APPENDIX G

Conveyance Corridor Survey – Open Water Segment

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CONVEYANCE CORRIDOR SURVEY – OPEN WATER SEGMENT

1.0 INTRODUCTION

The Conveyance Corridor Survey – Open Water Segment (Survey) was completed in support of the Feasibility Study and Preliminary Design Phases for the Riverine Sand Mining / Scofield Island Restoration Project (Project). The Project is sponsored by the Louisiana Department of Natural Resources (LDNR), State of Louisiana Office of Coastal Protection and Restoration (OCPR), and NOAA Fisheries. The Project design is funded and authorized in accordance with the provisions of the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) (16 U.S.C.A., Sections 3951-3956) and has been approved by the Public Law 101-646 Task Force. The Project's CWPPRA designation is BA-40.

The purpose of the Survey was to collect design data for the Open Water Segment of the Conveyance Corridor, which shall serve as the corridor for the sediment pipeline to transport sand excavated from Mississippi River borrow areas to Scofield Island as fully described in the Preliminary Design Main Report and Conveyance Corridor Design Analysis (Appendix I).

The scope of services included bathymetric, magnetometer, and pipeline-probing surveys along the Empire Waterway from the Empire Bridge to the jetties / Gulf of Mexico and Scofield Island. The Survey was conducted by C.H. Fenstermaker and Associates, Inc. (CHF) and reviewed by SJB Group, LLC. (SJB) and Coastal Engineering Consultants, Inc. (CEC). The bathymetric survey focused on the eastern bank of the waterway, channel crossings, and booster pump locations. The magnetometer survey focused on known and unknown petroleum pipeline crossings and large ferrous objects. The pipeline-probing survey was based on the magnetometer data, "Whitestar" pipeline database locations, LDNR pipeline database locations, CHF pipeline database locations, and pipeline crossing warning signs found along the Empire Waterway. Subsequent to the field survey, CHF acquired an additional Plaquemines Parish Pipeline database that provided identification to many of the unknown petroleum pipelines observed during the Survey.

2.0 PROJECT AREA AND LOCATION

The Conveyance Corridor Open Water Segment was sited along the Empire Waterway (SJB and CEC, 2008) (Figure 1) located on the southwest flank of the natural levee of the Mississippi River in Plaquemines Parish. The head of the waterway is located in Empire.

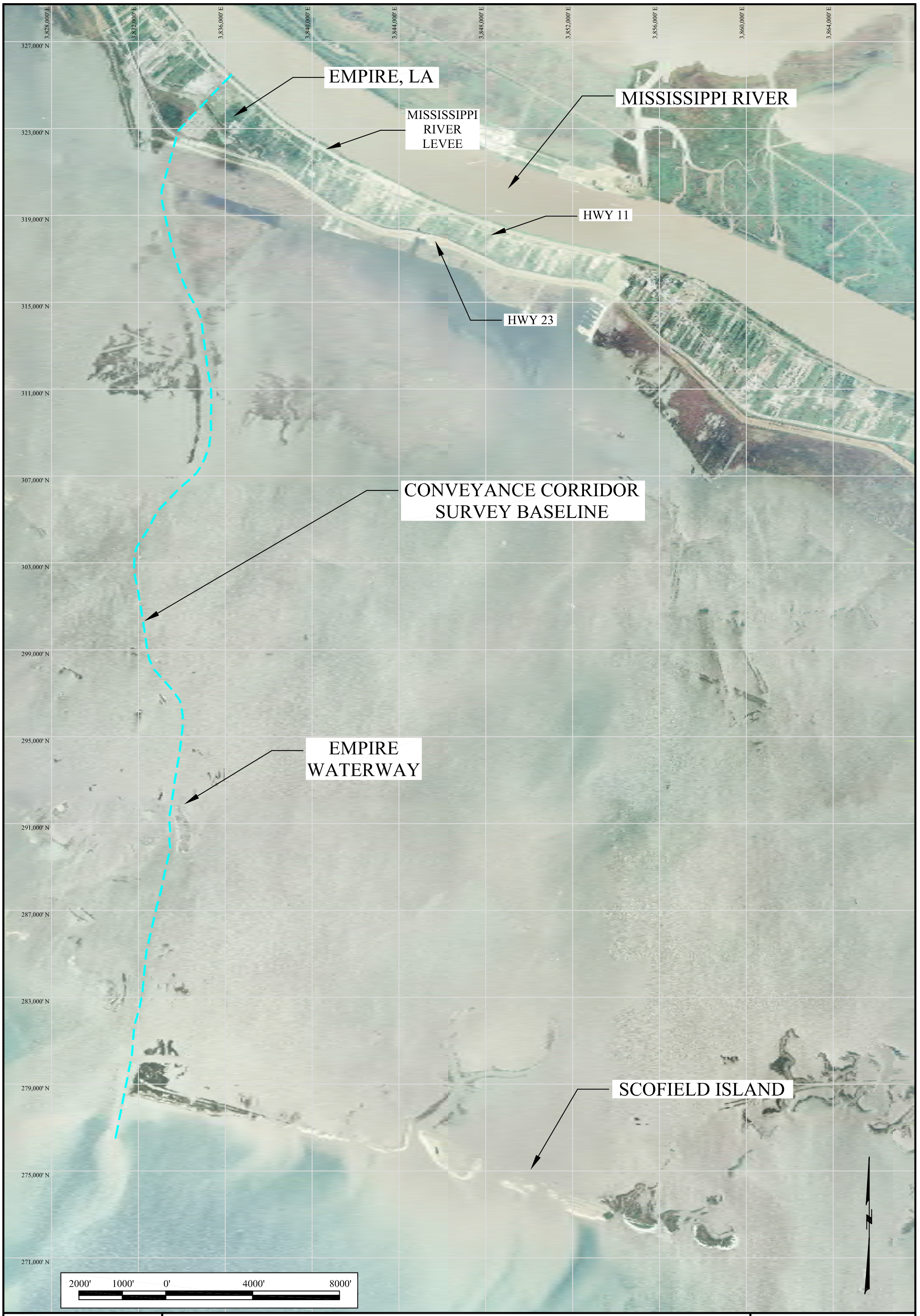

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FIGURE 1: CONVEYANCE CORRIDOR - OPEN WATER SEGMENT LOCATION MAP

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The waterway extends to the south across the eastern side of Caprien Bay and enters the Gulf of Mexico through the jetties just west of Pelican Island. Most of the channel banks are now submerged as a result of regional subsidence and wetland loss due to severe storms. The primary purpose of the waterway is to facilitate maritime and fishing traffic between the protected Empire port facilities and the Gulf of Mexico.

3.0 SITE ACCESS

The Open Water Segment exists along an established navigation channel within the Empire Waterway and as such, no special permits were required for site access.

4.0 BATHYMETRIC SURVEY

The bathymetric survey for the Open Water Segment involved performing a localized rectangular grid survey at each of the significant points of interest and activity such as proposed booster pump sites, intersecting navigation channels and crossing of foreign petroleum pipelines where the sediment pipeline may be required to be on the bottom or buried. Additional bathymetric data was obtained during the collection of additional magnetometer data along the west boundary of the Empire Waterway. This provided a more comprehensive survey data set. The newly collected data were then assimilated with the survey data collected in support of the Feasibility Study Phase (SJB and CEC, 2008). The bathymetric data were processed and analyzed by a marine geologist with more than ten years of experience in bathymetric data analysis. The following control points as described in the Mississippi River Conveyance Corridor Survey – Upland Segment (Appendix F) were provided by SJB and referenced for the Survey.

Table 1: Survey Control Points

Description	Northing*	Easting*	Ellipsoid Height**	Orthometric Height**
BA-40-SM01	315642.604	3854052.363	-81.0342	-1.8559
BA-40-SM02	302064.704	3842736.232	-76.8643	2.0197
BA-40-SM03	276699.079	3845115.032	-74.7581	3.6325

* NAD 83 State Plane, Louisiana South Zone, U.S. Survey Feet

** NAVD88 (Geoid 03/05), U.S. Survey Feet

Bottom elevations were acquired using an Odom Echotrac single beam bathymetry system and Mesotech MS1000 steered beam profiler in order to provide channel bank definition on the eastern submerged channel bank. Echotrac data were recorded and processed using

Hypack software. MS1000 data were acquired with Kongsberg Mesotech MS1000 software and processed with Kongsberg Mesotech BathyXYZ software. Both data sets were adjusted for water column velocity, and adjusted for attitude skew and properly setback. The vertical component was established utilizing Real Time Kinematic (RTK) GPS correlated to the acoustic range measurements.

Generally, the elevation of the channel bottom ranged from -10 to -14 feet NAVD88; however, some areas, especially in the southern portion, were as deep as -15 to -18 feet NAVD88. Additional data were collected at proposed booster sites and navigational crossings. The bathymetric survey results are presented on the Survey drawing set (Annex G1).

5.0 MAGNETOMETER SURVEY

5.1 Introduction

An additional survey track line was run on the west boundary of the Empire Waterway to complement the data acquired in the Feasibility Study Phase and in order to establish three point anomaly alignment correlations to any possible petroleum pipeline indications. The magnetometer survey resulted in qualifying several hundred magnetic anomalies over the survey grid. An alignment correlation was performed to define possible petroleum pipeline signatures from which positions for physical probing verification were generated. Anomalies with no alignment correlation but that occurred in one of the proposed booster site areas or within navigational crossing were also targeted for probing verification. Not all of the historically charted petroleum pipelines had correlating magnetic anomaly signatures. This could be due to a number of factors including the depth of burial of the petroleum pipeline, integrity of the pipeline and incident angle of the sensor to the pipeline trajectory.

5.2 Methods

A bow-mounted Geometrics 881 marine cesium magnetometer was interfaced with RTK navigation and recorded using the Hypack hydrographic surveying software package. Three survey lines were run down the length of the channel. Additional lines were run for the navigational crossings and proposed booster pump locations. All lines were run so that the magnetic survey would transect petroleum pipeline crossings. Data acquired from the additional survey track line on the west boundary of the Empire Waterway, were assimilated with the data acquired in the Feasibility Study Phase, and anomaly correlation

analysis performed in order to establish three point anomaly alignment correlations to any possible petroleum pipeline indications. These indications were then assigned to be verified by physical probing.

5.3 Magnetic Anomaly Signature Characterization

With regard to characterization of magnetic anomalies, only general assessments can be made without corroborative correlation from other sources such as historical information and coincident sonar data. The magnetometer system manufacturer has produced a correlation table (Table 2) for general reference which is listed below. However, because of large variances with regard to orientation angles of anomalies in respect to the earth's magnetic flux lines and dip angles as well as the orientation of the track of the sensor, integrity of the anomaly, and depth that an anomaly is buried, this table can only be used as a general reference.

Table 2: Magnetometer Correlation Table

Typical Detection Range For Common Objects	
Ship 1000 tons	0.5 to 1 nT at 800 ft (244 m)
Anchor 20 tons	0.8 to 1.25 nT at 400 ft (120 m)
Automobile	1 to 2 nT at 100 ft (30 m)
Light Aircraft	0.5 to 2 nT at 40 ft (12 m)
Pipeline (12 inch)	1 to 2 nT at 200 ft (60 m)
Pipeline (6 inch)	1 to 2 nT at 100 ft (30 m)
100 kg of iron	1 to 2 nT at 50 ft (15 m)
100 lbs of iron	0.5 to 1 nT at 30 ft (9 m)
10 lbs of iron	0.5 to 1 nT at 20 ft (6 m)
1 lb of iron	0.5 to 1 nT at 10 ft (3 m)
Screwdriver 5 inch	0.5 to 2 nT at 12 ft (4 m)
1000 lb bomb	1 to 5 nT at 100 ft (30 m)
500 lb bomb	0.5 to 5 nT at 50 ft (16 m)
Grenade	0.5 to 2 nT at 10 ft (3 m)
20 mm shell	0.5 to 2 nT at 5 ft (1.8 m)

5.4 Data Interpretation

The magnetometer data were properly setback and reviewed in Hypack, exported as an (x, y, gamma, line name) ASCII files, and imported into SonarWiz.MAP+SBP to be interpreted. The interpreted anomalies were imported into AutoCAD Civil 3D 2008 as points with attributes (x, y, gamma, duration) and labeled accordingly. All of the magnetic anomalies were interpreted and qualified by a marine geologist. The magnetometer observations are presented in tabular format in Annex G2.

5.5 Data Presentation

All magnetic anomalies are shown on the Survey drawing set (Annex G1) and labeled with anomaly number, intensity in gammas (g), and signature width in feet (ft).

5.6 Field Verification of Anomalies

Field verification of possible petroleum pipelines was conducted by physically probing along linear alignments of large magnetic anomalies. The field crews utilized magnetometers to affect a methodology by locally running reciprocally across previously observed anomalies to further isolate said anomalies prior to physically probing. Probe locations are shown on the Survey drawing set (Annex G1) as “no hit” or with depth of burial below mudline. The field verification results are presented in tabular format in Annex G3.

ANNEX G1

CONVEYANCE CORRIDOR SURVEY DRAWING SET
OPEN WATER SEGMENT

ANNEX G2

MAGNETOMETER OBSERVATIONS TABLES

X Coord.	Y Coord	Anomally #	Signature	Gamma	Duration
3859940	267128.9	mag 681	dipole	12	92
3859244	267552.1	mag 680	dipole	17	435
3859244	267552.1	mag 322	MONOPOLE	17	435
3858688	267754.4	mag 679	dipole	33	474
3858688	267754.4	mag 321	MONOPOLE	33	474
3858123	267879.5	mag 678	dipole	21	463
3858123	267879.5	mag 320	MONOPOLE	21	463
3857611	267990.3	mag 677	dipole	18	406
3857611	267990.3	mag 319	MONOPOLE	18	406
3857081	268203.8	mag 676	dipole	49	507
3857081	268203.8	mag 318	MONOPOLE	49	507
3856136	268321.2	mag 675	dipole	43	588
3856136	268321.2	mag 317	MONOPOLE	43	588
3855250	268703	mag 674	dipole	45	671
3855250	268703	mag 316	MONOPOLE	45	671
3857998	268773.2	mag 673	dipole	34	214
3857998	268773.2	mag 315	MONOPOLE	34	214
3854736	268860.3	mag 672	dipole	13	255
3854736	268860.3	mag 314	MONOPOLE	13	255
3860789	269941.4	mag 671	dipole	922	261
3860789	269941.4	mag 313	MONOPOLE	922	261
3853721	269963.8	mag 670	dipole	123	184
3853721	269963.8	mag 312	MONOPOLE	123	184
3856783	269995.1	mag 669	dipole	24	104
3856783	269995.1	mag 311	MONOPOLE	24	104
3860871	270124.4	mag 668	dipole	75	134
3860871	270124.4	mag 310	MONOPOLE	75	134
3852939	270201.9	mag 667	dipole	39	86
3852939	270201.9	mag 309	MONOPOLE	39	86
3860965	270287.8	mag 666	dipole	12	63
3860965	270287.8	mag 308	MONOPOLE	12	63
3855545	270388.3	mag 665	dipole	66	271
3861013	270446.8	mag 664	dipole	15	112
3861013	270446.8	mag 306	MONOPOLE	15	112
3860970	270619.3	mag 663	dipole	11	152
3860970	270619.3	mag 305	MONOPOLE	11	152
3851043	270731.1	mag 662	dipole	79	121
3851043	270731.1	mag 304	MONOPOLE	79	121
3857743	270762.3	mag 661	dipole	67	208
3861012	270834.9	mag 660	dipole	7	130
3861012	270834.9	mag 302	MONOPOLE	7	130
3849077	271296	mag 659	dipole	53	37
3849077	271296	mag 301	MONOPOLE	53	37
3861049	271356.1	mag 658	dipole	57	237
3861049	271356.1	mag 300	MONOPOLE	57	237
3848636	271370.1	mag 657	dipole	2537	573

3847933	271709.8	mag 656	dipole	114	149
3846808	271972.9	mag 655	dipole	29	55
3846808	271972.9	mag 297	MONOPOLE	29	55
3858885	271992.7	mag 753	dipole	1150	144
3858802	272040.5	mag 752	dipole	32	62
3859157	272071	mag 751	dipole	306	159
3858561	272179.9	mag 750	dipole	207	64
3858499	272215.3	mag 749	dipole	570	81
3861427	272323.7	mag 654	dipole	11	72
3858146	272419.1	mag 748	dipole	44	90
3858016	272493.8	mag 747	dipole	77	39
3857990	272509	mag 746	dipole	107	213
3857172	272553	mag 745	dipole	49	31
3857859	272584.3	mag 744	dipole	20	30
3857824	272604.5	mag 743	dipole	26	37
3856859	272631	mag 742	dipole	43	26
3857364	272636.8	mag 741	dipole	41	62
3843590	272642.8	mag 653	dipole	6	381
3856390	272661.8	mag 740	dipole	70	26
3856340	272665.1	mag 739	dipole	60	35
3847478	272674.4	mag 652	dipole	31	103
3847478	272674.4	mag 295	MONOPOLE	31	103
3857244	272687.1	mag 738	dipole	29	54
3857621	272691.4	mag 737	dipole	76	125
3857203	272699.4	mag 736	dipole	38	54
3856035	272717	mag 735	dipole	115	100
3855083	272745.2	mag 761	dipole	12	51
3855931	272746.3	mag 734	dipole	61	50
3855863	272756	mag 733	dipole	2642	93
3855768	272774.3	mag 732	dipole	2613	85
3856917	272785.6	mag 731	dipole	20	39
3856859	272803.2	mag 730	dipole	73	237
3846988	272809.1	mag 651	dipole	318	176
3855092	272827.2	mag 760	dipole	10	17
3856143	272839.2	mag 729	dipole	61	50
3855094	272846.8	mag 759	dipole	12	18
3856662	272862.6	mag 728	dipole	47	170
3856054	272869.4	mag 727	dipole	36	42
3855099	272900.8	mag 758	dipole	9	15
3855974	272906.2	mag 726	dipole	53	201
3856387	272921	mag 725	dipole	24	31
3855102	272932.2	mag 757	dipole	18	35
3855107	272973.7	mag 756	dipole	10	31
3855762	273157.1	mag 724	dipole	73	182
3855018	273194	mag 723	dipole	64	97
3854866	273232.6	mag 722	dipole	22	87
3855237	273273.9	mag 721	dipole	119	105

3854741	273276.4	mag 720	dipole	26	42
3855652	273309.7	mag 719	dipole	109	88
3854626	273315	mag 718	dipole	90	83
3854580	273334.4	mag 717	dipole	24	33
3855622	273386.1	mag 716	dipole	95	73
3854311	273524.3	mag 715	dipole	65	218
3858797	273569.6	mag 714	dipole	28	149
3854073	273570.6	mag 713	dipole	90	252
3853618	273582.5	mag 712	dipole	59	218
3843717	273597.4	mag 650	dipole	8	76
3844006	273621.3	mag 649	dipole	102	141
3854461	273661.1	mag 711	dipole	23	30
3852838	273721.8	mag 710	dipole	48	379
3830612	273723.3	mag 648	dipole	11	371
3854457	273759.6	mag 709	dipole	121	69
3857724	273854.5	mag 708	dipole	963	235
3835636	273875.8	mag 647	dipole	44	210
3855410	273884.8	mag 707	dipole	20	71
3839857	273954	mag 646	dipole	31	69
3841457	273958.5	mag 645	dipole	16	253
3841457	273958.5	mag 289	MONOPOLE	16	253
3829998	273962	mag 644	dipole	16	285
3851763	274038.7	mag 706	dipole	60	821
3855392	274209.3	mag 705	dipole	24	78
3851489	274236.4	mag 704	dipole	29	113
3855387	274307.3	mag 703	dipole	27	38
3855385	274343	mag 702	dipole	21	53
3850880	274360.8	mag 701	dipole	45	142
3843142	274368.7	mag 643	dipole	9	298
3855809	274401.3	mag 700	dipole	30	86
3850732	274450	mag 699	dipole	39	299
3855379	274460.5	mag 698	dipole	549	180
3838017	274464.3	mag 642	dipole	155	130
3838017	274464.3	mag 287	MONOPOLE	155	130
3855368	274475.5	mag 697	dipole	53	189
3850182	274597	mag 696	dipole	43	343
3843737	274605.9	mag 641	dipole	310	246
3843737	274605.9	mag 286	MONOPOLE	310	246
3834454	274634.5	mag 640	dipole	213	246
3849143	274964.9	mag 755	dipole	20	469
3833105	274983.3	mag 639	dipole	302	293
3832711	275009.8	mag 638	dipole	44	158
3833459	275023.7	mag 637	dipole	378	231
3833159	275072.8	mag 636	dipole	233	240
3833369	275112.2	mag 635	dipole	9	49
3833498	275136.9	mag 634	dipole	283	113
3833498	275136.9	mag 280	MONOPOLE	283	113

3830897	275289.8	mag 633	dipole	23	73
3830897	275289.8	mag 279	MONOPOLE	23	73
3849207	275304.4	mag 754	dipole	15	200
3834487	275348	mag 632	dipole	92	226
3831372	275372.1	mag 631	dipole	6	276
3846799	275463.6	mag 695	dipole	63	549
3834509	275532.8	mag 630	dipole	22	75
3834509	275532.8	mag 277	MONOPOLE	22	75
3846453	275657.4	mag 694	dipole	22	170
3833807	275671.2	mag 629	dipole	63	97
3846087	275680.4	mag 693	dipole	514	255
3833556	275737.9	mag 628	dipole	222	246
3845858	275813.9	mag 692	dipole	166	215
3835756	276004.7	mag 627	dipole	38	156
3835756	276004.7	mag 274	MONOPOLE	38	156
3831494	276022.9	mag 626	dipole	2	35
3830848	276274	mag 625	dipole	151	244
3831554	276318.3	mag 624	dipole	8	208
3834651	276361.5	mag 623	dipole	152	119
3834651	276361.5	mag 272	MONOPOLE	152	119
3834315	276454.9	mag 622	dipole	349	184
3834315	276454.9	mag 271	MONOPOLE	349	184
3834319	276469	mag 621	dipole	288	118
3834319	276469	mag 270	MONOPOLE	288	118
3834058	276506.3	mag 620	dipole	258	86
3834058	276506.3	mag 269	MONOPOLE	258	86
3834637	276518.4	mag 619	dipole	526	107
3834637	276518.4	mag 268	MONOPOLE	526	107
3830941	276522.2	mag 618	dipole	49	93
3830941	276522.2	mag 267	MONOPOLE	49	93
3834079	276552.5	mag 617	dipole	510	193
3834079	276552.5	mag 266	MONOPOLE	510	193
3830661	276580.1	mag 616	dipole	393	231
3830661	276580.1	mag 265	MONOPOLE	393	231
3830694	276620.6	mag 615	dipole	323	552
3848986	276621.7	mag 691	dipole	39	220
3848638	276641.3	mag 690	dipole	36	166
3848813	276732	mag 689	dipole	69	162
3837343	276732	mag 614	dipole	16	144
3830374	276761.2	mag 613	dipole	21	73
3830374	276761.2	mag 262	MONOPOLE	21	73
3830756	276832.6	mag 612	dipole	69	90
3830756	276832.6	mag 261	MONOPOLE	69	90
3846268	277045.1	mag 688	dipole	23	88
3831008	277103.5	mag 611	dipole	19	74
3831008	277107.1	mag 610	dipole	19	17
3846137	277112.2	mag 687	dipole	25	133

3846090	277232.2	mag 686	dipole	69	205
3831039	277293.5	mag 609	dipole	26	135
3844961	277301.4	mag 685	dipole	44	160
3831733	277311.5	mag 608	dipole	53	64
3831733	277311.5	mag 260	MONOPOLE	53	64
3831007	277398.7	mag 607	dipole	24	106
3844768	277429	mag 684	dipole	35	88
3831872	277430.7	mag 606	dipole	14	187
3831872	277430.7	mag 259	MONOPOLE	14	187
3844521	277642.1	mag 683	dipole	84	69
3831051	277677.9	mag 605	dipole	19	157
3844334	277707.4	mag 682	dipole	236	326
3831133	277750.8	mag 604	dipole	43	317
3831157	278062.6	mag 602	dipole	6	74
3831099	278062.6	mag 603	dipole	16	118
3831179	278154.1	mag 601	dipole	9	67
3831233	278452.7	mag 600	dipole	153	213
3831276	278636.3	mag 599	dipole	5	57
3831290	278739.9	mag 598	dipole	8	100
3831236	278800.9	mag 597	dipole	18	73
3831201	278936.7	mag 596	dipole	36	98
3831201	278936.7	mag 258	MONOPOLE	36	98
3831206	279051.5	mag 595	dipole	38	99
3831206	279051.5	mag 257	MONOPOLE	38	99
3831246	279054.7	mag 594	dipole	56	382
3831311	279091.5	mag 593	dipole	11	71
3831368	279194.9	mag 592	dipole	62	208
3831353	279285.3	mag 591	dipole	20	164
3831290	279347.3	mag 590	dipole	759	313
3831415	279376.6	mag 589	dipole	12	96
3831401	279593.7	mag 588	dipole	26	265
3831328	279600.2	mag 587	dipole	89	135
3831328	279600.2	mag 254	MONOPOLE	89	135
3831314	279607	mag 586	dipole	138	123
3831314	279607	mag 253	MONOPOLE	138	123
3831465	279618.4	mag 585	dipole	91	244
3831176	279709	mag 584	dipole	201	261
3831527	279948.5	mag 583	dipole	12	167
3832015	280026.7	mag 582	dipole	141	56
3831708	280027.4	mag 581	dipole	366	142
3831557	280029.4	mag 580	dipole	83	112
3831557	280029.4	mag 249	MONOPOLE	83	112
3831751	280030.2	mag 579	dipole	301	69
3831751	280030.2	mag 248	MONOPOLE	301	69
3831510	280060.8	mag 578	dipole	256	202
3831689	280097.1	mag 577	dipole	102	312
3831443	280118.6	mag 576	dipole	216	214

3831443	280118.6	mag 246	MONOPOLE	216	214
3831561	280120.3	mag 575	dipole	312	183
3831392	280147.9	mag 574	dipole	155	78
3831392	280147.9	mag 245	MONOPOLE	155	78
3831667	280174.5	mag 573	dipole	57	75
3831667	280174.5	mag 244	MONOPOLE	57	75
3831327	280176.9	mag 572	dipole	426	355
3831327	280176.9	mag 243	MONOPOLE	426	355
3831503	280199.6	mag 571	dipole	117	82
3831175	280227.3	mag 570	dipole	992	164
3831175	280227.3	mag 241	MONOPOLE	992	164
3832087	280248.7	mag 569	dipole	52	82
3831747	280315.5	mag 568	dipole	47	243
3831490	280393.1	mag 567	dipole	27	133
3831806	280586	mag 566	dipole	49	403
3831439	280688.7	mag 565	dipole	92	120
3831439	280688.7	mag 236	MONOPOLE	92	120
3831625	280743.7	mag 564	dipole	140	188
3831566	280825.1	mag 563	dipole	49	211
3831673	280867.3	mag 562	dipole	54	134
3831603	280994.8	mag 561	dipole	174	151
3831598	281060.1	mag 560	dipole	310	204
3831547	281064	mag 559	dipole	19	75
3831547	281064	mag 233	MONOPOLE	19	75
3831690	281120.6	mag 558	dipole	109	134
3831661	281259.3	mag 557	dipole	26	122
3831718	281342.6	mag 556	dipole	55	185
3831665	281550.7	mag 555	dipole	34	158
3831492	281597.8	mag 554	dipole	27	46
3831651	281647.1	mag 553	dipole	139	146
3831733	281705.3	mag 552	dipole	98	133
3831657	281780.2	mag 551	dipole	37	121
3831754	281869.2	mag 550	dipole	673	148
3831798	282227.9	mag 549	dipole	34	204
3831770	282364.5	mag 548	dipole	22	258
3831710	282411.1	mag 547	dipole	64	147
3831618	282415.3	mag 546	dipole	21	63
3831826	282449.4	mag 545	dipole	21	176
3832072	282533.7	mag 544	dipole	47	105
3831804	282664.9	mag 543	dipole	65	194
3832108	282694.1	mag 542	dipole	88	60
3832108	282694.1	mag 226	MONOPOLE	88	60
3831884	282725.2	mag 541	dipole	104	161
3832108	282825.5	mag 540	dipole	106	198
3832108	282825.5	mag 225	MONOPOLE	106	198
3831728	282859.4	mag 539	dipole	23	104
3831956	282960.7	mag 538	dipole	29	73

3832433	282994.3	mag 537	dipole	46	41
3831919	283083.6	mag 536	dipole	7	76
3831706	283099.6	mag 535	dipole	73	40
3832626	283126	mag 534	dipole	164	45
3832626	283126	mag 221	MONOPOLE	164	45
3831990	283144.1	mag 533	dipole	9	90
3831827	283198	mag 532	dipole	18	64
3831827	283198	mag 220	MONOPOLE	18	64
3832458	283210.1	mag 531	dipole	58	37
3832458	283210.1	mag 219	MONOPOLE	58	37
3832212	283317.8	mag 530	dipole	56	63
3832212	283317.8	mag 218	MONOPOLE	56	63
3832038	283411.3	mag 529	dipole	69	148
3832062	283688.1	mag 528	dipole	18	153
3832022	283744.1	mag 527	dipole	10	148
3831909	283894.8	mag 526	dipole	38	297
3832280	284048.1	mag 525	dipole	54	55
3831924	284179.7	mag 524	dipole	11	40
3831924	284179.7	mag 215	MONOPOLE	11	40
3831992	284326.5	mag 523	dipole	15	40
3831992	284326.5	mag 214	MONOPOLE	15	40
3832352	284449.7	mag 522	dipole	111	81
3832256	284562.7	mag 521	dipole	17	77
3832243	284861.4	mag 520	dipole	480	376
3832296	284864.7	mag 519	dipole	196	363
3832194	285031.4	mag 518	dipole	392	341
3832157	285129.6	mag 517	dipole	309	290
3832419	285443.2	mag 516	dipole	50	201
3832320	285459.5	mag 515	dipole	21	97
3832258	285599.9	mag 514	dipole	12	71
3832435	285704.2	mag 513	dipole	29	133
3832555	285995.6	mag 512	dipole	17	89
3832479	286019.6	mag 511	dipole	23	92
3832431	286094.5	mag 510	dipole	9	71
3832461	286096.4	mag 509	dipole	13	135
3832594	286170.6	mag 508	dipole	19	89
3832533	286420	mag 507	dipole	81	215
3832516	286447.7	mag 506	dipole	17	179
3832628	286463.9	mag 505	dipole	19	124
3832767	286711.2	mag 504	dipole	27	206
3832627	286882.6	mag 503	dipole	12	196
3832705	286911.1	mag 502	dipole	26	120
3832744	287181.8	mag 501	dipole	148	373
3832811	287246	mag 500	dipole	233	325
3832712	287261.3	mag 499	dipole	4821	496
3832628	287298.8	mag 498	dipole	1227	332
3832628	287298.8	mag 203	MONOPOLE	1227	332

3832700	287566	mag 497	dipole	17	130
3833091	287568.7	mag 496	dipole	25	61
3833091	287568.7	mag 201	MONOPOLE	25	61
3832898	287622.3	mag 495	dipole	100	194
3833151	287879.6	mag 494	dipole	24	101
3833240	287999.7	mag 493	dipole	21	31
3833240	287999.7	mag 199	MONOPOLE	21	31
3832935	288024.2	mag 492	dipole	10	64
3833545	288030.1	mag 491	dipole	59	141
3833545	288030.1	mag 198	MONOPOLE	59	141
3832872	288048.6	mag 490	dipole	8	58
3833442	288058	mag 489	dipole	27	58
3832771	288107.6	mag 488	dipole	20	53
3832771	288107.6	mag 196	MONOPOLE	20	53
3832657	288141.6	mag 487	dipole	25	40
3832657	288141.6	mag 195	MONOPOLE	25	40
3833018	288171.3	mag 486	dipole	37	75
3833018	288171.3	mag 194	MONOPOLE	37	75
3833396	288175.3	mag 485	dipole	23	32
3833396	288175.3	mag 193	MONOPOLE	23	32
3833337	288278.8	mag 484	dipole	61	182
3833019	288309.5	mag 483	dipole	33	147
3833135	288490.3	mag 482	dipole	5	109
3833052	288541	mag 481	dipole	55	119
3832995	288816.1	mag 480	dipole	21	54
3833246	288996.2	mag 478	dipole	5	129
3833192	288996.2	mag 479	dipole	34	153
3833093	289018.6	mag 477	dipole	6	36
3833140	289120.6	mag 476	dipole	17	72
3833257	289249.9	mag 475	dipole	34	105
3833229	289376.6	mag 474	dipole	24	163
3833357	290030.9	mag 473	dipole	11	64
3833217	290208.1	mag 472	dipole	60	176
3833369	290212.3	mag 471	dipole	9	73
3833386	290253.2	mag 470	dipole	25	143
3833363	290317	mag 469	dipole	14	192
3833411	290429.9	mag 468	dipole	21	69
3833251	290434.8	mag 467	dipole	13	65
3833317	290643	mag 466	dipole	10	82
3833301	290769.5	mag 465	dipole	11	86
3833273	291022.9	mag 464	dipole	10	72
3833395	291139.3	mag 463	dipole	41	100
3833325	291169.8	mag 462	dipole	409	131
3833248	291220.5	mag 461	dipole	44	155
3833401	291267.7	mag 460	dipole	29	111
3833333	291363.7	mag 459	dipole	126	106
3833257	291396	mag 458	dipole	16	81

3833375	291650.5	mag 457	dipole	264	125
3833298	291722.3	mag 456	dipole	48	163
3833489	291764.7	mag 455	dipole	45	155
3833332	291937	mag 454	dipole	13	176
3833460	292146.7	mag 453	dipole	252	169
3833493	292233.7	mag 452	dipole	139	110
3833389	292305.1	mag 451	dipole	63	228
3833513	292413.4	mag 450	dipole	13	91
3833566	292423.8	mag 449	dipole	13	94
3833436	292696.1	mag 448	dipole	17	98
3833592	292858.9	mag 447	dipole	97	180
3833609	292942.9	mag 446	dipole	216	453
3833638	293049.6	mag 445	dipole	129	224
3833617	293325.4	mag 444	dipole	32	155
3833684	293361.3	mag 443	dipole	6	84
3833741	293759.2	mag 442	dipole	414	324
3833543	293761.3	mag 441	dipole	267	369
3833770	293795.4	mag 440	dipole	180	323
3833709	293833	mag 439	dipole	311	330
3833726	293946.7	mag 438	dipole	92	61
3833594	293999.6	mag 437	dipole	71	145
3833809	294025.9	mag 436	dipole	49	147
3833746	294048.6	mag 435	dipole	29	100
3833684	294191.5	mag 434	dipole	63	129
3833713	294564	mag 433	dipole	31	97
3833788	294724.2	mag 432	dipole	40	140
3833757	294813.8	mag 431	dipole	32	100
3833824	294959.6	mag 430	dipole	199	23
3833610	295066.9	mag 429	dipole	45	77
3833610	295066.9	mag 172	MONOPOLE	45	77
3834107	295112.4	mag 428	dipole	450	368
3834146	295135.3	mag 427	dipole	1534	115
3834146	295135.3	mag 170	MONOPOLE	1534	115
3834042	295284.1	mag 426	dipole	441	148
3834042	295284.1	mag 169	MONOPOLE	441	148
3834063	295310.5	mag 425	dipole	151	26
3833370	295390.6	mag 424	dipole	45	118
3833938	295426.3	mag 423	dipole	1141	88
3833938	295426.3	mag 166	MONOPOLE	1141	88
3833888	295510	mag 422	dipole	767	387
3833836	295536.7	mag 421	dipole	593	347
3833893	295554.3	mag 420	dipole	571	186
3833849	295586.3	mag 419	dipole	764	393
3833651	295608.7	mag 418	dipole	58	63
3834430	295629.1	mag 417	dipole	165	42
3833773	295670	mag 416	dipole	257	144
3833753	295683.3	mag 415	dipole	200	270

3833753	295683.3	mag 160	MONOPOLE	200	270
3833763	295773	mag 414	dipole	47	125
3833902	295774.5	mag 413	dipole	30	56
3833696	295788.5	mag 412	dipole	2315	153
3833639	295865.7	mag 411	dipole	336	34
3833880	295868.6	mag 410	dipole	10	48
3833647	295882	mag 409	dipole	1027	134
3833941	295910.2	mag 408	dipole	132	128
3833621	295914.8	mag 407	dipole	2058	92
3834222	295950.2	mag 406	dipole	94	37
3833928	296091.9	mag 405	dipole	150	188
3833788	296127.9	mag 404	dipole	151	233
3833901	296166.1	mag 403	dipole	248	264
3833863	296465.2	mag 402	dipole	24	58
3833709	296568.1	mag 401	dipole	53	127
3833709	296568.1	mag 152	MONOPOLE	53	127
3833897	296626.7	mag 400	dipole	70	101
3833626	296677.3	mag 399	dipole	75	80
3833596	296726.9	mag 398	dipole	26	55
3833370	297078.1	mag 397	dipole	331	94
3833092	297396.6	mag 396	dipole	35	128
3833092	297396.6	mag 148	MONOPOLE	35	128
3833201	297419.5	mag 395	dipole	9	50
3833007	297530.6	mag 394	dipole	9	69
3833166	297532.7	mag 393	dipole	15	231
3832944	297597.3	mag 392	dipole	36	68
3832944	297597.3	mag 147	MONOPOLE	36	68
3833034	297614.3	mag 391	dipole	83	257
3832855	297652.7	mag 390	dipole	66	115
3832855	297652.7	mag 146	MONOPOLE	66	115
3832654	297851.3	mag 389	dipole	172	354
3832820	297957.5	mag 388	dipole	13	25
3832660	298162.4	mag 387	dipole	88	180
3832569	298187.9	mag 386	dipole	49	182
3832503	298453	mag 385	dipole	105	155
3832282	298500.4	mag 384	dipole	164	200
3832410	298519.5	mag 383	dipole	100	156
3832434	298665.7	mag 382	dipole	1081	324
3832416	298739.9	mag 381	dipole	703	254
3832240	298763.7	mag 380	dipole	327	252
3832405	298846.6	mag 379	dipole	14	65
3832232	298948.5	mag 378	dipole	51	220
3832380	298959.3	mag 377	dipole	17	82
3832346	299148.5	mag 376	dipole	52	106
3832309	299215.5	mag 375	dipole	32	122
3832170	299251.6	mag 374	dipole	4	54
3832317	299356.1	mag 373	dipole	39	143

3832268	299372.5	mag 372	dipole	11	67
3832283	299501.9	mag 371	dipole	220	143
3832125	299553.3	mag 370	dipole	30	87
3832263	299573.3	mag 369	dipole	133	153
3832255	299696.3	mag 368	dipole	120	77
3832269	299697.1	mag 367	dipole	46	78
3832235	299784	mag 366	dipole	48	57
3832043	300019.5	mag 365	dipole	14	130
3832169	300135.5	mag 364	dipole	43	154
3832191	300209.4	mag 363	dipole	24	157
3831969	300232.4	mag 362	dipole	298	204
3832100	300295.7	mag 361	dipole	19	58
3832078	300407.2	mag 360	dipole	22	79
3831897	300453.8	mag 359	dipole	71	62
3831897	300453.8	mag 138	MONOPOLE	71	62
3832094	300460.6	mag 358	dipole	19	136
3831863	300628.2	mag 357	dipole	677	237
3832034	300662.8	mag 356	dipole	297	118
3831977	300723.5	mag 355	dipole	223	251
3832008	300847.9	mag 354	dipole	55	218
3831875	301098.4	mag 353	dipole	10	51
3831875	301098.4	mag 136	MONOPOLE	10	51
3831844	301230.7	mag 352	dipole	20	66
3831822	301340	mag 351	dipole	112	152
3831933	301472.7	mag 350	dipole	9	218
3831897	301494	mag 349	dipole	50	121
3831771	301588.6	mag 348	dipole	11	140
3831771	301588.6	mag 133	MONOPOLE	11	140
3831771	301719.4	mag 347	dipole	10	34
3831726	302382.6	mag 346	dipole	183	145
3831619	302642	mag 345	dipole	248	229
3831722	302762.6	mag 344	dipole	99	212
3831783	302938.5	mag 343	dipole	125	122
3831740	303024.4	mag 342	dipole	806	166
3831602	303034.4	mag 341	dipole	292	150
3831576	303153.3	mag 340	dipole	23	98
3831576	303153.3	mag 129	MONOPOLE	23	98
3831719	303154.2	mag 339	dipole	885	120
3831575	303352.4	mag 338	dipole	6	38
3831800	303440.6	mag 337	dipole	16	57
3831877	303693	mag 336	dipole	4	50
3831844	303727.7	mag 335	dipole	12	154
3831902	303779.9	mag 334	dipole	16	82
3831911	303874	mag 333	dipole	30	73
3832018	303965.9	mag 332	dipole	9	95
3831853	304037.5	mag 331	dipole	19	72
3831853	304037.5	mag 128	MONOPOLE	19	72

3832037	304077	mag 330	dipole	25	82
3832244	304361.3	mag 329	dipole	81	139
3832215	304420	mag 328	dipole	12	153
3832123	304509.5	mag 327	dipole	279	207
3832290	304690.2	mag 326	dipole	11	45
3832290	304690.2	mag 126	MONOPOLE	11	45
3832673	305005.6	mag 325	dipole	218	325
3832500	305051.2	mag 324	dipole	948	310
3832610	305121.4	mag 323	dipole	326	381
3832752	305213.1	mag 322	dipole	324	159
3832581	305309	mag 321	dipole	152	148
3832743	305309.3	mag 320	dipole	487	85
3832731	305316.2	mag 319	dipole	330	116
3832812	305383.2	mag 318	dipole	323	258
3832710	305493.2	mag 317	dipole	53	224
3832710	305493.2	mag 123	MONOPOLE	53	224
3832869	305496.2	mag 316	dipole	108	154
3832880	305510.1	mag 315	dipole	100	258
3832871	305711.1	mag 314	dipole	17	86
3833243	305846.2	mag 313	dipole	25	54
3833362	306017	mag 312	dipole	19	64
3833454	306027	mag 311	dipole	177	111
3833457	306136	mag 310	dipole	137	180
3833454	306162	mag 309	dipole	110	128
3833345	306253.3	mag 308	dipole	234	155
3833688	306292	mag 306	dipole	10	58
3833579	306292	mag 307	dipole	81	76
3833639	306332.2	mag 305	dipole	28	65
3833625	306341.4	mag 304	dipole	16	59
3833534	306437.8	mag 303	dipole	10	39
3833797	306476	mag 302	dipole	18	76
3833923	306552	mag 301	dipole	17	64
3833720	306564	mag 300	dipole	70	61
3834149	306760.4	mag 299	dipole	31	40
3834128	306778.9	mag 298	dipole	27	91
3834371	306930.2	mag 297	dipole	121	106
3834434	306993.6	mag 296	dipole	111	85
3834421	307000.8	mag 295	dipole	111	102
3834533	307052.6	mag 294	dipole	25	50
3834522	307066.1	mag 293	dipole	36	58
3834457	307221.4	mag 292	dipole	19	69
3834457	307221.4	mag 118	MONOPOLE	19	69
3834603	307411.1	mag 291	dipole	170	342
3834801	307439.8	mag 290	dipole	112	113
3834800	307441.3	mag 289	dipole	106	106
3834827	307518.6	mag 288	dipole	10	32
3834679	307604.8	mag 287	dipole	18	41

3834909	307624.4	mag 286	dipole	8	140
3834870	307665.9	mag 285	dipole	17	134
3834879	307669.5	mag 284	dipole	15	126
3834995	307938.5	mag 283	dipole	281	133
3834817	307984.4	mag 282	dipole	31	79
3834987	308023	mag 280	dipole	18	125
3834968	308023	mag 281	dipole	37	125
3835033	308250.5	mag 278	dipole	30	59
3835032	308250.5	mag 279	dipole	14	57
3835352	308738.4	mag 277	dipole	191	119
3835015	308823.4	mag 276	dipole	14	81
3835015	308823.4	mag 113	MONOPOLE	14	81
3835191	308876.9	mag 275	dipole	14	62
3835064	308911.7	mag 274	dipole	26	82
3835010	308943	mag 273	dipole	61	140
3835127	308946.4	mag 272	dipole	156	146
3835128	308953.8	mag 271	dipole	58	171
3835391	309107.9	mag 270	dipole	40	63
3835044	309283.5	mag 269	dipole	129	144
3835017	309293.6	mag 268	dipole	3603	236
3835164	309318	mag 267	dipole	83	363
3835187	309322.7	mag 266	dipole	89	345
3835214	309364.8	mag 265	dipole	159	339
3835199	309708	mag 264	dipole	6	93
3835191	309712.2	mag 263	dipole	17	89
3835372	309924.9	mag 262	dipole	35	52
3835372	309924.9	mag 107	MONOPOLE	35	52
3835041	309991.8	mag 261	dipole	143	181
3835435	310036.2	mag 260	dipole	147	71
3835367	310083.4	mag 259	dipole	46	121
3835050	310194.7	mag 258	dipole	12	40
3835050	310194.7	mag 103	MONOPOLE	12	40
3835416	310225	mag 257	dipole	124	216
3835384	310233.9	mag 256	dipole	41	111
3835234	310467.9	mag 255	dipole	215	338
3835051	310500.7	mag 254	dipole	395	140
3835051	310500.7	mag 100	MONOPOLE	395	140
3835201	310547.7	mag 252	dipole	238	159
3835195	310547.7	mag 253	dipole	307	158
3835248	310681.5	mag 251	dipole	14	61
3835074	310883.2	mag 250	dipole	495	345
3835062	311052.3	mag 249	dipole	5	26
3835189	311113.1	mag 248	dipole	130	194
3835234	311115.6	mag 247	dipole	148	205
3835195	311118.1	mag 246	dipole	192	196
3835048	311145.8	mag 245	dipole	45	79
3835174	311252.2	mag 244	dipole	17	41

3835192	311262.1	mag 243	dipole	17	41
3835219	311327.3	mag 242	dipole	86	101
3835177	311410.4	mag 241	dipole	188	204
3835180	311418.2	mag 240	dipole	177	201
3835220	311433.7	mag 239	dipole	27	88
3834972	311676.7	mag 238	dipole	420	650
3835177	311725.5	mag 237	dipole	325	495
3834954	311778.7	mag 236	dipole	109	112
3835115	311788.3	mag 235	dipole	372	471
3835145	311880.2	mag 234	dipole	91	148
3834933	311966	mag 233	dipole	12	36
3835104	312007.4	mag 232	dipole	15	70
3835053	312319.5	mag 231	dipole	15	54
3834963	312499	mag 230	dipole	26	153
3835044	312503.7	mag 229	dipole	22	63
3834987	312506.1	mag 228	dipole	73	149
3835033	312564.8	mag 227	dipole	97	60
3834978	312627.4	mag 226	dipole	15	68
3834978	312779.1	mag 225	dipole	31	64
3834816	312931.2	mag 224	dipole	97	159
3834943	313047.6	mag 223	dipole	232	326
3834903	313076.5	mag 221	dipole	165	304
3834897	313076.5	mag 222	dipole	224	291
3834769	313145.8	mag 220	dipole	374	270
3834769	313145.8	mag 93	MONOPOLE	374	270
3834750	313397.9	mag 219	dipole	163	118
3834842	313430.1	mag 218	dipole	22	61
3834643	313712.5	mag 217	dipole	1091	337
3834926	313748.8	mag 216	dipole	314	254
3834799	313802.4	mag 215	dipole	364	378
3834715	313803.6	mag 214	dipole	731	227
3834717	313812.3	mag 213	dipole	170	285
3834897	314050.5	mag 212	dipole	33	28
3834897	314050.5	mag 89	MONOPOLE	33	28
3834856	314101.4	mag 211	dipole	90	61
3834856	314101.4	mag 88	MONOPOLE	90	61
3834677	314106.1	mag 210	dipole	34	27
3834851	314199	mag 209	dipole	69	233
3834652	314302.3	mag 208	dipole	67	153
3834542	314434.5	mag 207	dipole	35	66
3834450	314445.1	mag 206	dipole	6	56
3834763	314446.5	mag 205	dipole	23	40
3834763	314446.5	mag 86	MONOPOLE	23	40
3834834	314479.2	mag 204	dipole	92	120
3834834	314479.2	mag 85	MONOPOLE	92	120
3834752	314490.4	mag 203	dipole	18	42
3834752	314490.4	mag 84	MONOPOLE	18	42

3834522	314528.6	mag 202	dipole	25	23
3834742	314532	mag 201	dipole	24	51
3834742	314532	mag 83	MONOPOLE	24	51
3834558	314564.4	mag 200	dipole	22	61
3834498	314607.4	mag 199	dipole	23	26
3834727	314632.1	mag 198	dipole	42	172
3834335	314638.4	mag 197	dipole	39	79
3834335	314638.4	mag 81	MONOPOLE	39	79
3834445	314671.5	mag 196	dipole	9	67
3834456	314675.1	mag 195	dipole	24	43
3834478	314701.8	mag 194	dipole	16	67
3834256	314765.1	mag 193	dipole	30	50
3834353	314790.5	mag 192	dipole	74	274
3834434	314865.1	mag 191	dipole	14	122
3834202	314878.1	mag 190	dipole	8	61
3834413	314966	mag 189	dipole	39	83
3834311	314981.3	mag 188	dipole	20	53
3834369	315056.9	mag 187	dipole	12	56
3834072	315180.7	mag 186	dipole	10	64
3834197	315356.8	mag 185	dipole	46	65
3833948	315450.1	mag 184	dipole	28	45
3833948	315450.1	mag 77	MONOPOLE	28	45
3834158	315481.7	mag 183	dipole	8	42
3834128	315560.4	mag 182	dipole	6	35
3834056	315588.1	mag 181	dipole	182	265
3834047	315590.1	mag 180	dipole	105	265
3834088	315637.9	mag 179	dipole	7	41
3834051	315721.9	mag 178	dipole	7	45
3834007	315858.6	mag 177	dipole	21	65
3833953	315923.3	mag 176	dipole	18	47
3833988	315926	mag 175	dipole	12	49
3833727	316094.6	mag 174	dipole	14	59
3833929	316193.1	mag 172	dipole	36	165
3833877	316193.1	mag 173	dipole	45	165
3833884	316311	mag 171	dipole	977	268
3833799	316396.4	mag 170	dipole	24	137
3833802	316398.5	mag 169	dipole	34	126
3833615	316410.2	mag 168	dipole	12	55
3833833	316481	mag 167	dipole	57	152
3833748	316548.2	mag 166	dipole	14	52
3833573	316565.2	mag 165	dipole	467	233
3833724	316602.5	mag 164	dipole	10	45
3833783	316629.6	mag 163	dipole	10	45
3833690	316749.9	mag 162	dipole	22	69
3833695	316753.8	mag 161	dipole	35	81
3833470	316873.5	mag 160	dipole	17	131
3833637	316953.2	mag 158	dipole	44	78

3833632	316953.2	mag 159	dipole	97	78
3833590	317133.9	mag 157	dipole	10	40
3833584	317134	mag 156	dipole	11	51
3833607	317206.3	mag 155	dipole	116	88
3833557	317256.4	mag 154	dipole	48	99
3833553	317257	mag 153	dipole	79	99
3833542	317447.3	mag 152	dipole	20	52
3833529	317514.6	mag 151	dipole	111	72
3833447	317568	mag 150	dipole	427	157
3833473	317569.9	mag 149	dipole	208	158
3833503	317635.4	mag 148	dipole	19	78
3833290	317698.2	mag 147	dipole	81	77
3833420	317701.7	mag 146	dipole	89	74
3833438	317719	mag 145	dipole	168	76
3833275	317800	mag 144	dipole	190	76
3833422	317924.9	mag 143	dipole	34	76
3833394	318029.9	mag 142	dipole	15	74
3833173	318140.8	mag 141	dipole	116	222
3833138	318284.7	mag 140	dipole	13	51
3833138	318284.7	mag 68	MONOPOLE	13	51
3833281	318286.9	mag 139	dipole	19	64
3833262	318359.8	mag 138	dipole	32	89
3833294	318450.3	mag 137	dipole	150	116
3833209	318528.8	mag 136	dipole	89	153
3833157	318754	mag 135	dipole	16	76
3833214	318763.3	mag 134	dipole	7	33
3833135	318853.4	mag 133	dipole	29	126
3832996	318995.6	mag 132	dipole	21	141
3833028	319000.4	mag 131	dipole	218	59
3833098	319293	mag 130	dipole	13	49
3832917	319319.4	mag 129	dipole	7	36
3832994	319438.3	mag 128	dipole	71	74
3832946	319540.7	mag 127	dipole	50	81
3833013	319607.7	mag 126	dipole	29	70
3832659	319898.2	mag 125	dipole	10	32
3832659	319898.2	mag 65	MONOPOLE	10	32
3832771	319971.6	mag 124	dipole	71	151
3832744	320168.7	mag 123	dipole	21	71
3832726	320217	mag 122	dipole	10	66
3832776	320314.2	mag 121	dipole	23	64
3832588	320317.4	mag 120	dipole	7	31
3832671	320649.5	mag 119	dipole	14	39
3832667	320650.7	mag 118	dipole	25	43
3832692	320694.5	mag 117	dipole	10	45
3832656	320797.3	mag 116	dipole	18	32
3832656	320803.8	mag 115	dipole	11	32
3832658	320869.9	mag 114	dipole	39	107

3832477	320937.6	mag 113	dipole	112	109
3832606	320971.4	mag 112	dipole	18	83
3832448	321107.8	mag 111	dipole	10	36
3832447	321165.5	mag 110	dipole	11	30
3832447	321165.5	mag 62	MONOPOLE	11	30
3832446	321279.3	mag 109	dipole	11	45
3832446	321279.3	mag 61	MONOPOLE	11	45
3832462	321284.8	mag 108	dipole	49	27
3832462	321284.8	mag 60	MONOPOLE	49	27
3832576	321322.3	mag 107	dipole	862	169
3832567	321326.2	mag 106	dipole	943	169
3832422	321417.5	mag 105	dipole	29	47
3832422	321417.5	mag 59	MONOPOLE	29	47
3832589	321426.4	mag 104	dipole	849	131
3832400	321506.5	mag 103	dipole	14	37
3832400	321506.5	mag 58	MONOPOLE	14	37
3832376	321623.5	mag 102	dipole	16	39
3832376	321623.5	mag 57	MONOPOLE	16	39
3832357	321704.8	mag 101	dipole	22	36
3832357	321704.8	mag 56	MONOPOLE	22	36
3832497	322052.1	mag 100	dipole	342	295
3832417	322128.7	mag 99	dipole	2471	321
3832414	322130.3	mag 98	dipole	2433	174
3832467	322137.7	mag 97	dipole	1029	270
3832429	322401.4	mag 96	dipole	12000	656
3832360	322443	mag 95	dipole	18248	318
3832363	322444.4	mag 94	dipole	16631	353
3832357	322454.3	mag 93	dipole	18248	317
3832400	322483.4	mag 92	dipole	11000	585
3832403	322553.6	mag 91	dipole	81	85
3832403	322651.4	mag 90	dipole	76	96
3832286	322771.1	mag 89	dipole	32	60
3832286	322771.1	mag 51	MONOPOLE	32	60
3832255	322897.5	mag 88	dipole	11	112
3832318	323049.3	mag 87	dipole	110	76
3832270	323065.8	mag 86	dipole	23	49
3832259	323109.7	mag 85	dipole	18	38
3832303	323113	mag 84	dipole	12	43
3832172	323215.9	mag 83	dipole	50	64
3832172	323215.9	mag 49	MONOPOLE	50	64
3832297	323282	mag 82	dipole	22	175
3832143	323355.5	mag 81	dipole	7	26
3832293	323368.3	mag 80	dipole	35	179
3832126	323461.3	mag 79	dipole	12	29
3832071	323603.6	mag 78	dipole	22	78
3832071	323603.6	mag 47	MONOPOLE	22	78
3832180	323674	mag 77	dipole	72	94

3832030	323840.3	mag 76	dipole	99	125
3832026	323849.9	mag 75	dipole	119	53
3832026	323849.9	mag 45	MONOPOLE	119	53
3832024	323859.9	mag 74	dipole	136	14
3832020	323884.6	mag 73	dipole	82	27
3832020	323884.6	mag 44	MONOPOLE	82	27
3832192	323887.7	mag 72	dipole	1172	421
3832018	323898.7	mag 71	dipole	62	98
3832018	323898.7	mag 43	MONOPOLE	62	98
3832055	323955.7	mag 70	dipole	21	43
3831991	324109.9	mag 69	dipole	31	297
3831991	324109.9	mag 41	MONOPOLE	31	297
3832099	324265.4	mag 68	dipole	154	381
3831953	324365.7	mag 67	dipole	63	18
3831949	324394.1	mag 66	dipole	77	26
3831949	324394.1	mag 40	MONOPOLE	77	26
3832063	324395.9	mag 65	dipole	265	279
3831946	324408.7	mag 64	dipole	187	20
3831928	324416.4	mag 63	dipole	577	124
3831944	324421.4	mag 62	dipole	61	10
3831941	324434	mag 61	dipole	66	10
3831936	324455.7	mag 60	dipole	331	31
3831936	324455.7	mag 38	MONOPOLE	331	31
3831932	324470.9	mag 59	dipole	100	139
3831932	324470.9	mag 37	MONOPOLE	100	139
3831888	324621	mag 58	dipole	40	32
3831888	324621	mag 36	MONOPOLE	40	32
3832084	324643.6	mag 57	dipole	45	128
3831878	324648.2	mag 56	dipole	41	57
3831878	324648.2	mag 35	MONOPOLE	41	57
3831867	324695.3	mag 55	dipole	6	12
3831859	324717.1	mag 54	dipole	155	21
3831837	324781.4	mag 53	dipole	435	65
3831837	324781.4	mag 34	MONOPOLE	435	65
3831822	324791.2	mag 52	dipole	2626	89
3831834	324795.3	mag 51	dipole	1086	32
3831834	324795.3	mag 32	MONOPOLE	1086	32
3831829	324837.8	mag 50	dipole	149	138
3831829	324837.8	mag 31	MONOPOLE	149	138
3831955	324939.2	mag 49	dipole	186	135
3831812	324960.8	mag 48	dipole	37	13
3831809	324967.8	mag 47	dipole	52	14
3831734	325058.4	mag 46	dipole	2621	125
3831770	325130.6	mag 45	dipole	157	230
3831770	325130.6	mag 29	MONOPOLE	157	230
3831763	325203.1	mag 44	dipole	260	300
3831763	325203.1	mag 28	MONOPOLE	260	300

3831813	325209.8	mag 43	dipole	51	81
3831827	325340	mag 42	dipole	184	137
3831805	325483.6	mag 41	dipole	575	81
3831805	325483.6	mag 27	MONOPOLE	575	81
3831926	325506.3	mag 40	dipole	3850	1283
3831864	325562.2	mag 39	dipole	3467	255
3831864	325562.2	mag 26	MONOPOLE	3467	255
3832005	325668.9	mag 38	dipole	8440	450
3832001	325674.4	mag 37	dipole	7601	59
3832001	325674.4	mag 24	MONOPOLE	7601	59
3832088	325761.9	mag 36	dipole	3839	194
3832088	325761.9	mag 23	MONOPOLE	3839	194
3832229	325814.3	mag 35	dipole	876	114
3832344	326074.2	mag 34	dipole	489	277
3832344	326074.2	mag 22	MONOPOLE	489	277
3832446	326189.8	mag 33	dipole	588	186
3832446	326189.8	mag 21	MONOPOLE	588	186
3832448	326190.1	mag 32	dipole	589	98
3832448	326190.1	mag 20	MONOPOLE	589	98
3832475	326218.3	mag 31	dipole	163	90
3832475	326218.3	mag 19	MONOPOLE	163	90
3832541	326278.3	mag 30	dipole	78	20
3832559	326294.4	mag 29	dipole	47	29
3832559	326294.4	mag 18	MONOPOLE	47	29
3832580	326297.5	mag 28	dipole	524	53
3832597	326327.6	mag 27	dipole	127	100
3832597	326327.6	mag 16	MONOPOLE	127	100
3832695	326402.4	mag 26	dipole	558	96
3832695	326402.4	mag 15	MONOPOLE	558	96
3832694	326403	mag 25	dipole	572	74
3832694	326403	mag 14	MONOPOLE	572	74
3832724	326427.7	mag 24	dipole	41	12
3832755	326451.7	mag 23	dipole	910	66
3832755	326451.7	mag 13	MONOPOLE	910	66
3832754	326452.6	mag 22	dipole	930	50
3832754	326452.6	mag 12	MONOPOLE	930	50
3832781	326472.8	mag 21	dipole	237	116
3832781	326472.8	mag 11	MONOPOLE	237	116
3832875	326551.6	mag 20	dipole	103	52
3832875	326551.6	mag 10	MONOPOLE	103	52
3832900	326573.7	mag 19	dipole	17	22
3833002	326587.1	mag 18	dipole	668	179
3833001	326663	mag 17	dipole	513	174
3833001	326663	mag 9	MONOPOLE	513	174
3833047	326705	mag 16	dipole	98	22
3833120	326705.6	mag 15	dipole	1036	626
3833061	326719.8	mag 14	dipole	91	15

3833075	326734.9	mag 13	dipole	186	28
3833075	326734.9	mag 8	MONOPOLE	186	28
3833179	326751.4	mag 12	dipole	536	192
3833093	326754.5	mag 11	dipole	334	29
3833093	326754.5	mag 7	MONOPOLE	334	29
3833123	326784.1	mag 10	dipole	381	41
3833123	326784.1	mag 6	MONOPOLE	381	41
3833134	326795.8	mag 9	dipole	87	4
3833140	326801.8	mag 8	dipole	173	15
3833148	326809.8	mag 7	dipole	146	10
3833284	326936.7	mag 6	dipole	307	212
3833284	326936.7	mag 5	MONOPOLE	307	212
3833318	326966.5	mag 5	dipole	201	88
3833318	326966.5	mag 4	MONOPOLE	201	88
3833386	327018.8	mag 4	dipole	121	29
3833386	327018.8	mag 3	MONOPOLE	121	29
3833439	327048.3	mag 3	dipole	622	53
3833439	327048.3	mag 2	MONOPOLE	622	53
3833467	327057.1	mag 2	dipole	2057	19
3833447	327060	mag 1	dipole	3237	126

ANNEX G3

ANOMALY FIELD VERIFICATION RESULTS

	B	C	D	E	F	G
1	Name	Northing	Easting	Elevation	Feature Code	
2	1	302064.704	3842736.232	76.864	ba-40-sm02	
3		302243.275	3842469.519	76.181	071408jb2	
4	101	302243.307	3842469.483	76.363	51	
5	102	302243.299	3842469.47	76.335	check	
6	103	302243.26	3842469.487	76.364	check	
7	104	313789.86	3834984.596	78.58	p/l 9.0 h20 10.2 cov	
8	105	313709.757	3834644.564	78.584	p/l 6.7 h20 8.9 cov	
9	106	316607.612	3833896.903	75.936	shell p/l 5.0 h20 6.0 cov	
10	107	316611.606	3833891.06	76.041	top of h20	
11	108	311902.271	3835370.251	76.267	top of h20	
12	109	311646.328	3834919.39	76.023	top of h20	
13	110	311648.385	3834921.359	76.391	top of h20	
14	111	311648.016	3834920.767	76.538	p/l no hit	
15	112	311788.49	3835371.567	76.458	p/l no hit	
16	113	310534.73	3835552.268	75.889	p/l 5.0 h20 6.0 cov	
17	114	310485.868	3834961.372	75.74	p/l 3.5 h20 7.0 cov	
18	116	310491.772	3834964.317	76.393	top h20	
19	117	306373.181	3833246.888	75.864	p/l 4.5 h20 6.5 cov	
20	118	306372.598	3833247.239	77.086	top of h20	
21	119	306079.316	3833490.166	75.099	p/l 5.5 h2o 6.5 cov	
22	121	306142.647	3833351.741	76.452	top of h20	
23	122	316558.923	3833515.592	75.588	p/l 7.0 h20 6.4 cov	
24	123	316605.356	3833898.569	75.972	p/l 5.0 h20 6.0 cov	
25	124	313785.988	3834980.249	76.021	p/l 5.5 h20 2.0 cov	
26	125	313715.676	3834647.134	76.173	unknown 5	
27	126	313203.525	3834685.88	76.006	p/l 5.0 h20 13.0 cov	
28	127	312885.557	3835160.022	75.908	p/l 7.5 h20 12.0 cov	
29	128	311790.126	3835370.793	75.959	unknown 4 no hit plains p/l	
30	129	311648.798	3834923.683	76.064	unknown 4 no hit plains p/l	
31	130	310536.905	3835554.224	76.045	unknown 3 5.5 h20 6.0 cov exxon mobil	
32	131	310487.455	3834961.822	76.131	unknown 3 4.0 h20 7.0 cov exxon mobil	
33	132	309416.069	3835196.897	76.204	top of h20	
34	1	302064.704	3842736.232	76.864	ba-40-sm02	
35	51	302243.275	3842469.519	76.181	check	
36	102	305082.621	3832408.881	75.72	l 4.5h2o 8.5cov	
37	103	304941.782	3832753.423	75.438	l 4.5h2o 9.5cov	
38	105	302865.489	3831436.628	79.05	p/l 4h2o 4cov	
39	106	296068.485	3833511.545	75.328	tennessee gas p/l 4h2o 12cov	
40	108	295171.457	3834130.92	77.878	tennessee p/l no hit	
41	109	298786.129	3832270.742	78.109	texas eastern p/l no hit	
42	110	298651.206	3832607.502	77.961	texas eastern p/l no hit	
43	10	279249.026	3832008.76	78.432	probe 33	
44	11	279335.248	3831824.342	78.433	probe 34	

	B	C	D	E	F	G
45	12	298681.275	3833543.682	78.811	probe 23	
46	5	298784.451	3832266.101	1.115	g/l no hit	
47	6	298606.106	3832704.501	1.42	g/l no hit	
48	13	295910.163	3833940.464	78.755	probe 24	
49	7	296178.267	3833421.722	1.04	4.5 h20 10.5 cover TEnn. GAs	
50	8	294922.075	3834306.486	2.66	4.5 H20 12.0 COver TEnn. GAs	
51	14	298482.301	3832546.688	78.807	Phobe 26	
52	100	296446.875	3833639.208	3.159	g/l no hit	
53	101	296866.697	3834200.203	2.664	g/l sign no signal	
54	102	296453.38	3833579.272	4.846	g/l sign	
55	15	297171.45	3832396.481	78.78	probe 27	
56	16	298680.287	3832478.263	78.811	probe 29	
57	17	298713.024	3832364.875	78.812	probe 30	
58	18	288490.285	3833135.854	85.171	probe 54	
59	103	287032.211	3833171.277	1.346	unknown g/l 7.5 h2o 12.5 cov	
60	104	287364.02	3832503.532	3.612	unknown g/l 6.5 h2o 14.0 cov	
61	108	285143.013	3832759.082	1.418	anomaly	
62	109	285190.96	3832146.845	1.334	anomaly	
63	10	316597.758	3833840.29	0.448	no hit	
64	11	316548.292	3833511.218	3.848	no hit	
65	12	313693.842	3834608.835	3.728	no hit	
66	13	313802.437	3834985.39	3.317	no hit	
67	14	312854.763	3835182.95	3.11	no hit	
68	15	313203.086	3834685.841	3.611	unknown g/l 4.5 h2o 12.0 cov	
69	16	311686.349	3834898.904	4.634	plains g/l no hit	
70	17	311788.597	3835370.453	4.48	plains g/l no hit	
71	18	311373.298	3835454.342	2.506	mo em g/l no hit	
72	19	310884.553	3835083.535	3.599	mo em g/l no hit	
73	20	310486.882	3834962.785	5.385	exxon mobile g/l 4 h2o 7 cov	
74	21	310534.313	3835553.986	3.791	exxon mobile g/l 5 h2o 8.5 cov	
75	10	279962.956	3831871.29	1.766	PL_EX No Hit	
76	11	283278.815	3832451.035	2.659	PL_EX No Hit	
77	12	283160.286	3831612.833	2.737	PL_EX No Hit	
78	13	284368.104	3832540.735	1.351	PL_EX No Hit	
79	14	285131.732	3832165.807	1.798	PL_EX No Hit	
80	15	287034.112	3833158.178	3.816	PL_EX No Hit	
81	16	287377.149	3832486.533	2.714	PL_EX No Hit	
82	10	279962.956	3831871.29	1.766	PL_EX No Hit	
83	11	283278.815	3832451.035	2.659	PL_EX No Hit	
84	12	283160.286	3831612.833	2.737	PL_EX No Hit	
85	13	284368.104	3832540.735	1.351	PL_EX No Hit	
86	14	285131.732	3832165.807	1.798	PL_EX No Hit	
87	15	287034.112	3833158.178	3.816	PL_EX No Hit	
88	16	287377.149	3832486.533	2.714	PL_EX No Hit	
89	10	279962.956	3831871.29	1.766	PL_EX No Hit	
90	11	283278.815	3832451.035	2.659	PL_EX No Hit	

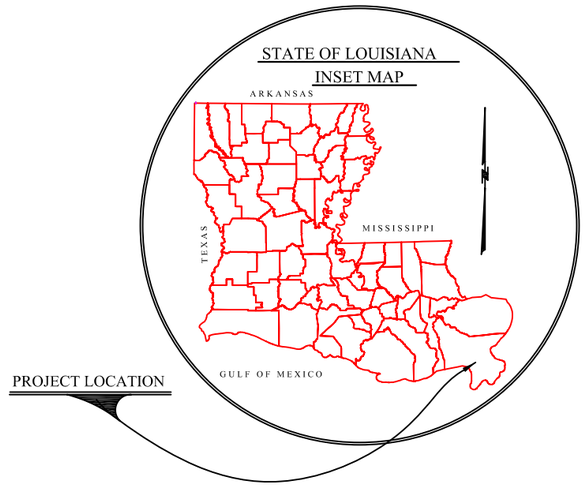
	B	C	D	E	F	G
91	12	283160.286	3831612.833	2.737	PL_EX No Hit	
92	13	284368.104	3832540.735	1.351	PL_EX No Hit	
93	14	285131.732	3832165.807	1.798	PL_EX No Hit	
94	15	287034.112	3833158.178	3.816	PL_EX No Hit	
95	16	287377.149	3832486.533	2.714	PL_EX No Hit	
96	10	279962.956	3831871.29	1.766	PL_EX No Hit	
97	11	283278.815	3832451.035	2.659	PL_EX No Hit	
98	12	283160.286	3831612.833	2.737	PL_EX No Hit	
99	13	284368.104	3832540.735	1.351	PL_EX No Hit	
100	14	285131.732	3832165.807	1.798	PL_EX No Hit	
101	15	287034.112	3833158.178	3.816	PL_EX No Hit	
102	16	287377.149	3832486.533	2.714	PL_EX No Hit	
103	10	306348.325	3833267.83	-0.038	unknown p/l 3.5 h2o 9 cov	
104	11	306060.75	3833479.175	1.512	Unknown P/l no Hit	
105	12	305407.072	3833144.541	0.931	CHEVRON P/l 4 H2o 9.5 COV	
106	13	305554.177	3832617.368	1.756	CHEVRON P/l 4 H2o 9.0 COV	
107	14	305234.786	3832861.761	0.801	POSSIBLE P/L NO HIT	
108	15	305295.822	3832644.588	1.953	POSSIBLE P/L NO HIT	
109	16	305152.574	3832585.366	0.767	CHEVRON P/L 6 H2O 12 COV	
110	17	305095.325	3832806.285	0.821	CHEVRON P/L 5 H2O 12.5 COV	
111	18	305039.017	3832525.841	1.601	UNKNOWN P/L NO HIT	
112	19	305085.595	3832406.795	1.949	UNKNOWN P/L 4 H2O 8.5 COV	
113	20	300557.46	3831823.711	2.688	ANOMOLY	
114	21	300728.224	3831801.352	2.619	ANOMOLY	
115	22	298595.638	3832713.993	3.138	TEXAS EASTERN P/L NO HIT	
116	23	298782.396	3832270.253	2.63	TEXAS EASTERN P/L NO HIT	
117	24	298237.854	3832798.901	3.043	ANOMOLY	
118	25	297530.887	3832668.09	2.611	ANOMOLY	
119	26	297602.157	3832767.996	2.534	ANOMOLY	
120	34	277696.827	3844327.36	-0.192	S.I. 1 NO HIT	
121	35	277294.614	3844691.318	-0.299	S.I. 2 NO HIT	
122	36	274149.724	3850792.937	-0.115	S.I. 9 NO HIT	
123	38	274530.038	3850502.851	-0.017	S.I. 8 NO HIT	
124	24	272745.829	3855082.113	1.084	S.I. 11 NO HIT	
125	25	272867.82	3854726.641	1.404	S.I. 10 NO HIT	
126	26	274529.381	3850502.566	1.225	S.I. 8 NO HIT	
127	27	274148.46	3850794.109	0.172	S.I. 9 NO HIT	
128	39	274439.003	3849178.563	2.108	p/l 1.2 h20 18.2 cov	
129	40	274438.541	3849178.846	-0.057	p/l 1.2 h20 18.2 cov	
130	41	274463.088	3849156.666	0.22	top h20	
131	42	274474.933	3849038.905	0.042	p/l 1.5 h20 17.6 cov	
132	43	274964.044	3849141.501	0.115	s.i. 7 no hit	
133	48	279648.233	3831247.245	1.982	p/l no hit	
134	49	279308.274	3831225.113	2.141	p/l no hit	
135	50	279113.122	3831418.09	1.924	p/l no hit	
136	51	279261.759	3831438.335	2.07	p/l no hit	

	B	C	D	E	F	G
137	52	279559.303	3831454.599	1.999	p/l no hit	
138	53	296138.637	3833449.293	-0.049	tennesse p/l 4.0 h20 9.0 cov	
139	54	295826.24	3833669.74	0.073	p/l no hit	
140	55	295827.811	3833668.228	0.199	top h2o	
141	56	294935.319	3834294.656	0.034	pl 4.0 h2o 11.0 cover	
142	57	296569.444	3833707.599	2.148	p/l no hit	
143	58	296615.574	3833818.473	1.049	p/l no hit	
144	59	316551.623	3833523.508	0.577	p/l no hit	

STATE OF LOUISIANA
DEPARTMENT OF NATURAL RESOURCES

RIVERINE SAND MINING/ SCOFIELD ISLAND RESTORATION
STATE PROJECT NO. BA-40
PLAQUEMINES PARISH

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT



INDEX TO SHEETS

LEGEND

- BOTTOM ELEVATION < 6 FEET NAVD88
- BOTTOM ELEVATION 6 - 10 FEET NAVD88
- BOTTOM ELEVATION > 10 FEET NAVD88
- mag 350 11g / 100ft — MAGNETIC ANOMALY NUMBER GAMMA / DURATION
- ACTUAL PROBE LOCATION
- PROPOSED PUMP STATION LOCATION
- ALTERNATE PROPOSED PUMP STATION LOCATION
- CLEARANCE AREA FOR CHANNEL CROSSING
- PL — PIPELINE BASED ON HISTORICALLY CHARTED LOCATION
- NAVIGATION CROSSING
- SHEET 2 / SHEET 3 — SHEET MATCHLINE
- A' — A — BOTTOM ELEVATION PROFILE ALIGNMENT
- 50+00 — CONVEYANCE CORRIDOR SURVEY BASELINE

GENERAL NOTES:

1. ALL SURVEY DATA CONTAINED WITHIN WAS ACQUIRED BY C. H. FENSTERMAKER & ASSOCIATES, INC. NOVEMBER 2007 TO JULY 2008.

2. THE SURVEY CONTROL NETWORK USED WAS PROVIDED BY SJB GROUP, LLC. ALL HORIZONTAL POSITIONS ARE REFERENCED TO HORIZONTAL DATUM NAD 83, STATE PLANE, LOUISIANA SOUTH ZONE, U.S. SURVEY FEET. ALL VERTICAL ELEVATIONS ARE VERTICAL DATUM NAVD88, GEOID 03/05, U.S. SURVEY FEET.

3. INFORMATION SHOWN HEREON REFLECTS CONDITIONS AS THEY EXISTED ON THE SURVEY DATE SHOWN AND CAN ONLY BE CONSIDERED INDICATIVE OF CONDITIONS AT THAT TIME.

4. AERIAL IMAGERY FROM NOVEMBER 2007, U.S. DEPARTMENT OF AGRICULTURE.

5. PIPELINE DATABASE INFORMATION FOR HISTORICALLY KNOWN PIPELINES WAS RETRIEVED FROM THE WHITESTAR , DNR, PLAQUEMINES PARISH AND FENSTERMAKER DATABASES. ONLY THE FENSTERMAKER DATABASE IS VERIFIED BY FENSTERMAKER TO CONTAIN VALID AS-BUILT PIPELINE INFORMATION. PIPELINES MAY EXIST THAT ARE NOT DEPICTED ON ANY OF THE DATABASES, AND MANY MAY NOT HAVE BEEN DETECTED BY THE MAGNETOMETER.

C. H. FENSTERMAKER & ASSOCIATES, INC.

DATE: JANUARY 2010 | F.B. | PG.
DRAWN: | F.B. | PG.
CHECKED: | F.B. | PG.
SCALE: AS SHOWN | F.B. | PG.
SEC. 1, T19S-R28E | F.B. | PG.
ACAD NO. 31179.0 TASK 903 | REF. NO. | BA-40

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA-40)

COASTAL ENGINEERING CONSULTANTS INC.
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SJB GROUP, LLC
QUALITY BY DESIGN
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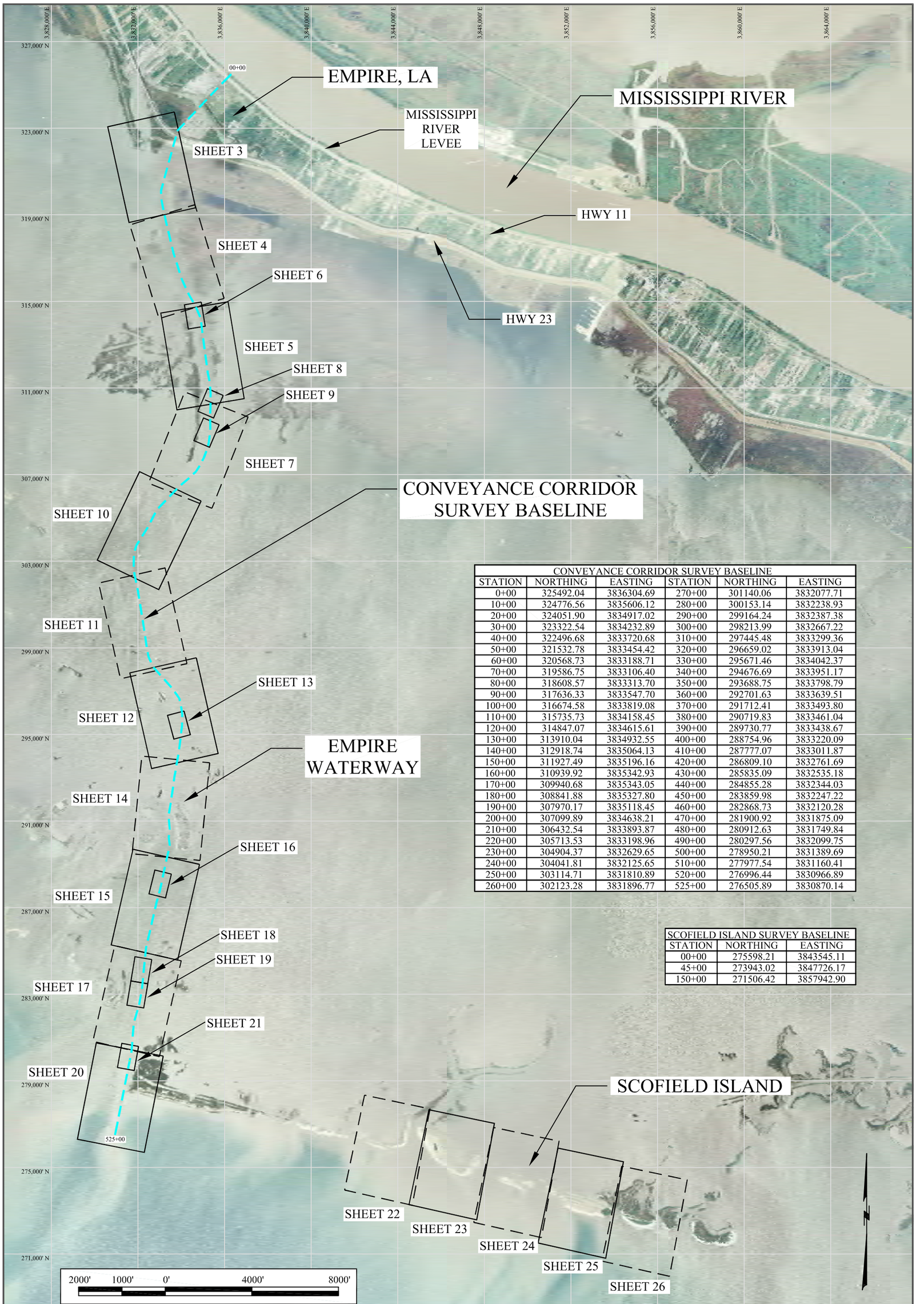
PHONE (225) 769-3400
FAX (225) 769-3596

SHEET 1 OF 32
FILE NO.: 31179.0 TASK 903



CONVEYANCE CORRIDOR SURVEY BASELINE

STATION	NORTHING	EASTING	STATION	NORTHING	EASTING
0+00	325492.04	3836304.69	270+00	301140.06	3832077.71
10+00	324776.56	3835606.12	280+00	300153.14	3832238.93
20+00	324051.90	3834917.02	290+00	299164.24	3832387.38
30+00	323322.54	3834232.89	300+00	298213.99	3832667.22
40+00	322496.68	3833720.68	310+00	297445.48	3833299.36
50+00	321532.78	3833454.42	320+00	296659.02	3833913.04
60+00	320568.73	3833188.71	330+00	295671.46	3834042.37
70+00	319586.75	3833106.40	340+00	294676.69	3833951.17
80+00	318608.57	3833313.70	350+00	293688.75	3833798.79
90+00	317636.33	3833547.70	360+00	292701.63	3833639.51
100+00	316674.58	3833819.08	370+00	291712.41	3833493.80
110+00	315735.73	3834158.45	380+00	290719.83	3833461.04
120+00	314847.07	3834615.61	390+00	289730.77	3833438.67
130+00	313910.04	3834932.55	400+00	288754.96	3833220.09
140+00	312918.74	3835064.13	410+00	287777.07	3833011.87
150+00	311927.49	3835196.16	420+00	286809.10	3832761.69
160+00	310939.92	3835342.93	430+00	285835.09	3832535.18
170+00	309940.68	3835343.05	440+00	284855.28	3832344.03
180+00	308841.88	3835327.80	450+00	283859.98	3832247.22
190+00	307970.17	3835118.45	460+00	282868.73	3832120.28
200+00	307099.89	3834638.21	470+00	281900.92	3831875.09
210+00	306432.54	3833893.87	480+00	280912.63	3831749.84
220+00	305713.53	3833198.96	490+00	280297.56	3832099.75
230+00	304904.37	3832629.65	500+00	278950.21	3831389.69
240+00	304041.81	3832125.65	510+00	277977.54	3831160.41
250+00	303114.71	3831810.89	520+00	276996.44	3830966.89
260+00	302123.28	3831896.77	525+00	276505.89	3830870.14

SCOFIELD ISLAND SURVEY BASELINE

STATION	NORTHING	EASTING
00+00	275598.21	3843545.11
45+00	273943.02	3847726.17
150+00	271506.42	3857942.90

SHEET 2 OF 32
FILE NO.: 31178.0 TASK 903

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NAPLES, FLORIDA 34104

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA-40)

DATE: JANUARY 2010	F.B.	PG.
DRAWN:	F.B.	PG.
CHECKED:	F.B.	PG.
SCALE: 1"=300'	F.B.	PG.
SEC. 1, T19S-R28E	F.B.	PG.
ACAD NO. 2069965.00C	REF. NO.	BA-40

LEGEND:

- 30+00 — CONVEYANCE CORRIDOR SURVEY BASELINE
- PL — PIPELINE
- BOTTOM ELEVATION ABOVE -6 FT NAVD88
- BOTTOM ELEVATION -6 TO -10 FT NAVD88
- BOTTOM ELEVATION BELOW -10 FT NAVD88
- MAGNETOMETER ANOMALY

GULF SOUTH PIPELINE

HWY 23

40+00

45+00

50+00

55+00

60+00

65+00

70+00

75+00

3,834,000' E

321,000' N

323,000' N

3,831,000' E

ROCK BREAKWATER

EMPIRE LOCKS

SECONDARY BOOSTER PUMP SITE #1

TENNESSEE GAS PIPELINE

MATCHLINE SHEET 4

mag 82 175g/22ft
mag 83 64g/50ft
mag 84 43g/12ft
mag 85 38g/18ft
mag 86 49g/23ft
mag 87 76g/110ft
mag 88 112g/11ft
mag 89 60g/32ft
mag 90 96g/76ft
mag 91 85g/81ft
mag 92 585g/11000ft
mag 93 317g/18248ft
mag 94 353g/16631ft
mag 95 318g/18248ft
mag 96 656g/12000ft
mag 97 270g/1029ft
mag 98 174g/2433ft
mag 99 321g/2471ft
mag 100 295g/342ft
mag 101 36g/22ft
mag 102 39g/16ft
mag 103 37g/14ft
mag 104 131g/849ft
mag 105 47g/29ft
mag 106 169g/943ft
mag 107 169g/862ft
mag 108 27g/49ft
mag 109 45g/11ft
mag 110 30g/11ft
mag 111 36g/10ft
mag 112 83g/18ft
mag 113 109g/112ft
mag 114 107g/39ft
mag 115 32g/11ft
mag 116 32g/18ft
mag 117 45g/10ft
mag 118 43g/25ft
mag 119 39g/14ft
mag 120 31g/7ft
mag 121 64g/23ft
mag 122 66g/10ft
mag 123 71g/21ft
mag 125 32g/10ft
mag 126 70g/29ft
mag 127 81g/50ft
mag 128 74g/71ft
mag 129 36g/7ft
mag 130 49g/13ft
mag 131 59g/218ft
mag 132 141g/21ft

300' 150' 0' 300' 600'

C.H. FENSTERMAKER & ASSOCIATES, INC.

DATE: JANUARY 2010	F.B.	PG.	SCALE: 1"=300'	F.B.	PG.
DRAWN:	F.B.	PG.	SEC. 1, T19S–R28E	F.B.	PG.
CHECKED:	F.B.	PG.	ACAD NO. 2089965.00C	REF. NO.	BA–40

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA–40)

COASTAL ENGINEERING CONSULTANTS INC.
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STB GROUP, LLC
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SHEET 3 OF 32
FILE NO.: 31179.0 TASK 903

LEGEND:

30+00 — CONVEYANCE CORRIDOR SURVEY BASELINE

PL — PIPELINE

BOTTOM ELEVATION ABOVE -6 FT NAVD88

BOTTOM ELEVATION -6 TO -10 FT NAVD88

BOTTOM ELEVATION BELOW -10 FT NAVD88

MAGNETOMETER ANOMALY

MATCHLINE SHEET 3

SECONDARY BOOSTER PUMP SITE #2

NAVIGATION CROSSING

GULF SOUTH PIPELINE

PIPELINE DETAILS UNDETERMINED

316,000' N

3,835,000' E

318,000' N

3,832,000' E

80+00 85+00 90+00 95+00 100+00 105+00 110+00 115+00 120+00

mag 133 126g/29ft
mag 134 33g/7ft
mag 135 76g/16ft
mag 136 153g/89ft
mag 137 116g/150ft
mag 138 89g/32ft
mag 139 64g/19ft
mag 140 51g/13ft
mag 141 222g/116ft
mag 142 74g/15ft
mag 143 76g/34ft
mag 144 76g/190ft
mag 145 76g/168ft
mag 146 74g/89ft
mag 147 77g/81ft
mag 148 78g/19ft
mag 149 158g/208ft
mag 150 157g/427ft
mag 151 72g/111ft
mag 152 52g/20ft
mag 153 99g/79ft
mag 154 99g/48ft
mag 155 88g/116ft
mag 156 51g/11ft
mag 157 40g/10ft
mag 158 78g/44ft
mag 159 78g/97ft
mag 160 131g/17ft
mag 161 81g/35ft
mag 162 69g/22ft
mag 163 45g/10ft
mag 164 45g/10ft
mag 165 233g/467ft
mag 166 52g/14ft
mag 167 152g/57ft
mag 168 55g/12ft
mag 169 126g/34ft
mag 170 137g/24ft
mag 171 268g/977ft
mag 172 165g/36ft
mag 173 165g/45ft
mag 174 59g/14ft
mag 175 49g/12ft
mag 176 47g/18ft
mag 177 65g/21ft
mag 178 45g/7ft
mag 179 41g/7ft
mag 180 265g/105ft
mag 181 265g/182ft
mag 182 35g/6ft
mag 183 42g/8ft
mag 184 45g/28ft
mag 185 65g/46ft
mag 186 64g/10ft
mag 187 56g/12ft
mag 188 53g/20ft
mag 189 83g/39ft
mag 190 61g/8ft
mag 191 122g/14ft
mag 192 274g/74ft
mag 193 50g/30ft

X = 3834478.38
Y = 314701.79
Debris

MATCHLINE SHEET 5

300' 150' 0' 300' 600'

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA-40)

DATE: JANUARY 2010 F.B. PG.
DRAWN: F.B. PG.
CHECKED: F.B. PG.
SCALE: 1"=300' F.B. PG.
SEC. 1, T19S-R28E F.B. PG.
ACAD NO. 2069965.00C REF. NO. BA-40

C. H. FENSTERMAKER & ASSOCIATES, INC.

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SHEET 4 OF 32
FILE NO.: 31179.0 TASK 903

LEGEND:

55+00 CONVEYANCE CORRIDOR SURVEY BASELINE

PL PIPELINE

BOTTOM ELEVATION ABOVE -6 FT NAVD88

BOTTOM ELEVATION -6 TO -10 FT NAVD88

BOTTOM ELEVATION BELOW -10 FT NAVD88

SONAR POINTS OF INTEREST

MAGNETOMETER ANOMALY

MATCHLINE SHEET 4

MATCHLINE SHEET 7

3,836,000' E

3,834,000' E

314,000' N

312,000' N

NAVIGATION CROSSING

SEE SHEET 6

SECONDARY BOOSTER PUMP SITE #3

CHEVRON TEXECO PIPELINE 2EA.

EXXON MOBIL PIPELINE 2EA.

LOUISIANA INTERSTATE GAS

BP OIL PIPELINE

EXXON MOBIL PIPELINE 4EA.

UNITED GAS PIELINE

KOCH GATEWAY PIPELINE

GULF SOUTH PIPELINE

PIPELINE DETAILS UNDETERMINED

X = 3834557.58
Y = 314564.41
Debris

X = 3834652.33
Y = 314302.25
Debris

X = 3835553.99
Y = 310534.31
8.5ft-cov

X = 3835276.74
Y = 310323.89
Pipeline

X = 3835140.62
Y = 310324.23
Pipeline

125+00 130+00 135+00 140+00 145+00 150+00 155+00 160+00

mag 213 285g/470ft
mag 214 227g/731ft
mag 215 378g/364ft
mag 216 254g/314ft
mag 217 337g/1091ft
mag 218 61g/22ft
mag 219 118g/163ft
mag 220 270g/374ft
mag 221 304g/165ft
mag 222 291g/224ft
mag 223 326g/232ft
mag 224 159g/97ft
mag 225 64g/31ft
mag 226 68g/15ft
mag 227 60g/97ft
mag 228 149g/73ft
mag 229 63g/22ft
mag 230 153g/26ft
mag 231 54g/15ft
mag 232 70g/15ft
mag 233 36g/12ft
mag 234 148g/91ft
mag 235 471g/372ft
mag 236 112g/109ft
mag 237 495g/325ft
mag 238 650g/420ft
mag 239 88g/27ft
mag 240 201g/177ft
mag 241 204g/188ft
mag 242 101g/86ft
mag 243 41g/17ft
mag 244 41g/17ft
mag 245 79g/45ft
mag 246 196g/192ft
mag 247 205g/148ft
mag 248 194g/130ft
mag 249 26g/5ft
mag 250 345g/495ft

300' 150' 0' 300' 600'

C.H. FENSTERMAKER & ASSOCIATES, INC.

DATE: JANUARY 2010	F.B.	PG.	
DRAWN:	F.B.	PG.	
CHECKED:	F.B.	PG.	
SCALE: 1"=300'	F.B.	PG.	
SEC. 1, T19S-R28E	F.B.	PG.	
ACAD NO. 2069965.00C	REF. NO.	BA-40	

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA-40)

COASTAL ENGINEERING CONSULTANTS INC.
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PHONE (225) 769-3400
FAX (225) 769-3596

NAVIGATION CROSSING

A'
B'
D'
C'
D
C
A
B

120+00
125+00
130+00

-8
-10
-6

mag 215
378g/364ft

mag 213
285g/170ft

mag 187
56g/12ft

mag 188

LEGEND:

30+00 CONVEYANCE CORRIDOR SURVEY BASELINE

PL PIPELINE

BOTTOM ELEVATION ABOVE -6 FT NAVD88

BOTTOM ELEVATION -6 TO -10 FT NAVD88

BOTTOM ELEVATION BELOW -10 FT NAVD88

MAGNETOMETER ANOMALY

100' 50' 0' 100' 200'

C.H. FENSTERMAKER & ASSOCIATES, INC.

DATE: JANUARY 2010	F.B.	PG.
DRAWN:	F.B.	PG.
CHECKED:	F.B.	PG.
SCALE: 1"=300'	F.B.	PG.
SEC. 1, T19S-R28E	F.B.	PG.
ACAD NO. 2069965.00C	REF. NO.	BA-40

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA-40)

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MATCHLINE SHEET 5

MATCHLINE SHEET 10

X = 3835254.02
Y = 309360.44
Pipeline

X = 3835213.84
Y = 309364.82
Debris

X = 3835191.20
Y = 308876.86
Debris

X = 3835098.92
Y = 309319.12
Pipeline

NAVIGATION CROSSING

SEE SHEET 9

PRIMARY BOOSTER SITE #1
SEE SHEET 8

3,836,000' E

307,000' N

306,000' N

310,000' N

3,834,000' E

170+00
175+00
180+00
185+00
190+00
195+00
200+00
205+00
210+00

mag 264 93g/6ft
mag 263 89g/17ft
mag 278 59g/30ft
mag 279 57g/14ft
mag 280 125g/18ft
mag 281 125g/37ft
mag 282 79g/31ft
mag 283 133g/281ft
mag 284 126g/15ft
mag 285 134g/17ft
mag 286 140g/8ft
mag 287 41g/18ft
mag 288 32g/10ft
mag 289 106g/106ft
mag 290 113g/112ft
mag 291 342g/170ft
mag 292 69g/19ft
mag 293 58g/36ft
mag 294 50g/25ft
mag 295 102g/111ft
mag 296 85g/111ft
mag 297 106g/121ft
mag 298 91g/27ft
mag 299 40g/31ft
mag 300 61g/70ft
mag 301 64g/17ft
mag 302 76g/18ft
mag 303 39g/10ft
mag 304 59g/16ft
mag 305 65g/28ft
mag 306 58g/10ft
mag 307 76g/81ft

PL PIPELINE

EXXON MOBIL PIPELINE 2EA.

PIPELINE DETAILS UNDETERMINED

COLUMBIA GULF TRANSMISSION

PIPELINE DETAILS UNDETERMINED

SHELL PIPELINE

KOCH GATEWAY PIPELINE

LEGEND:

30+00 CONVEYANCE CORRIDOR SURVEY BASELINE

PL PIPELINE

BOTTOM ELEVATION ABOVE -6 FT NAVD88

BOTTOM ELEVATION -6 TO -10 FT NAVD88

BOTTOM ELEVATION BELOW -10 FT NAVD88

MAGNETOMETER ANOMALY

300' 150' 0' 300' 600'

C.H. FENSTERMAKER & ASSOCIATES, INC.

DATE: JANUARY 2010 F.B. PG.
DRAWN: F.B. PG.
CHECKED: F.B. PG.
SCALE: 1"=300' F.B. PG.
SEC. 1, T19S–R28E F.B. PG.
ACAD NO. 2069965.00C REF. NO. BA–40

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA-40)

COASTAL ENGINEERING CONSULTANTS INC.
PH: (239) 643-2324
FAX (239) 643-2415
3106 SOUTH HORSESHOE DRIVE
NAPLES, FLORIDA 34104

STB GROUP, LLC
QUALITY BY DESIGN
P.O. BOX 1751
BATON ROUGE, LA. 70821
PHONE (225) 769-3400
FAX (225) 769-3596

SHEET 7 OF 32
FILE NO.: 31179.0 TASK 903

PRIMARY BOOSTER PUMP SITE #1

LEGEND:

- 30+00 — CONVEYANCE CORRIDOR SURVEY BASELINE
- PL — PIPELINE
- BOTTOM ELEVATION ABOVE -6 FT NAVD88
- BOTTOM ELEVATION -6 TO -10 FT NAVD88
- BOTTOM ELEVATION BELOW -10 FT NAVD88
- MAGNETOMETER ANOMALY

F' G' H' E' F E G H 165+00 170+00 -6 -8

60' 30' 0' 60' 120'

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA-40)

DATE: JANUARY 2010 F.B. PG.
DRAWN: F.B. PG.
CHECKED: F.B. PG.
SCALE: 1"=300' F.B. PG.
SEC. 1, T19S-R28E F.B. PG.
ACAD NO. 2069965.00C REF. NO. BA-40

C.H. FENSTERMAKER & ASSOCIATES, INC.

COASTAL ENGINEERING CONSULTANTS INC.
PH: (239) 643-2324
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BATON ROUGE, LA. 70821
PHONE (225) 769-3400
FAX (225) 769-3596

LEGEND:

30+00 CONVEYANCE CORRIDOR SURVEY BASELINE

PL PIPELINE

BOTTOM ELEVATION ABOVE -6 FT NAVD88

BOTTOM ELEVATION -6 TO -10 FT NAVD88

BOTTOM ELEVATION BELOW -10 FT NAVD88

MAGNETOMETER ANOMALY

185+00

180+00

175+00

J

J'

I

I'

K

K'

L

L'

-6

-8

-10

mag 278
59g/30ft

mag 264
93g/6ft

NAVIGATION
CROSSING

100' 50' 0' 100' 200'

C.H. FENSTERMAKER & ASSOCIATES, INC.

DATE: JANUARY 2010	F.B.	PG.	SEC. 1, T19S-R28E	F.B.	PG.
DRAWN:	F.B.	PG.	ACAD NO. 2069965.00C	REF. NO.	BA-40
CHECKED:	F.B.	PG.			
SCALE: 1"=300'	F.B.	PG.			

BATHYMETRIC AND MAGNETOMETER
SURVEY OF CONVEYANCE CORRIDOR
OPEN WATER SEGMENT
SCOFIELD ISLAND RESTORATION (BA-40)

COASTAL ENGINEERING CONSULTANTS INC.
PH: (239) 643-2324
FAX: (239) 643-1143
3106 SOUTH HORSESHOE DRIVE
NAPLES, FLORIDA 34104

STB GROUP, LLC
QUALITY BY DESIGN
P.O. BOX 1751
BATON ROUGE, LA. 70821
PHONE (225) 769-3400
FAX (225) 769-3596

LEGEND:

30+00 CONVEYANCE CORRIDOR SURVEY BASELINE

PL PIPELINE

BOTTOM ELEVATION ABOVE -6 FT NAVD88

BOTTOM ELEVATION -6 TO -10 FT NAVD88

BOTTOM ELEVATION BELOW -10 FT NAVD88

MAGNETOMETER ANOMALY

MATCHLINE SHEET 7

306,000' N

3,834,000' E

SHELL PIPELINE

CHEVRON PIPELINE

SOUTHERN NATURAL GAS PIPELINE

CHEVRON PIPELINE

CHEVRON PIPELINE

PIPELINE DETAILS UNDETERMINED

TEXACO PIPELINE

L.L.&E. PIPELINE

mag 309 128g/110ft

mag 310 180g/137ft

mag 311 111g/177ft

mag 312 64g/19ft

mag 318 258g/323ft

mag 320 85g/487ft

mag 322 159g/324ft

mag 325 325g/218ft

mag 328 153g/12ft

mag 329 139g/81ft

mag 330 82g/25ft

mag 332 95g/9ft

mag 334 82g/16ft

mag 343 122g/125ft

mag 342 166g/806ft

mag 339 120g/885ft

mag 337 57g/16ft

mag 346 145g/183ft

mag 345 229g/248ft

mag 341 150g/292ft

mag 344 212g/99ft

mag 340 98g/23ft

mag 338 38g/6ft

mag 335 154g/12ft

mag 336 50g/4ft

mag 331 72g/19ft

mag 327 207g/279ft

mag 326 45g/11ft

mag 324 310g/948ft

mag 323 381g/326ft

mag 308 155g/234ft

mag 313 54g/25ft

mag 314 86g/17ft

mag 315 258g/100ft

mag 316 154g/108ft

mag 317 224g/53ft

mag 319 116g/330ft

mag 321 148g/152ft

mag 333 73g/30ft

215+00

220+00

225+00

230+00

235+00

240+00

245+00

250+00

255+00

LA STATE GAS CORP PIPELINE

EXXON MOBIL PIPELINE 2EA.

KOCH GATEWAY PIPELINE

PIPELINE DETAILS UNDETERMINED

CHEVRON PIPELINE 2EA.

3,831,000' E

303,000' N

MATCHLINE SHEET 11

300' 150' 0' 300' 600'

C. H. FENSTERMAKER & ASSOCIATES, INC.

DATE: JANUARY 2010	F.B.	PG.	
DRAWN:	F.B.	PG.	
CHECKED:	F.B.	PG.	
SCALE: 1"=300'	F.B.	PG.	
SEC. 1, T19S--R28E	F.B.	PG.	
ACAD NO. 20899965.00C	REF. NO.	BA-40	

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA-40)

COASTAL ENGINEERING CONSULTANTS INC.
PH: (239) 643-2324
FAX: (239) 643-5815
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NAPLES, FLORIDA 34104

STB GROUP, LLC
QUALITY BY DESIGN
P.O. BOX 1751
BATON ROUGE, LA. 70821
PHONE (225) 769-3400
FAX (225) 769-3596

SHEET 10 OF 32

FILE NO.: 31179.0 TASK 903

LEGEND:

30+00 CONVEYANCE CORRIDOR SURVEY BASELINE

PL PIPELINE

BOTTOM ELEVATION ABOVE -6 FT NAVD88

BOTTOM ELEVATION -6 TO -10 FT NAVD88

BOTTOM ELEVATION BELOW -10 FT NAVD88

MAGNETOMETER ANOMALY

MATCHLINE SHEET 10

MATCHLINE SHEET 12

299,000' N

3,834,000' E

302,000' N

3,831,000' E

260+00 265+00 270+00 275+00 280+00 285+00 290+00 295+00 300+00

mag 346 145g/183ft
mag 347 34g/10ft
mag 348 140g/11ft
mag 349 121g/50ft
mag 350 218g/9ft
mag 351 152g/112ft
mag 352 66g/20ft
mag 353 51g/10ft
mag 354 218g/55ft
mag 355 251g/223ft
mag 356 118g/297ft
mag 357 237g/677ft
mag 358 136g/19ft
mag 359 62g/71ft
mag 360 79g/22ft
mag 361 58g/19ft
mag 362 204g/298ft
mag 363 157g/24ft
mag 364 154g/43ft
mag 365 130g/14ft
mag 366 57g/48ft
mag 367 78g/46ft
mag 368 77g/120ft
mag 369 153g/133ft
mag 370 87g/30ft
mag 371 143g/220ft
mag 372 67g/11ft
mag 373 143g/39ft
mag 374 54g/4ft
mag 375 122g/32ft
mag 376 106g/52ft
mag 377 82g/17ft
mag 378 220g/51ft
mag 379 65g/14ft
mag 380 252g/327ft
mag 381 254g/703ft
mag 382 324g/1081ft
mag 383 156g/100ft
mag 384 200g/164ft
mag 385 155g/105ft
mag 386 182g/49ft
mag 387 180g/88ft

LA STATE GAS CORP PIPELINE

TENNESSEE GAS PIPELINE

LL&E PIPELINE

EXXON MOBIL PIPELINE

EXXON MOBIL PIPELINE

KOCH GATEWAY PIPELINE

KOCH GATEWAY PIPELINE

KOCH GATEWAY PIPELINE

300' 150' 0' 300' 600'

BATHYMETRIC AND MAGNETOMETER
SURVEY OF CONVEYANCE CORRIDOR
OPEN WATER SEGMENT
SCOFIELD ISLAND RESTORATION (BA-40)

DATE: JANUARY 2010	F.B.	PG.	
DRAWN:	F.B.	PG.	
CHECKED:	F.B.	PG.	
SCALE: 1"=300'	F.B.	PG.	
SEC. 1, T19S–R28E	F.B.	PG.	
ACAD NO. 2069965.00C	REF. NO.	BA–40	

C. H. FENSTERMAKER & ASSOCIATES, INC.

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BATON ROUGE, LA. 70821
PHONE (225) 769-3400
FAX (225) 769-3596

SHEET 11 OF 32
FILE NO.: 31179.0 TASK 903

LEGEND:

30+00 CONVEYANCE CORRIDOR SURVEY BASELINE

PL PIPELINE

BOTTOM ELEVATION ABOVE -6 FT NAVD88

BOTTOM ELEVATION -6 TO -10 FT NAVD88

BOTTOM ELEVATION BELOW -10 FT NAVD88

MAGNETOMETER ANOMALY

KOCH GATEWAY PIPELINE

KOCH GATEWAY PIPELINE

KOCH GATEWAY PIPELINE

PIPELINE DETAILS UNDETERMINED

TEXAS GAS PIPELINE

KOCH GATEWAY PIPELINE

KOCH GATEWAY PIPELINE

SECONDARY BOOSTER PUMP SITE #4

MATCHLINE SHEET 11

SEE SHEET 13

NAVIGATION CROSSING

3,835,000' E

294,000' N

X = 3833902.46
Y = 295774.45
Debris

X = 3833940.50
Y = 295910.20
Debris

mag 417
42g/165ft

mag 406
37g/94ft

mag 402
58g/24ft

mag 405
188g/150ft

mag 400
101g/70ft

mag 403
264g/248ft

320+00

325+00

330+00

335+00

340+00

345+00

315+00

310+00

305+00

mag 395
50g/9ft

mag 393
231g/15ft

mag 391
257g/83ft

mag 387
0g/88ft

mag 398
55g/26ft

mag 397
94g/331ft

mag 399
80g/75ft

mag 396
128g/35ft

mag 394
69g/9ft

mag 392
68g/36ft

mag 390
115g/66ft

mag 389
354g/172ft

mag 388
25g/13ft

mag 401
127g/53ft

mag 404
233g/151ft

mag 407
92g/2058ft

mag 409
134g/1027ft

mag 424
118g/45ft

mag 429
77g/45ft

mag 430
23g/199ft

mag 439
330g/311ft

mag 438
61g/92ft

mag 436
147g/49ft

mag 431
100g/32ft

mag 432
140g/40ft

mag 433
97g/31ft

mag 434
129g/63ft

mag 435
100g/29ft

mag 437
145g/71ft

X = 3833669.74
Y = 295826.24
NO HIT

X = 3833906.22
Y = 295479.05
Pipeline

X = 3833887.94
Y = 295509.99
Debris

X = 3833836.54
Y = 295577.49
Pipeline

TENNESSEE GAS PIPELINE

LA STATE GAS CORP PIPELINE

297,000' N

3,832,000' E

MATCHLINE SHEET 14

300' 150' 0' 300' 600'

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA-40)

DATE: JANUARY 2010	F.B.	PG.	REF. NO.	BA-40	
DRAWN:	F.B.	PG.			
CHECKED:	F.B.	PG.			
SCALE: 1"=300'	F.B.	PG.			
SEC. 1, T19S-R28E	F.B.	PG.			
ACAD NO. 2069965.00C					

C. H. FENSTERMAKER & ASSOCIATES, INC.

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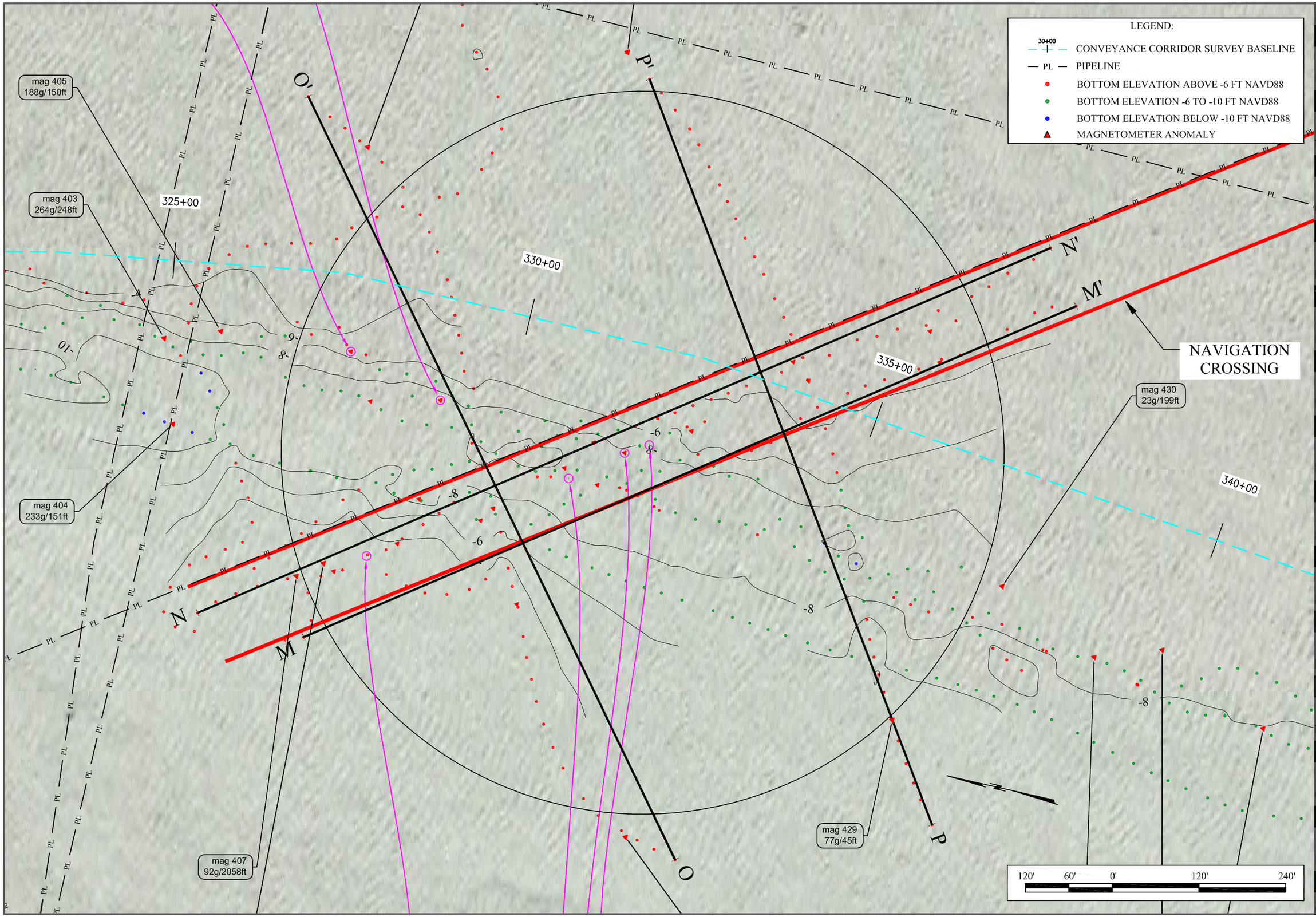
PHONE (225) 769-3400
FAX (225) 769-3596

SHEET 12 OF 32
FILE NO.: 31179.0 TASK 903



FENSTERMAKER & ASSOCIATES, INC.

DATE: JANUARY 2010	F.B.	PG.
DRAWN:	F.B.	PG.
CHECKED:	F.B.	PG.
SCALE: 1"=300'	F.B.	PG.
SEC. 1, T19S–R28E	F.B.	PG.
ACAD NO. 2069965.00C	REF. NO.	BA-40

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA-40)

COASTAL ENGINEERING CONSULTANTS INC.
PH: (239) 643-1233
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P.O. BOX 1751
BATON ROUGE, LA. 70821
PHONE (225) 769-3400
FAX (225) 769-3596

SHEET 13 OF 32
FILE NO.: 31179.0 TASK 903

LEGEND:

30+00 CONVEYANCE CORRIDOR SURVEY BASELINE

PL PIPELINE

BOTTOM ELEVATION ABOVE -6 FT NAVD88

BOTTOM ELEVATION -6 TO -10 FT NAVD88

BOTTOM ELEVATION BELOW -10 FT NAVD88

MAGNETOMETER ANOMALY

293,000' N

3,835,000' E

SHELL PIPELINE

PIPELINE DETAILS UNDETERMINED

350+00 355+00 360+00 365+00 370+00 375+00 380+00 385+00 390+00

mag 443 84g/6ft
mag 445 224g/129ft
mag 446 453g/216ft
mag 449 94g/13ft
mag 455 155g/45ft
mag 459 106g/126ft
mag 463 100g/41ft
mag 468 69g/21ft
mag 474 163g/24ft
mag 444 155g/32ft
mag 447 180g/97ft
mag 448 98g/17ft
mag 450 91g/13ft
mag 451 228g/63ft
mag 452 110g/139ft
mag 454 176g/13ft
mag 456 163g/48ft
mag 458 81g/16ft
mag 460 111g/29ft
mag 461 155g/44ft
mag 462 131g/409ft
mag 464 72g/10ft
mag 465 86g/11ft
mag 466 82g/10ft
mag 467 65g/13ft
mag 469 192g/14ft
mag 471 73g/9ft
mag 473 64g/11ft
mag 442 324g/414ft
mag 440 323g/180ft
mag 441 369g/267ft
mag 453 169g/252ft
mag 457 125g/264ft
mag 472 176g/60ft
mag 470 143g/25ft

MATCHLINE SHEET 12

MATCHLINE SHEET 15

291,000' N

3,832,000' E

300' 150' 0' 300' 600'

C.H. FENSTERMAKER & ASSOCIATES, INC.

DATE: JANUARY 2010 F.B. PG.
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SCALE: 1"=300' F.B. PG.
SEC. 1, T19S–R28E F.B. PG.
ACAD NO. 2069965.00C REF. NO. BA–40

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA-40)

COASTAL ENGINEERING CONSULTANTS INC.
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PHONE (225) 769-3400
FAX (225) 769-3596

SHEET 14 OF 32
FILE NO.: 31179.0 TASK 903

LEGEND:

30+00 CONVEYANCE CORRIDOR SURVEY BASELINE

PL PIPELINE

BOTTOM ELEVATION ABOVE -6 FT NAVD88

BOTTOM ELEVATION -6 TO -10 FT NAVD88

BOTTOM ELEVATION BELOW -10 FT NAVD88

MAGNETOMETER ANOMALY

PIPELINE DETAILS UNDETERMINED

SHELL PIPELINE

NAVIGATION CROSSING

SEE SHEET 16

MATCHLINE SHEET 17

MATCHLINE SHEET 14

PIPELINE DETAILS UNDETERMINED

TENNESSEE GAS PIPELINE

EXXON MOBIL PIPELINE

3,834,000' E

289,000' N

3,832,000' E

395+00 400+00 405+00 410+00 415+00 420+00 425+00 430+00 435+00 44

mag 475 105g/34ft
mag 476 72g/17ft
mag 477 36g/6ft
mag 478 129g/5ft
mag 479 153g/34ft
mag 480 54g/21ft
mag 485 32g/23ft
mag 487 40g/25ft
mag 489 58g/27ft
mag 491 141g/59ft
mag 495 194g/100ft
mag 496 61g/25ft
mag 497 130g/17ft
mag 498 332g/1227ft
mag 499 496g/4821ft
mag 500 325g/233ft
mag 501 373g/148ft
mag 502 120g/26ft
mag 503 196g/12ft
mag 504 206g/27ft
mag 505 124g/19ft
mag 506 179g/17ft
mag 507 215g/81ft
mag 508 89g/19ft
mag 509 135g/13ft
mag 510 71g/9ft
mag 511 92g/23ft
mag 512 89g/17ft
mag 513 133g/29ft
mag 514 71g/12ft
mag 515 97g/21ft
mag 516 201g/50ft
mag 517 290g/309ft
mag 518 341g/392ft

300' 150' 0' 300' 600'

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA-40)

DATE: JANUARY 2010	F.B.	PG.	
DRAWN:	F.B.	PG.	
CHECKED:	F.B.	PG.	
SCALE: 1"=300'	F.B.	PG.	
SEC. 1, T19S-R28E	F.B.	PG.	
ACAD NO. 2069965.00C	REF. NO.	BA-40	

C. H. FENSTERMAKER & ASSOCIATES, INC.

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PHONE (225) 769-3400
FAX (225) 769-3596

SHEET 15 OF 32
FILE NO.: 31179.0 TASK 903

NAVIGATION CROSSING

LEGEND:

- 30+00 — CONVEYANCE CORRIDOR SURVEY BASELINE
- PL — PIPELINE
- BOTTOM ELEVATION ABOVE -6 FT NAVD88
- BOTTOM ELEVATION -6 TO -10 FT NAVD88
- BOTTOM ELEVATION BELOW -10 FT NAVD88
- MAGNETOMETER ANOMALY

mag 478
129g/5ft

mag 479
153g/34ft

mag 480
54g/21ft

mag 477
36g/6ft

mag 485
32g/23ft

mag 489
58g/27ft

mag 487
40g/25ft

mag 496
61g/25ft

mag 495
194g/100ft

mag 497
130g/17ft

mag 501
373g/148ft

mag 500
325g/233ft

mag 498
332g/1227ft

R

R'

Q

Q'

S

T

400+00

405+00

410+00

415+00

9-

8-

10-

120' 60' 0' 120' 240'

BATHYMETRIC AND MAGNETOMETER
SURVEY OF CONVEYANCE CORRIDOR
OPEN WATER SEGMENT
SCOFIELD ISLAND RESTORATION (BA-40)

DATE: JANUARY 2010	F.B.	PG.	
DRAWN:	F.B.	PG.	
CHECKED:	F.B.	PG.	
SCALE: 1"=300'	F.B.	PG.	
SEC. 1, T19S-R28E	F.B.	PG.	
ACAD NO. 2069965.00C	REF. NO.	BA-40	

C.H. FENSTERMAKER & ASSOCIATES, INC.

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PH: (239) 643-2324
FAX: (239) 643-1143
3106 SOUTH HORSESHOE DRIVE
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STB GROUP, LLC
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BATON ROUGE, LA. 70821
PHONE (225) 769-3400
FAX (225) 769-3596

SHEET 16 OF 32
FILE NO.: 31179.0 TASK 903

LEGEND:

30+00 CONVEYANCE CORRIDOR SURVEY BASELINE

PL PIPELINE

BOTTOM ELEVATION ABOVE -6 FT NAVD88

BOTTOM ELEVATION -6 TO -10 FT NAVD88

BOTTOM ELEVATION BELOW -10 FT NAVD88

MAGNETOMETER ANOMALY

SHELL PIPELINE

EXXON MOBIL PIPELINE

TENNESSEE GAS PIPELINE

281,000' N

3,833,000' E

285,000' N

3,831,000' E

NAVIGATION CROSSING

PRIMARY BOOSTER PUMP SITE #2 SEE SHEET 18

SECONDARY BOOSTER PUMP SITE #5

SEE SHEET 19

MATCHLINE SHEET 15

MATCHLINE SHEET 20

445+00 450+00 455+00 460+00 465+00 470+00 475+00 480+00 485+

mag 519 363g/196ft

mag 520 376g/480ft

mag 521 77g/17ft

mag 531 37g/58ft

mag 534 45g/164ft

mag 537 41g/46ft

mag 545 176g/21ft

mag 546 63g/21ft

mag 547 147g/64ft

mag 548 258g/22ft

mag 549 204g/34ft

mag 550 148g/673ft

mag 551 121g/37ft

mag 552 133g/98ft

mag 553 146g/139ft

mag 554 46g/27ft

mag 555 158g/34ft

mag 556 185g/55ft

mag 557 122g/26ft

mag 558 134g/109ft

mag 559 75g/19ft

mag 560 204g/310ft

mag 561 151g/174ft

mag 562 134g/54ft

mag 563 211g/49ft

mag 564 188g/140ft

mag 565 120g/92ft

mag 566 403g/49ft

X = 3832037.92
Y = 283411.33
Debris

X = 3831990.38
Y = 283144.09
Debris

X = 3831884.29
Y = 282725.18
Debris

300' 150' 0' 300' 600'

FENSTERMAKER & ASSOCIATES, INC.

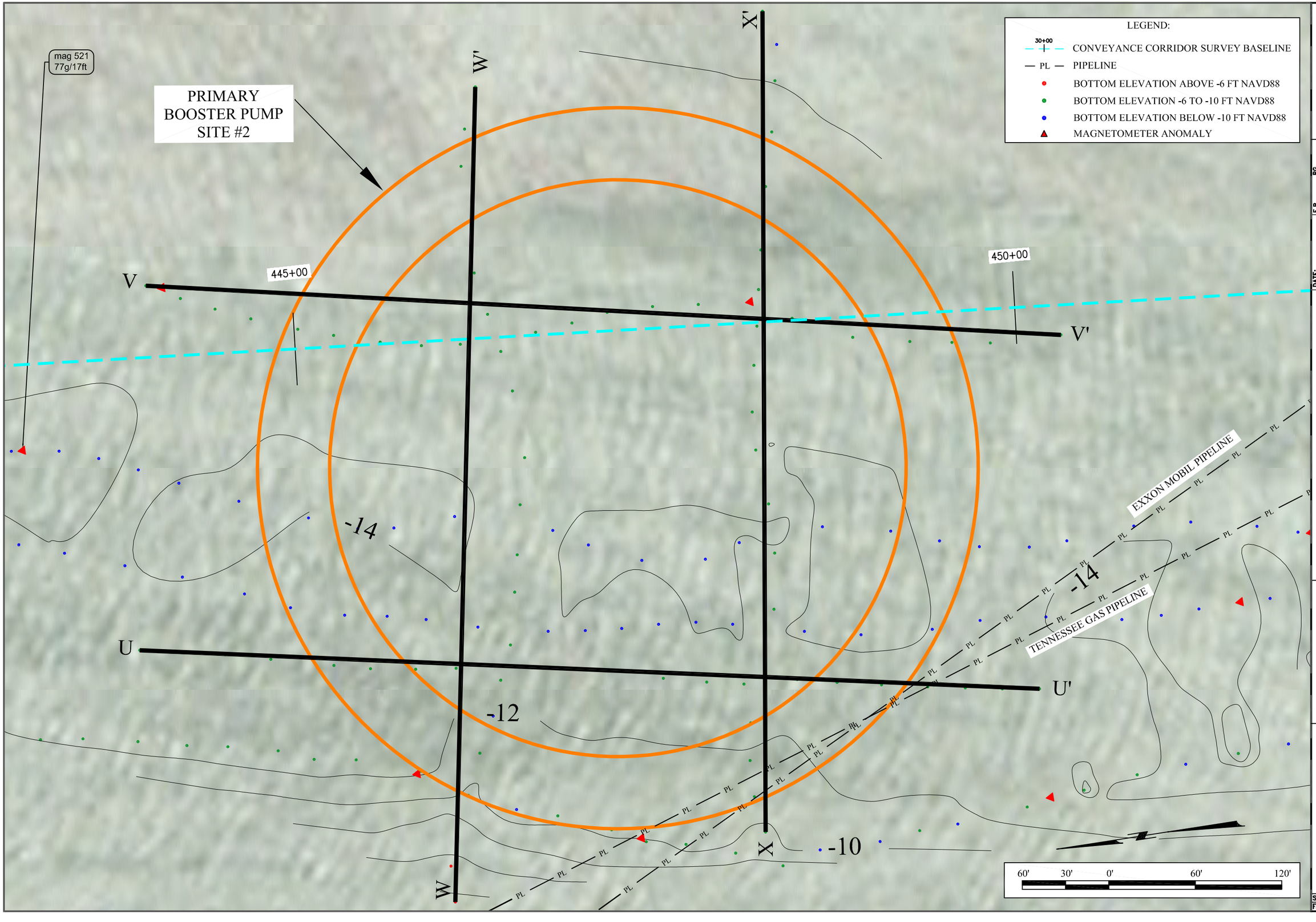
DATE: JANUARY 2010 F.B. PG.
DRAWN: F.B. PG.
CHECKED: F.B. PG.
SCALE: 1"=300' F.B. PG.
SEC. 1, T19S–R28E F.B. PG.
ACAD NO. 2069965.00C REF. NO. BA–40

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA-40)

COASTAL ENGINEERING CONSULTANTS INC.
PH: (239) 643-2324
FAX: (239) 643-5144
3106 SOUTH HORSESHOE DRIVE
NAPLES, FLORIDA 34104

STB GROUP, LLC
QUALITY BY DESIGN
P.O. BOX 1751
BATON ROUGE, LA. 70821
PHONE (225) 769-3400
FAX (225) 769-3596

SHEET 17 OF 32
FILE NO.: 31179.0 TASK 903



C.H. FENSTERMAKER & ASSOCIATES, INC.

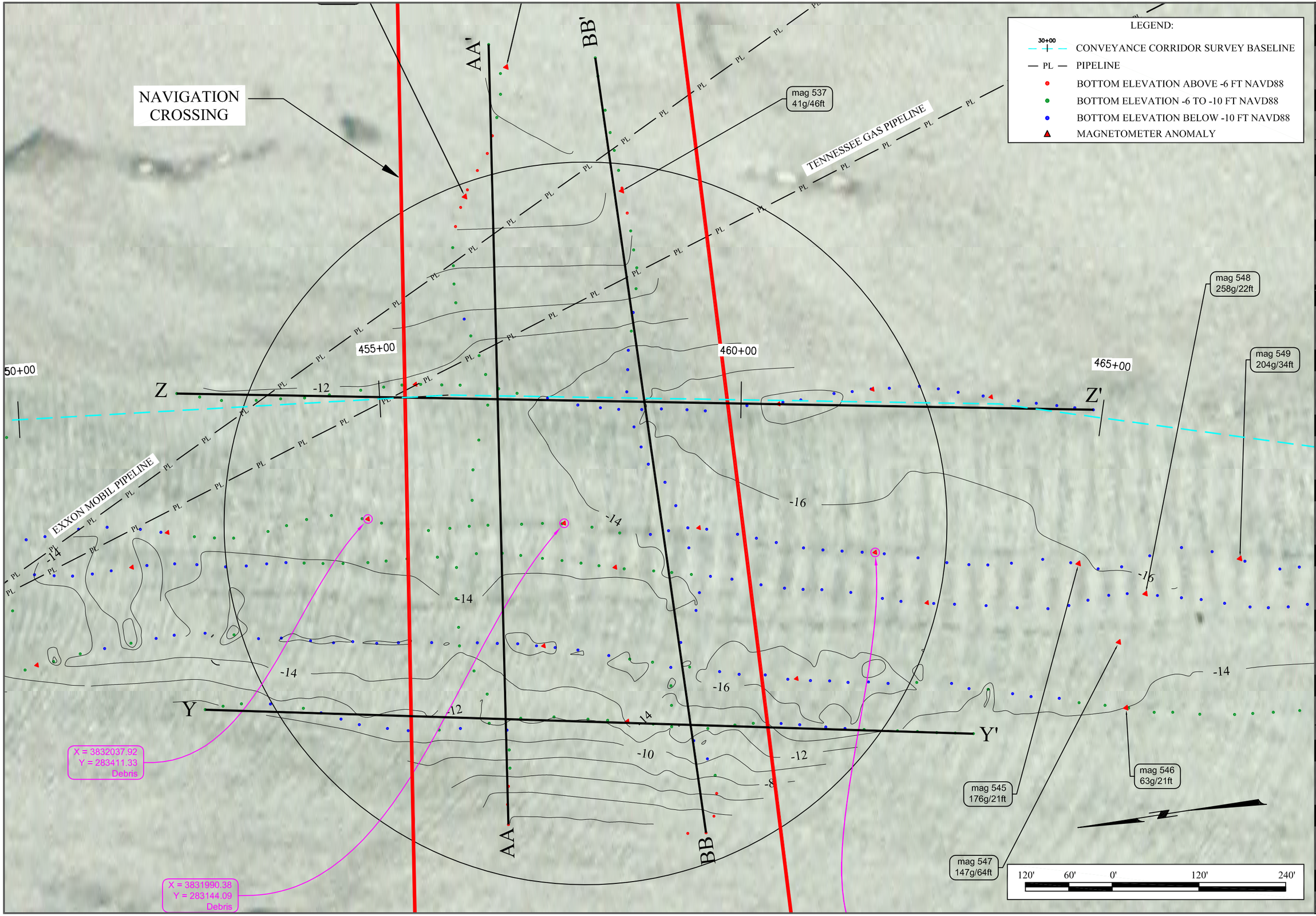
DATE: JANUARY 2010	F.B.	PG.	SCALE: 1"=300'	F.B.	PG.
DRAWN:	F.B.	PG.	SEC. 1, T19S-R28E	F.B.	PG.
CHECKED:	F.B.	PG.	ACAD NO. 2069965.00C	REF. NO.	BA-40

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA-40)

COASTAL ENGINEERING CONSULTANTS INC.
PH: (239) 643-1234
FAX: (239) 643-1743
3106 SOUTH HORSESHOE DRIVE
NAPLES, FLORIDA 34104

STB GROUP, LLC
QUALITY BY DESIGN
P.O. BOX 1751
BATON ROUGE, LA. 70821
PHONE (225) 769-3400
FAX (225) 769-3596

SHEET 18 OF 32
FILE NO.: 31179.0 TASK 903



FENSTERMAKER & ASSOCIATES, INC.

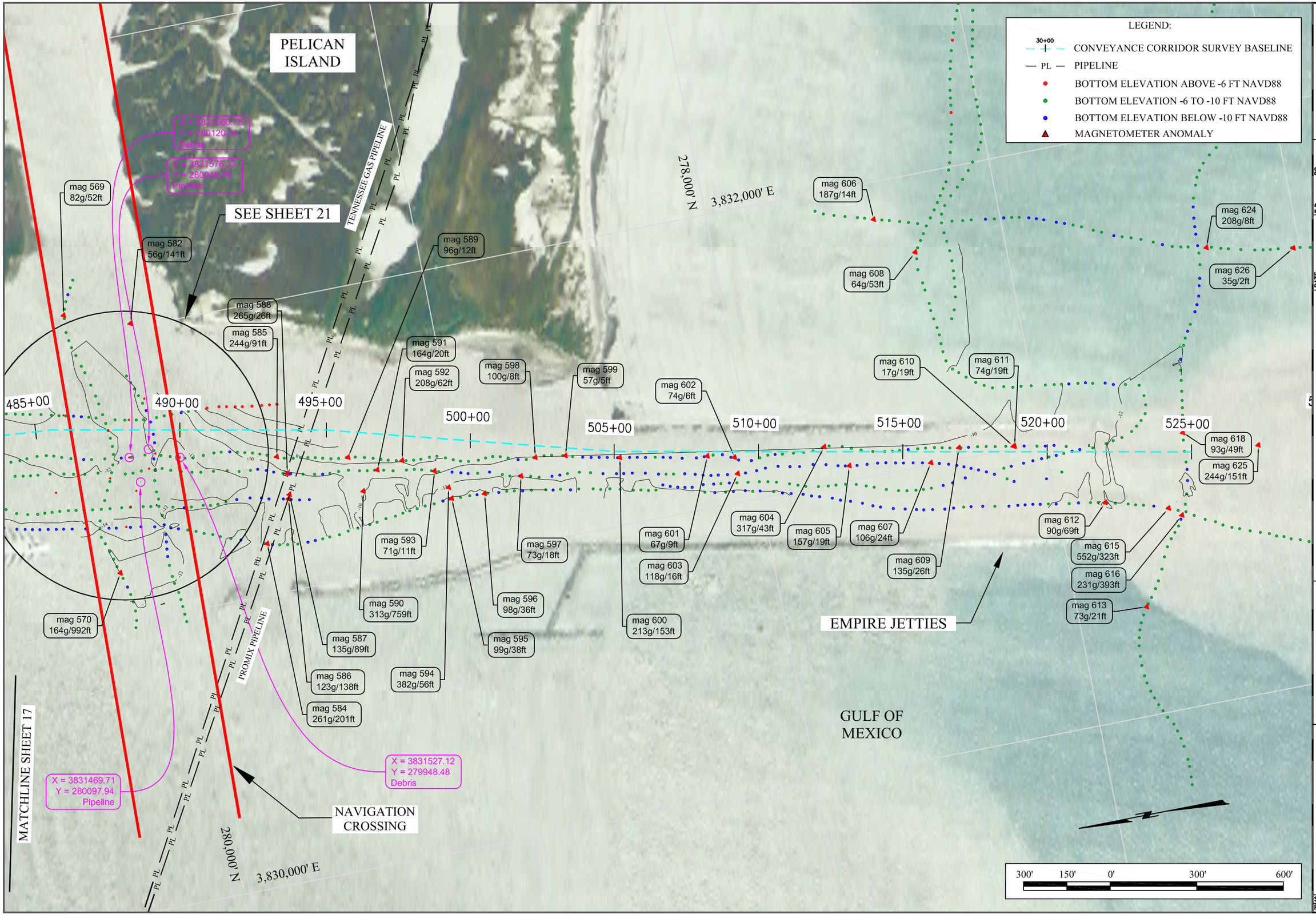
DATE: JANUARY 2010	F.B.	PG.	SCALE: 1"=300'	F.B.	PG.
DRAWN:	F.B.	PG.	SEC. 1, T19S-R28E	F.B.	PG.
CHECKED:	F.B.	PG.	ACAD NO. 2069965.00C	REF. NO.	BA-40

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA-40)

COASTAL ENGINEERING CONSULTANTS INC.
PH: (239) 643-2324
FAX: (239) 643-1143
3106 SOUTH HORSESHOE DRIVE
NAPLES, FLORIDA 34104

SIB GROUP, LLC
QUALITY BY DESIGN
PHONE (225) 769-3400
FAX (225) 769-3596
P.O. BOX 1751
BATON ROUGE, LA. 70821

SHEET 19 OF 32
FILE NO.: 31179.0 TASK 903



C.H. FENSTERMAKER & ASSOCIATES, INC.

DATE:	JANUARY 2010
DRAWN:	F.B. P6.
CHECKED:	F.B. P6.
SCALE:	1"=300' F.B. P6.
SEC. 1, T19S–R28E	F.B. P6.
ACAD NO. 2069965.00C	REF. NO. BA–40

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA-40)

COASTAL ENGINEERING CONSULTANTS INC.
PH: (239) 643-2324
FAX: (239) 643-5115
3106 SOUTH HORSESHOE DRIVE
NAPLES, FLORIDA 34104

STB GROUP, LLC
QUALITY BY DESIGN
PHONE (225) 769-3400
FAX (225) 769-3596
P.O. BOX 1751
BATON ROUGE, LA. 70821

SHEET 20 OF 32
FILE NO.: 31179.0 TASK 903

LEGEND:

- 30+00 — CONVEYANCE CORRIDOR SURVEY BASELINE
- PL — PIPELINE
- BOTTOM ELEVATION ABOVE -6 FT NAVD88
- BOTTOM ELEVATION -6 TO -10 FT NAVD88
- BOTTOM ELEVATION BELOW -10 FT NAVD88
- MAGNETOMETER ANOMALY

mag 564
188g/140ft

mag 562
134g/54ft

mag 566
403g/49ft

mag 585
244g/91ft

mag 563
211g/49ft

mag 565
120g/92ft

mag 570
164g/992ft

DD

DD'

CC

CC'

EE'

FF'

EE

FF

480+00

485+00

490+00

495+00

NAVIGATION CROSSING

-14

-12

-10

8

120' 60' 0' 120' 240'

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA-40)

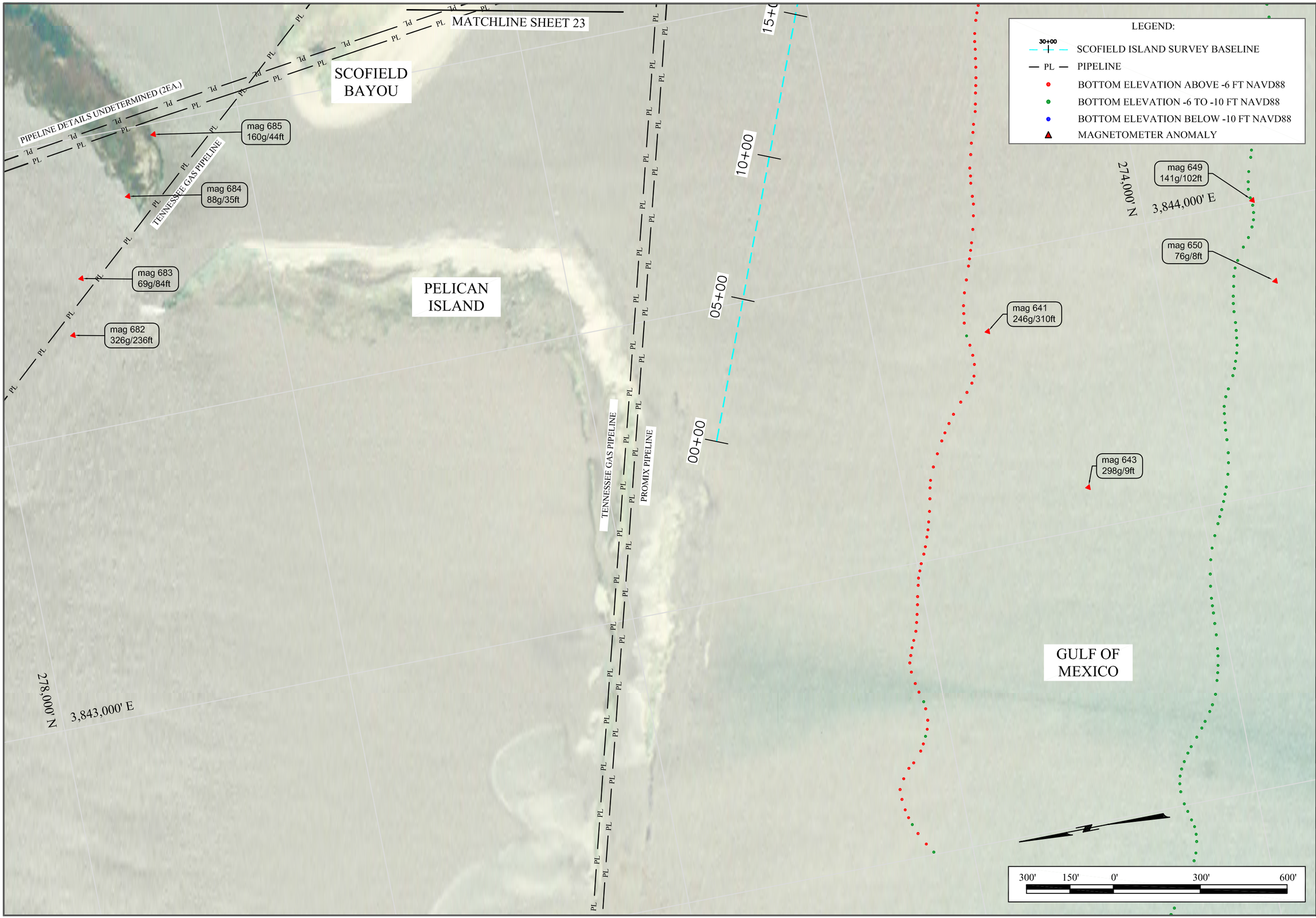
DATE: JANUARY 2010	F.B.	PG.	SEC. 1, T19S-R28E	F.B.	PG.
DRAWN:	F.B.	PG.	ACAD NO. 2069965.00C	REF. NO.	BA-40
CHECKED:	F.B.	PG.			
SCALE: 1"=300'	F.B.	PG.			

C.H. FENSTERMAKER & ASSOCIATES, INC.

COASTAL ENGINEERING CONSULTANTS INC.
PH: (239) 643-2324
FAX: (239) 643-1143
3106 SOUTH HORSESHOE DRIVE
NAPLES, FLORIDA 34104

STB GROUP, LLC
QUALITY BY DESIGN
P.O. BOX 1751
BATON ROUGE, LA. 70821
PHONE (225) 769-3400
FAX (225) 769-3596

SHEET 21 OF 32
FILE NO.: 31179.0 TASK 903



C.H. FENSTERMAKER & ASSOCIATES, INC.

DATE: JANUARY 2010	F.B. PG.
DRAWN:	F.B. PG.
CHECKED:	F.B. PG.
SCALE: 1"=300'	F.B. PG.
SEC. 1, T19S–R28E	F.B. PG.
ACAD NO. 2069965.00C	REF. NO. BA–40

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA-40)

COASTAL ENGINEERING CONSULTANTS INC.
PH: (239) 643-2324
FAX: (239) 643-4448
3106 SOUTH HORSESHOE DRIVE
NAPLES, FLORIDA 34104

STB GROUP, LLC
QUALITY BY DESIGN
P.O. BOX 1751
BATON ROUGE, LA. 70821
PHONE (225) 769-3400
FAX (225) 769-3596

MATCHLINE SHEET 24

MATCHLINE SHEET 22

PIPELINE DETAILS UNDETERMINED

PIPELINE DETAILS UNDETERMINED

PROMIX PIPELINE

TENNESSEE GAS PIPELINE

TENNESSEE GAS PIPELINE

PROMIX PIPELINE

45+00

40+00

35+00

30+00

25+00

20+00

mag 651
176g/318ft

mag 695
549g/63ft

mag 694
170g/22ft

mag 693
255g/514ft

mag 692
215g/166ft

mag 686
205g/69ft

mag 688
88g/23ft

mag 687
133g/25ft

3,847,000' E

3,846,000' E

273,000' N

277,000' N

GULF OF MEXICO

SCOFIELD ISