Min:	-145.92	-33.23	-9.87	-7.9	-136.63	-34.26	-11.29	-7.76
Max:	-142.03	-31.74	-9.14	-7.26	-133.52	-32.35	-10.29	-7.2
Mean:	-143.98	-32.43	-9.47	-7.6	-135.19	-33.21	-10.72	-7.48
Std:	0.67	0.29	0.13	0.1	0.57	0.37	0.22	0.1

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0801.gdb				0801.gdb			
Line #:	L4.1:0				L15.1:0			
Min:	-148.9	-35.71	-10.97	-10.47	-137.67	-34.54	-10.52	-10.31
Max:	-145.42	-33.88	-10.05	-9.64	-135.29	-33.44	-9.64	-9.74
Mean:	-147.12	-34.58	-10.49	-10.13	-136.48	-33.97	-10.07	-10.01
Std:	0.66	0.35	0.18	0.14	0.42	0.19	0.12	0.1

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0801.gdb				0801.gdb			
Line #:	L4.2:0				L15.2:0			
Min:	-115.61	-27	-11.9	-11.17	-114.83	-30.32	-13.18	-10.6
Max:	-110.82	-24.72	-10.04	-9.83	-111.13	-27.88	-11.41	-9.06
Mean:	-113.4	-25.96	-10.8	-10.55	-113.34	-28.89	-12.27	-9.78
Std:	0.85	0.39	0.36	0.28	0.66	0.5	0.31	0.36

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: MDS
Date: 8/14/03

Project: SEDA/ODG
Location i.d.: U37-38; V37-38
Survey Date: 8/1/03
File name: 0801.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
	0718AM Latency		0718PM Latency	
Coil #1	0.6	0.23	0.7	0.56
Coil #2	0.6	0.31	0.8	0.68
Coil #3	0.5	0.45	0.5	0.86

Comments: Gridded anomaly footprint deviates 1.96 feet from spike location.

Blind Seeds Detected

Seed ID	
Weston 10	
Location	
Easting	738070.05
Northing	1014614.37
Seed Description	
Depth (ft)	0.00
Orientation	Horizontal

Anomaly ID	
73	
Detected?	Yes
Location	
Easting	738071.00
Northing	1014614.30
Dist. & Orient. from Seed	
Dist. (ft)	0.98
Orientation	East

Comments: Weston 41 - (Easting 738101.60, Northing 1014665.658) Depth = 0 and Orientation is horizontal Anomaly ID = 106 (738101.5, 1014666.0) Distance = 0.4 and orientation is northwest

Data Sampling

Velocity	
Average (mph)	1.9
Along Track / Across Track Sampling	
*Along Track (ft)	0.22
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	1.13
Cumulative	207.86
Total Data Gaps (acres)	
This Data Set	0.002
Cumulative	0.122

* metric: ≤ 0.5 ft
** metric: ≤ 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0801.gdb
Leveling Performed: Yes
Latency Correction Performed: Yes (no visible chevron effects)
Audit Log File Name: 0801.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: sum_clipped & Weston_Noise
Clipping Value: - 5/7
Text Files Attached: Yes
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)	
a.m.	<u>NA</u>	<u>NA</u>	
p.m.	<u>1.72</u>	<u>1.82</u>	Lines 6-9
Metric:	<u></= 3.25</u>	<u></= 2.0</u>	

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Target ID's < 100 (144, 46, 169)
Target ID's > 100 (25, 2, 81)

Comments:

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS
Date: 10/22/03

Project: SEDA/ODG
Location i.d.: Partial Redo of 0628 data
Survey Date: 08/04/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0804.gdb				0804.gdb			
Line #:	0.0				11.0			
Min:	-144.14	-35.83	-11.48	-7.97	-144.69	-41.24	-14.02	-8.08
Max:	-140.5	-34.22	-10.77	-7.31	-133.86	-37.83	-12.5	-7.14
Mean:	-142.48	-35.12	-11.13	-7.71	-139.5	-39.59	-13.2	-7.61
Std:	0.67	0.27	0.11	0.09	1.59	0.54	0.23	0.15

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0804.gdb				0804.gdb			
Line #:	0.1				11.1			
Min:	-150.45	-38.84	-12.64	-10.27	-166.98	-51.22	-16.91	-11.79
Max:	-145.62	-36.43	-11.67	-9.48	-159.92	-47.8	-15.74	-10.91
Mean:	-148.15	-37.71	-12.22	-9.83	-163.95	-49.73	-16.36	-11.31
Std:	0.83	0.37	0.14	0.13	1.23	0.44	0.18	0.14

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0804.gdb				0804.gdb			
Line #:	0.2				11.2			
Min:	-110.68	-25.96	-10.92	-10.27	-108.56	-31.45	-12.97	-9.95
Max:	-100.35	-23.34	-10.05	-9.23	-100.98	-28.28	-11.58	-8.98
Mean:	-106.55	-24.85	-10.46	-9.72	-104.43	-29.83	-12.27	-9.44
Std:	2.68	0.56	0.12	0.18	1.34	0.48	0.18	0.17

Comments: Drift evident in Pre-survey data collection.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS
Date: 10/22/03

Project: SEDA/ODG
Location i.d.: Partial Redo of 0628 data
Survey Date: 08/04/03

Static Spike Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0804.gdb				0804.gdb			
Line #:	1.0				14.0			
Min:	337.01	260.94	145.7	56.27	264.95	209.83	118.06	45.13
Max:	341.16	263.85	147.48	57.25	275.57	217.55	122.34	46.94
Mean:	339.36	262.58	146.66	56.8	271.34	214.32	120.62	46.18
Std:	0.99	0.75	0.42	0.18	2.74	2.1	1.18	0.46

Comments: CH 1:5 mV spikes observed in Post-survey data.

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0804.gdb				0804.gdb			
Line #:	2.1				15.1			
Min:	343.68	270.61	153.44	57.19	310.54	248.78	143.67	52.59
Max:	348.38	273.64	155.07	58.17	316.66	253.28	146.24	53.84
Mean:	346.02	272.29	154.25	57.72	313.92	251.32	145.12	53.34
Std:	0.81	0.59	0.33	0.18	1.43	1.11	0.62	0.25

Comments:

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0804.gdb				0804.gdb			
Line #:	3.2				16.2			
Min:	368.22	270.66	144.59	53.04	294.66	222.45	121.43	44.45
Max:	372.27	274.12	146.34	54.02	305.92	230.63	125.76	46.42
Mean:	370.38	272.62	145.58	53.58	300.71	226.72	123.64	45.55
Std:	0.94	0.69	0.38	0.19	2.21	1.63	0.87	0.35

Comments: Deviation from median values observed at fid 749 in post survey data. Increased peak distances at end of collection.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS
Date: 10/22/03

Project: SEDA/ODG
Location i.d.: Partial Redo of 0628 data
Survey Date: 08/04/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0804.gdb				0804.gdb			
Line #:	4.0				17.0			
Min:	-145.05	-36.48	-11.66	-7.94	-145	-41.46	-13.99	-8.07
Max:	-141.93	-34.8	-10.72	-7.33	-139.45	-39.18	-12.57	-6.8
Mean:	-143.87	-35.82	-11.26	-7.63	-142.78	-40.45	-13.2	-7.41
Std:	0.6	0.31	0.18	0.1	1.43	0.47	0.22	0.16

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0804.gdb				0804.gdb			
Line #:	4.1				17.1			
Min:	-153.5	-40.14	-12.92	-10.32	-175.23	-53.47	-17.04	-11.44
Max:	-150.98	-38.88	-12.2	-9.51	-170.92	-51.89	-16.22	-10.79
Mean:	-152.19	-39.49	-12.57	-9.87	-173.48	-52.83	-16.63	-11.16
Std:	0.45	0.22	0.12	0.15	0.84	0.31	0.16	0.14

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0804.gdb				0804.gdb			
Line #:	4.2				17.2			
Min:	-112.52	-27.07	-11.03	-9.88	-119.15	-34.67	-13.03	-9.57
Max:	-110.25	-26	-10.17	-9.12	-114.89	-33.04	-12.02	-8.54
Mean:	-111.39	-26.56	-10.6	-9.49	-116.5	-33.74	-12.5	-9
Std:	0.38	0.22	0.14	0.15	0.72	0.3	0.17	0.19

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: MDS

Project: SEDA/ODG

Date: 10/22/03

Location i.d.: Partial redo of 6/28

Survey Date: 8/4/03

File name: 0804.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
	0804AM Latency		0804PM Latency	
Coil #1	0.6	0.26	0.6	0.85
Coil #2	0.6	0.16	0.4	0.67
Coil #3	0.4	0.13	0.4	0.53

Comments: _____

Blind Seeds Detected

Seed ID	
NA	
Location	
Easting	NA
Northing	NA
Seed Description	
Depth (ft)	NA
Orientation	NA

Anomaly ID	
NA	
Detected?	NA
Location	
Easting	NA
Northing	NA
Dist. & Orient. from Seed	
Dist. (ft)	NA
Orientation	NA

Comments: No Weston QC Seeds

Data Sampling

Velocity	
Average (mph)	2.56
Along Track/ Across Track Sampling	
*Along Track (ft)	0.3
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	1.12
Cumulative	207.53
Total Data Gaps (acres)	
This Data Set	0
Cumulative	0.122

* metric: ≤ 0.5 ft

** metric: ≤ 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0804.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0804.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: sum clipped & Weston_Noise
Clipping Value: - 5/7
Text Files Attached: Yes
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)	
a.m.			
p.m.	<u>1.83</u>	<u>2.11</u>	Lines 6-7
Metric:	<u></= 3.25</u>	<u></= 2.0</u>	

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Target ID's > 100 = 76, 72, and 79
Target ID's < 100 = 42, 33, and 54

Comments:

SNR levels exceed the DQO metric. This was observed in earlier data sets conducted in high density target areas. A root cause analyses was performed. Results substantiate that std dev. for SNR was higher in high density (cluttered) target areas.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 08/14/03

Project: SEDA/ODG
Location i.d.: 0714 Redo Lines
Survey Date: 08/04/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0804.gdb				0804.gdb			
Line #:	0.0				11.0			
Min:	-144.14	-35.83	-11.48	-7.97	-144.69	-41.24	-14.02	-8.08
Max:	-140.5	-34.22	-10.77	-7.31	-133.86	-37.83	-12.5	-7.14
Mean:	-142.48	-35.12	-11.13	-7.71	-139.5	-39.59	-13.2	-7.61
Std:	0.67	0.27	0.11	0.09	1.59	0.54	0.23	0.15

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0804.gdb				0804.gdb			
Line #:	0.1				11.1			
Min:	-150.45	-38.84	-12.64	-10.27	-166.98	-51.22	-16.91	-11.79
Max:	-145.62	-36.43	-11.67	-9.48	-159.92	-47.8	-15.74	-10.91
Mean:	-148.15	-37.71	-12.22	-9.83	-163.95	-49.73	-16.36	-11.31
Std:	0.83	0.37	0.14	0.13	1.23	0.44	0.18	0.14

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0804.gdb				0804.gdb			
Line #:	0.2				11.2			
Min:	-110.68	-25.96	-10.92	-10.27	-108.56	-31.45	-12.97	-9.95
Max:	-100.35	-23.34	-10.05	-9.23	-100.98	-28.28	-11.58	-8.98
Mean:	-106.55	-24.85	-10.46	-9.72	-104.43	-29.83	-12.27	-9.44
Std:	2.68	0.56	0.12	0.18	1.34	0.48	0.18	0.17

Comments: Drift evident in Pre-survey data collection.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 08/14/03

Project: SEDA/ODG
Location i.d.: 0714 Redo Lines
Survey Date: 08/04/03

Static SpikeTest

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0804.gdb				0804.gdb			
Line #:	1.0				14.0			
Min:	337.01	260.94	145.7	56.27	264.95	209.83	118.06	45.13
Max:	341.16	263.85	147.48	57.25	275.57	217.55	122.34	46.94
Mean:	339.36	262.58	146.66	56.8	271.34	214.32	120.62	46.18
Std:	0.99	0.75	0.42	0.18	2.74	2.1	1.18	0.46

Comments: CH 1:5 mV spikes observed in Post-survey data.

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0804.gdb				0804.gdb			
Line #:	2.1				15.1			
Min:	343.68	270.61	153.44	57.19	310.54	248.78	143.67	52.59
Max:	348.38	273.64	155.07	58.17	316.66	253.28	146.24	53.84
Mean:	346.02	272.29	154.25	57.72	313.92	251.32	145.12	53.34
Std:	0.81	0.59	0.33	0.18	1.43	1.11	0.62	0.25

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0804.gdb				0804.gdb			
Line #:	3.2				16.2			
Min:	368.22	270.66	144.59	53.04	294.66	222.45	121.43	44.45
Max:	372.27	274.12	146.34	54.02	305.92	230.63	125.76	46.42
Mean:	370.38	272.62	145.58	53.58	300.71	226.72	123.64	45.55
Std:	0.94	0.69	0.38	0.19	2.21	1.63	0.87	0.35

Comments: Deviation from median values observed at fid 749 in post survey data. Increased peak distances at end of collection.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: RSS
Date: 08/14/03

Project: SEDA/ODG
Location i.d.: 0714 Redo Lines
Survey Date: 08/04/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0804.gdb				0804.gdb			
Line #:	4.0				17.0			
Min:	-145.05	-36.48	-11.66	-7.94	-145	-41.46	-13.99	-8.07
Max:	-141.93	-34.8	-10.72	-7.33	-139.45	-39.18	-12.57	-6.8
Mean:	-143.87	-35.82	-11.26	-7.63	-142.78	-40.45	-13.2	-7.41
Std:	0.6	0.31	0.18	0.1	1.43	0.47	0.22	0.16

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0804.gdb				0804.gdb			
Line #:	4.1				17.1			
Min:	-153.5	-40.14	-12.92	-10.32	-175.23	-53.47	-17.04	-11.44
Max:	-150.98	-38.88	-12.2	-9.51	-170.92	-51.89	-16.22	-10.79
Mean:	-152.19	-39.49	-12.57	-9.87	-173.48	-52.83	-16.63	-11.16
Std:	0.45	0.22	0.12	0.15	0.84	0.31	0.16	0.14

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0804.gdb				0804.gdb			
Line #:	4.2				17.2			
Min:	-112.52	-27.07	-11.03	-9.88	-119.15	-34.67	-13.03	-9.57
Max:	-110.25	-26	-10.17	-9.12	-114.89	-33.04	-12.02	-8.54
Mean:	-111.39	-26.56	-10.6	-9.49	-116.5	-33.74	-12.5	-9
Std:	0.38	0.22	0.14	0.15	0.72	0.3	0.17	0.19

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: RSS

Project: SEDA/ODG

0714 Redo

Date: 8/14/03

Location i.d.: Lines

Survey Date: 8/4/03

File name: 0804.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0804AM Latency		0804PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.6	0.26	0.6	0.85
Coil #2	0.6	0.16	0.4	0.67
Coil #3	0.4	0.13	0.4	0.53

Comments: _____

Blind Seeds Detected

Seed ID	
NA	
Location	
Easting	NA
Northing	NA
Seed Description	
Depth (ft)	NA
Orientation	NA

Anomaly ID	
NA	
Detected?	NA
Location	
Easting	NA
Northing	NA
Dist. & Orient. from Seed	
Dist. (ft)	NA
Orientation	NA

Comments: No Weston seeds surveyed in this area.

Data Sampling

Velocity	
Average (mph)	2.4
Along Track / Across Track Sampling	
*Along Track (ft)	0.28
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	1.12
Cumulative	207.53
Total Data Gaps (acres)	
This Data Set	0
Cumulative	0.122

* metric: \leq 0.5 ft

** metric: \leq 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0804.gdb
Leveling Performed: YES
Latency Correction Performed: YES (no visible chevron effects)
Audit Log File Name: 0804.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: Sum Clipped/Weston_Noise
Clipping Value: - 5/7
Text Files Attached: YES
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>NA</u>	<u>NA</u>
p.m.	<u>1.82</u>	<u>2.19</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable: Anomaly Cert: 271,185,318,342,389,346

Comments: SNR std dev exceeds metric. This was observed in previous datasets collected in high density target areas. A root cause analysis was performed. Results substantiate that the SNR was higher in high density cluttered target areas.

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Date: 08/15/03

Project: SEDA/ODG

CC31-42; DD-
GG37; DD-

Location i.d.: EE39 (REDO)

Survey Date: 08/05/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0805.gdb				0805.gdb			
Line #:	L0:0				L13:0			
Min:	-180.51	-43.6	-12.38	-7.95	-154.78	-37.47	-11.34	-7.7
Max:	-174.24	-41.25	-11.53	-7.47	-148.03	-35.48	-10.48	-7.21
Mean:	-177.3	-42.26	-11.95	-7.71	-152.02	-36.39	-10.91	-7.45
Std:	1.31	0.38	0.13	0.07	1.16	0.35	0.14	0.07

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0805.gdb				0805.gdb			
Line #:	L0.1:0				L13.1:0			
Min:	-178.21	-43.65	-12.01	-7.76	-151.59	-38.93	-12.91	-9.42
Max:	-174.11	-41.52	-10.92	-7.05	-147.69	-36.81	-11.99	-8.8
Mean:	-176.2	-42.56	-11.45	-7.42	-149.43	-37.67	-12.42	-9.14
Std:	0.77	0.4	0.18	0.11	0.77	0.36	0.14	0.1

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0805.gdb				0805.gdb			
Line #:	L0.2:0				L13.2:0			
Min:	-157.23	-39.67	-14.66	-11.19	-113.73	-27.21	-11.5	-10.46
Max:	-147.8	-35.77	-13.17	-10.45	-109.56	-25.04	-10.33	-9.42
Mean:	-152.28	-37.58	-13.91	-10.89	-111.89	-26.23	-10.89	-9.92
Std:	2.16	0.79	0.26	0.1	0.64	0.32	0.18	0.22

Comments: 5-6 mV drift observed in coil #3, channel 1, presurvey

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Project: SEDA/ODG

Date: 08/15/03

CC31-42; DD-

GG37; DD-

Location i.d.: EE39 (REDO)

Survey Date: 08/05/03

Static Spike Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0805.gdb				0805.gdb			
Line #:		L1:0				L14:0			
Min:		310.39	255.61	144.06	55.61	325.82	256.23	143.32	55.37
Max:		315.23	258.38	145.8	56.44	330.86	260.31	145.39	56.27
Mean:		312.95	257.17	144.94	56.08	328.97	258.67	144.53	55.9
Std:		1.02	0.72	0.41	0.18	1.04	0.82	0.46	0.18

Comments: _____

Coil #2

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0805.gdb				0805.gdb			
Line #:		L2.1:0				L16.1:0			
Min:		329.74	269.97	153.76	58.41	378.57	291.5	163.19	61.44
Max:		334.86	273.45	155.85	59.46	383.61	295.02	165.15	62.65
Mean:		332.25	271.63	154.76	58.87	380.86	293.03	164.06	61.99
Std:		1.01	0.66	0.36	0.18	0.82	0.59	0.34	0.2

Comments: _____

Coil #3

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0805.gdb				0805.gdb			
Line #:		L3.2:0				L17.2:0			
Min:		328.01	255.46	136.62	49.06	375.76	276.41	147.95	54.6
Max:		336.85	260.05	138.96	49.94	381.34	280.45	150.14	55.63
Mean:		332.64	257.83	137.89	49.55	378.41	278.39	148.96	55.1
Std:		1.85	0.91	0.42	0.15	1.02	0.73	0.42	0.18

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Project: SEDA/ODG

CC31-42; DD-

GG37; DD-

Date: 08/15/03

Location i.d.: EE39 (REDO)

Survey Date: 08/05/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0805.gdb				0805.gdb			
Line #:	L4:0				L18:0			
Min:	-166.87	-39.03	-11.59	-7.93	-146.36	-35.02	-10.94	-7.65
Max:	-162.69	-37.47	-10.79	-7.5	-144.28	-33.59	-10.01	-6.93
Mean:	-164.86	-38.22	-11.21	-7.73	-145.43	-34.44	-10.61	-7.38
Std:	0.84	0.35	0.15	0.07	0.48	0.21	0.12	0.09

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0805.gdb				0805.gdb			
Line #:	L4.1:0				L18.1:0			
Min:	-178.78	-46.61	-14.5	-9.05	-151.42	-38.98	-13.03	-9.42
Max:	-174.68	-44.94	-13.61	-8.25	-149.24	-37.79	-12.22	-8.89
Mean:	-176.79	-45.83	-14.1	-8.65	-150.49	-38.39	-12.58	-9.14
Std:	0.82	0.32	0.17	0.14	0.34	0.21	0.12	0.1

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0805.gdb				0805.gdb			
Line #:	L4.2:0				L18.2:0			
Min:	332.51	257.29	137.43	49.14	-111.18	-26.58	-11.35	-10.41
Max:	338.04	260.75	139.03	50.06	-108.65	-25.07	-10.41	-9.33
Mean:	335.42	258.92	138.21	49.62	-109.75	-25.83	-10.79	-9.86
Std:	1.05	0.64	0.34	0.15	0.43	0.28	0.16	0.22

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: MDS

Project: SEDA/ODG

Date: 8/15/03

CC31-42; DD-GG37; DD-
Location i.d.: EE39 (REDO)

Survey Date: 8/5/03

File name: 0805.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
	0805AM Latency		0805PM Latency	
Coil #1	0.6	0.21	0.6	0.24
Coil #2	0.75	0.30	0.4	0.27
Coil #3	0.9	0.45	0.4	0.28

Comments: Coil #3 AM 1.9' west of gridded anomaly footprint

Blind Seeds Detected

Seed ID	
NA	
Location	
Easting	NA
Northing	NA
Seed Description	
Depth (ft)	NA
Orientation	NA

Anomaly ID	
NA	
Detected?	NA
Location	
Easting	NA
Northing	NA
Dist. & Orient. from Seed	
Dist. (ft)	NA
Orientation	NA

Comments: No Weston seeds in the survey area

Data Sampling

Velocity	
Average (mph)	2.09
Along Track / Across Track Sampling	
*Along Track (ft)	0.25
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	0
Cumulative	207.86
Total Data Gaps (acres)	
This Data Set	0.00
Cumulative	0.122

* metric: <= 0.5 ft

** metric: <= 3.0 ft

Comments: REDO of 0721 dataset

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0805.gdb
Leveling Performed: Yes
Latency Correction Performed: Yes (no visible chevron effects)
Audit Log File Name: 0805.rtf
Anomaly Selection Verified on: 100.0% % of data set

SNR:

Channel Analyzed: sum_clipped & Weston_Noise
Clipping Value: - 5/7
Text Files Attached: Yes
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>1.76</u>	<u>1.97</u>
p.m.	<u>NA</u>	<u>NA</u>
Metric:	<u></= 3.25</u>	<u></= 2.0</u>

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Target ID's >100 (2, 171, 250)
Target ID's >100 (106, 167, 97)

Comments:

REDO of 0721 dataset

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS
Date: 09/11/03

Project: SEDA/ODG
Location i.d.: _____
Survey Date: 08/19/03

Static Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0819.gdb				0819.gdb			
Line #:	L0:0				L12:0			
Min:	-120.72	-31.06	-12.07	-9.13	-134.96	-43.27	-14.94	-9.06
Max:	-113.94	-28.78	-11.03	-8.6	-131.05	-41.35	-14.14	-8.44
Mean:	-116.44	-29.83	-11.48	-8.88	-132.93	-42.27	-14.49	-8.7
Std:	0.98	0.35	0.14	0.08	0.59	0.26	0.12	0.08

Comments: _____

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0819.gdb				0819.gdb			
Line #:	L0.1:0				L12.1:0			
Min:	-166.27	-43.93	-14.09	-11.04	-178.96	-58.74	-19.77	-11.49
Max:	-157.81	-40.67	-12.71	-10.25	-174.13	-56.44	-18.67	-10.48
Mean:	-162.5	-42.48	-13.46	-10.63	-176.53	-57.71	-19.2	-10.98
Std:	1.4	0.52	0.2	0.13	0.9	0.38	0.15	0.16

Comments: _____

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0819.gdb				0819.gdb			
Line #:	L0.2:0				L12.2:0			
Min:	-96.94	-17.31	-4.27	-5.83	-170.52	-57.87	-19.5	-10.74
Max:	-92.14	-13.26	-1.97	-3.53	-165.17	-55.41	-18.55	-9.95
Mean:	-94.55	-14.91	-3.01	-4.67	-168.06	-56.63	-19.01	-10.35
Std:	0.77	0.7	0.47	0.6	1.16	0.43	0.15	0.12

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS
Date: 09/11/03

Project: SEDA/ODG
Location i.d.: _____
Survey Date: 08/19/03

Static SpikeTest

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name:		0819.gdb				0819.gdb			
Line #:		L1:0				L13:0			
Min:		333.26	252.54	137.72	51.69	276.01	213.62	120.35	45.85
Max:		342.08	258.97	141.12	53.26	280.02	216.8	122.13	46.76
Mean:		336.78	255.16	139.16	52.41	278.14	215.6	121.38	46.44
Std:		1.52	1.12	0.59	0.24	0.79	0.59	0.33	0.16

Comments: _____

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name:		0819.gdb				0819.gdb			
Line #:		L2.1:0				L14.1:0			
Min:		317.02	254.31	141.36	51.59	284.31	230.69	132.82	50.95
Max:		321.72	258.07	142.89	52.48	288.4	233.68	134.62	51.91
Mean:		319.54	256.01	142.2	52.01	286.42	232.3	133.75	51.44
Std:		0.91	0.65	0.35	0.15	0.8	0.62	0.36	0.18

Comments: _____

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name:		0819.gdb				0819.gdb			
Line #:		L3.2:0				L15.2:0			
Min:		364.4	269.46	146.52	53.61	270.02	217.69	126.96	47.63
Max:		372.87	274.69	149.97	56.11	273.04	219.66	128.19	48.55
Mean:		368.59	271.84	148.47	55	271.78	218.71	127.58	48.05
Std:		1.51	0.96	0.59	0.66	0.52	0.38	0.23	0.14

Comments: _____

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS
Date: 09/11/03

Project: SEDA/ODG
Location i.d.: _____
Survey Date: 08/19/03

Cable Shake Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0819.gdb				0819.gdb			
Line #:		L4:0				L16:0			
Min:		-113.01	-29.7	-11.88	-9.2	-135.36	-42.91	-14.77	-8.87
Max:		-108.34	-28.04	-10.72	-8.44	-132.86	-41.83	-14.04	-8.29
Mean:		-110.92	-28.86	-11.16	-8.78	-134.28	-42.35	-14.39	-8.58
Std:		1.06	0.33	0.14	0.1	0.46	0.2	0.12	0.1

Comments: _____

Coil #2

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0819.gdb				0819.gdb			
Line #:		L4.1:0				L16.1:0			
Min:		-161.56	-43.48	-13.98	-11.09	-181.85	-59.85	-19.99	-11.43
Max:		-157.46	-41.7	-12.95	-10.05	-178.18	-57.96	-19.03	-10.56
Mean:		-159.86	-42.63	-13.48	-10.56	-179.92	-58.91	-19.55	-10.94
Std:		0.69	0.32	0.21	0.21	0.57	0.3	0.17	0.17

Comments: _____

Coil #3

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0819.gdb				0819.gdb			
Line #:		L4.2:0				L16.2:0			
Min:		-99.92	-18.09	-4.54	-5.62	-175.66	-59.88	-20.13	-10.95
Max:		-95.72	-15.76	-2.21	-3.88	-173.2	-58.37	-19.09	-9.97
Mean:		-98.06	-17.06	-3.44	-4.57	-174.71	-59.23	-19.62	-10.45
Std:		0.69	0.46	0.51	0.4	0.44	0.26	0.17	0.15

Comments: _____

NAVIGATION FUNCTION CHECKS

QC Check

by: MDS

Project: SEDA/ODG

Date: 9/11/03

Location i.d.:

Survey Date: 8/19/03

File name: 0819.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
	0819AM Latency		0819PM Latency	
Coil #1	0.5	0.07	0.5	0.10
Coil #2	0.5	0.20	0.5	0.10
Coil #3	0.5	0.47	0.5	0.15

Comments: _____

Blind Seeds Detected

Seed ID	
NA	
Location	
Easting	NA
Northing	NA
Seed Description	
Depth (ft)	NA
Orientation	NA

Anomaly ID	
NA	
Detected?	NA
Location	
Easting	NA
Northing	NA
Dist. & Orient. from Seed	
Dist. (ft)	NA
Orientation	NA

Comments: Weston 12 outside of survey area

Data Sampling

Velocity	
Average (mph)	2.04
Along Track / Across Track Sampling	
*Along Track (ft)	0.24
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	2.17
Cumulative	210.03
Total Data Gaps (acres)	
This Data Set	0.007
Cumulative	0.129

* metric: \leq 0.5 ft

** metric: \leq 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0819.gdb
Leveling Performed: Yes
Latency Correction Performed: Yes (no visible chevron effects)
Audit Log File Name: 0819.rtf
Anomaly Selection Verified on: 100.00% % of data set

SNR:

Channel Analyzed: sum_clipped & Weston_Noise
Clipping Value: - 5/7
Text Files Attached: Yes
Mean / Std.Dev.:

	<u>Mean (mV)</u>	<u>Std.Dev. (mV)</u>	
a.m.	<u>2.25</u>	<u>2.54</u>	Line 7
p.m.	<u>2.10</u>	<u>2.60</u>	Lines 8-10
Metric:	<u></= 3.25</u>	<u></= 2.35 *</u>	

* Revised DQO metric for new array based on GPO data collected 8/19 and 8/20

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Target ID's > 100 = 834, 851, and 655
Target ID's < 100 = 903, 84, and 101

Comments: SNR Std Dev exceeds DQO metric

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Date: 09/11/03

Project: SEDA/ODG

Location i.d.: R9-12; S9-12, T9-12, U9-12

Survey Date: 08/20/03

Static Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name		0820.gdb				0820b.gdb			
Line #:		L0:0				L4:0			
Min:		-141.25	-36.84	-13.52	-9.28	-141.91	-46.04	-17.18	-9.65
Max:		-133.62	-34.18	-12.37	-8.63	-133.92	-42.72	-15.96	-8.95
Mean:		-137.35	-35.42	-12.93	-8.95	-138.06	-44.72	-16.48	-9.33
Std:		1.34	0.46	0.17	0.1	1.01	0.39	0.17	0.11

Comments:

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name		0820.gdb				0820b.gdb			
Line #:		L0.1:0				L4.1:0			
Min:		-177.51	-44.81	-14.07	-10.94	-193.16	-62	-20.93	-11.76
Max:		-170.36	-42.02	-12.85	-10.29	-186.9	-58.22	-19.6	-10.88
Mean:		-174.07	-43.42	-13.45	-10.6	-189.89	-60.56	-20.15	-11.37
Std:		1.43	0.6	0.19	0.11	1.19	0.5	0.18	0.12

Comments:

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name		0820.gdb				0820b.gdb			
Line #:		L0.2:0							
Min:		-129.07	-34.26	-12.28	-8.3				
Max:		-124.11	-31.65	-10.97	-7.27				
Mean:		-126.87	-32.97	-11.61	-7.77				
Std:		0.84	0.42	0.2	0.16				

Comments: No data collected for Coil #3 in PM. Broken equipment

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Project: SEDA/ODG

Date: 09/11/03

Location i.d.: R9-12; S9-12, T9-12, U9-12

Survey Date: 08/20/03

Static Spike Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0820.gdb				0820b.gdb			
Line #:	L1:0				L5:0			
Min:	326.81	254.99	140.13	53.62	270.54	215.98	119.98	45.29
Max:	336.89	262.48	144.19	55.28	291.49	224.41	124.48	47.52
Mean:	332.93	259.18	142.44	54.55	284.2	220.19	122.29	46.4
Std:	1.86	1.34	0.76	0.32	3.43	1.7	1.04	0.51

Comments: Large drift observed in channel 1 post survey of approx 20 mV

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0820.gdb				0820b.gdb			
Line #:	L2.1:0				L6.1:0			
Min:	315.7	259.19	144.43	53.5	250.37	216.2	124.52	47.05
Max:	323.19	263.91	146.97	54.52	268.3	224.68	128.21	48.15
Mean:	319.12	261.36	145.7	53.98	260.05	220.31	126.71	47.63
Std:	1.47	0.92	0.49	0.19	3.47	1.32	0.58	0.22

Comments: Large drift observed in channel 1 post survey of approx 18 mV

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4
File Name	0820.gdb				0820b.gdb			
Line #:	L3.2:0							
Min:	352.95	263.31	144.4	53.84				
Max:	358.49	266.92	146.51	55.39				
Mean:	355.37	264.99	145.35	54.63				
Std:	0.83	0.6	0.39	0.33				

Comments: No data collected for Coil #3 in PM. Broken equipment

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS

Date: 09/11/03

Project: SEDA/ODG

Location i.d.: R9-12; S9-12, T9-12, U9-12

Survey Date: 08/20/03

Cable Shake Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0820.gdb				0820b.gdb			
Line #:		L4:0				L7:0			
Min:		-135.35	-35.05	-13.24	-9.7	-148.82	-45.96	-17.31	-9.9
Max:		-129.92	-32.85	-11.65	-8.18	-136.75	-43.23	-15.74	-8.78
Mean:		-133.2	-34.15	-12.43	-8.82	-140.81	-44.86	-16.44	-9.36
Std:		0.95	0.37	0.27	0.25	2.04	0.55	0.24	0.17

Comments: Drift of 12 mV observed in Channel 1 post survey.

Coil #2

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0820.gdb				0820b.gdb			
Line #:		L4.1:0				L7.1:0			
Min:		-176.16	-45.12	-14.2	-11.03	-201.72	-63.49	-20.9	-11.69
Max:		-170.13	-42.8	-13.06	-10.17	-191.5	-60.18	-19.52	-10.97
Mean:		-173.48	-44.02	-13.62	-10.63	-195.13	-61.92	-20.29	-11.34
Std:		1.25	0.44	0.19	0.16	1.65	0.48	0.22	0.14

Comments: _____

Coil #3

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0820.gdb				0820b.gdb			
Line #:		L4.2:0							
Min:		-129.83	-34.93	-12.47	-8.33				
Max:		-126.06	-32.54	-11.31	-7.19				
Mean:		-127.77	-33.68	-11.92	-7.77				
Std:		0.72	0.43	0.23	0.18				

Comments: No data collected for Coil #3 in PM. Broken equipment

NAVIGATION FUNCTION CHECKS

QC Check
by: MDS

Project: SEDA/ODG

Date: 9/11/03

Location i.d.: R9-12; S9-12, T9-12, U9-12

Survey Date: 8/20/03

File name: 0820b.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
	0820AM Latency		0820PM Latency	
Coil #1	0.5	0.20	0.4	0.55
Coil #2	0.5	0.18	0.4	0.53
Coil #3	0.5	0.24	NA	NA

Comments: Coil # 3 Broken no Data for coil 3 recorded

Blind Seeds Detected

Seed ID	
No Weston Seeds	
Location	
Easting	NA
Northing	NA
Seed Description	
Depth (ft)	NA
Orientation	NA

Anomaly ID	
NA	
Detected?	NA
Location	
Easting	NA
Northing	NA
Dist. & Orient. from Seed	
Dist. (ft)	NA
Orientation	NA

Comments: _____

Data Sampling

Velocity	
Average (mph)	2.27
Along Track / Across Track Sampling	
* Along Track (ft)	0.27
** Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	1.55
Cumulative	211.58
Total Data Gaps (acres)	
This Data Set	0.006
Cumulative	0.135

* metric: </= 0.5 ft

** metric: </= 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0820b.gdb
Leveling Performed: Yes
Latency Correction Performed: Yes (no visible chevron effects)
Audit Log File Name: 0820b.rtf
Anomaly Selection Verified on: 100.00% % of data set

SNR:

Channel Analyzed: sum_clipped & Weston_Noise
Clipping Value: - 5/7
Text Files Attached: Yes
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>NA</u>	<u>NA</u>
p.m.	<u>1.94</u>	<u>2.65</u>
Metric:	<u></= 3.25</u>	<u></= 2.35 *</u>

* Revised DQO metric for new array based on GPO data collected 8/19 and 8/20

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Target ID's > 100 = 777, 658, and 997
Target ID's < 100 = 1286, 881, and 832

Comments:

SNR St Dev exceeds DQO metric

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS
Date: 09/11/03

Project: SEDA/ODG
Location i.d.: EE-FF35;
Survey Date: 08/21/03

Static Test

Coil #1

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0821.gdb				0821.gdb			
Line #:		L0:0				L15:0			
Min:		-167.96	-45.93	-15.47	-9.79	-120.78	-38.17	-14.95	-9.79
Max:		-157.63	-41.72	-13.95	-9.04	-114.41	-35.88	-13.58	-8.74
Mean:		-161.62	-43.83	-14.7	-9.41	-118.19	-37.17	-14.27	-9.21
Std:		2.05	0.72	0.22	0.1	0.97	0.38	0.18	0.12

Comments: Presurvey channel 1 - approx 10 mV drift observed

Coil #2

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0821.gdb				0821.gdb			
Line #:		L0.1:0				L15.1:0			
Min:		-184.4	-48.98	-15.62	-11.62	-173.35	-54.31	-18.5	-11.56
Max:		-174.12	-43.91	-13.57	-10.86	-166.66	-51.5	-17.35	-10.83
Mean:		-178.5	-46.09	-14.48	-11.23	-170.03	-52.95	-17.92	-11.15
Std:		2.14	0.99	0.36	0.12	1.12	0.44	0.17	0.12

Comments: Presurvey channel 1 - approx 10 mV drift observed

Coil #3

		Pre Survey				Post Survey			
		CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name		0821.gdb				0821.gdb			
Line #:		0.2				15.2			
Min:									
Max:									
Mean:									
Std:									

Comments: Coil #3 - No data collected- Broken equipment

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS
Date: 09/11/03

Project: SEDA/ODG
Location i.d.: EE-FF35;
Survey Date: 08/21/03

Static Spike Test

Coil #1

Pre Survey					Post Survey			
CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4	
File Name: 0821.gdb					0821.gdb			
Line #: L1:0					L16:0			
Min:	303.4	246.76	138.39	53.02	339.3	252.39	140.02	54.47
Max:	308.56	251.35	141.09	54.17	347.23	257.38	142.87	55.73
Mean:	305.88	249.35	139.81	53.65	343.3	255.03	141.59	55.13
Std:	0.99	0.87	0.49	0.22	1.54	1.09	0.59	0.25

Comments: _____

Coil #2

Coil #2

Pre Survey					Post Survey			
CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4	
File Name: 0821.gdb					0821.gdb			
Line #: L2.1:0					L17.1:0			
Min:	313.12	257.55	143.15	51.92	338.35	264.43	149.35	56.86
Max:	320.21	262.96	146.08	53.2	344.72	269.72	152.16	58.33
Mean:	317.5	260.07	144.54	52.63	341.84	267.36	150.85	57.71
Std:	1.43	1.05	0.59	0.26	1.37	1.07	0.61	0.27

Comments: _____

Coil #3

Coil #3

Pre Survey					Post Survey			
CH 1	CH 2	CH 3	CH 4	CH 1	CH 2	CH 3	CH 4	
File Name: 0821.gdb					0821.gdb			
Line #: 3.2					L18.2:0			
Min:								
Max:								
Mean:								
Std:								

Comments: Coil #3 - No data collected- Broken equipment

**Daily DGM QC Audit Form
EM-61 MK2 Data**

QC Check by: MDS
Date: 09/11/03

Project: SEDA/ODG
Location i.d.: EE-FF35;
Survey Date: 08/21/03

Cable Shake Test

Coil #1

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0821.gdb				0821.gdb			
Line #:	L3:0				L18:0			
Min:	-161.03	-43.28	-14.72	-9.68	-125.72	-39.83	-15.2	-9.8
Max:	-153.46	-40.96	-13.86	-9.03	-120.8	-37.5	-14	-8.56
Mean:	-156.75	-42.22	-14.3	-9.33	-123.47	-38.97	-14.55	-9.13
Std:	1.25	0.46	0.17	0.1	0.87	0.35	0.17	0.2

Comments: _____

Coil #2

Coil #2

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0821.gdb				0821.gdb			
Line #:	L3.1:0				L18.1:0			
Min:	-177.01	-45.51	-14.4	-11.52	-178.54	-56.01	-18.73	-11.38
Max:	-171.08	-43.16	-13.41	-10.67	-174.7	-53.97	-17.74	-10.55
Mean:	-174.29	-44.44	-13.88	-11.09	-176.4	-55.12	-18.25	-11.01
Std:	1.17	0.48	0.22	0.13	0.83	0.37	0.2	0.15

Comments: _____

Coil #3

Coil #3

	Pre Survey				Post Survey			
	CH 1	CH 2	CH3	CH4	CH 1	CH 2	CH3	CH4
File Name	0821.gdb				0821.gdb			
Line #:	3.2				L18.2:0			
Min:								
Max:								
Mean:								
Std:								

Comments: Coil #3 - No data collected- Broken equipment

NAVIGATION FUNCTION CHECKS

QC Check

by: MDS
 Date: 9/11/03

Project: SEDA/ODG
 Location i.d.: EE-FF35;
 Survey Date: 8/21/03
 File name: 0821.gdb

3 pt Bi-Directional Navigation Test

	Pre Survey		Post Survey	
	0821AM Latency		0821PM Latency	
	Latency Correction	Distance Offset (ft)	Latency Correction	Distance Offset (ft)
Coil #1	0.5	0.25	0.6	0.88
Coil #2	0.5	0.20	0.6	0.81
Coil #3	NA	NA	NA	NA

Comments: _____

Blind Seeds Detected

Seed ID	
No Weston Seeds	
Location	
Easting	NA
Northing	NA
Seed Description	
Depth (ft)	NA
Orientation	NA

Anomaly ID	
NA	
Detected?	NA
Location	
Easting	NA
Northing	NA
Dist. & Orient. from Seed	
Dist. (ft)	NA
Orientation	NA

Comments: _____

Data Sampling

Velocity	
Average (mph)	2.42
Along Track / Across Track Sampling	
*Along Track (ft)	0.28
**Across Track (ft)	NA
Total Area Surveyed (acres)	
This Data Set	1.52
Cumulative	213.1
Total Data Gaps (acres)	
This Data Set	0.008
Cumulative	0.143

* metric: <= 0.5 ft
 ** metric: <= 3.0 ft

Comments: _____

Processing QC

This data has been reviewed for the following functions:

Processing Functions:

File Name: 0821.gdb
Leveling Performed: Yes
Latency Correction Performed: Yes (no visible chevron effects)
Audit Log File Name: 0821.rtf
Anomaly Selection Verified on: 100.00% % of data set

SNR:

Channel Analyzed: sum_clipped & Weston_Noise
Clipping Value: - 5/7
Text Files Attached: Yes
Mean / Std.Dev.:

	Mean (mV)	Std.Dev. (mV)
a.m.	<u>2.07</u>	<u>2.14</u>
p.m.	<u>2.03</u>	<u>2.22</u>
Metric:	<u></= 3.25</u>	<u></= 2.35 *</u>

* Revised DQO metric for new array based on GPO data collected 8/19 and 8/20

Drift:

% Lowest: 10
% Highest: 70
Max Value per Block: 200

Verification of Anomalies:

3 Anomalies < 100
3 Anomalies > 100

(Metrics - not altered by 5% / 5mV of) 0 Anomalies)

Certification that anomaly selections are reasonable:

Target 1D's > 100 = 149, 183, and 107
Target 1D's < 100 = 75, 6, and 133

Comments:
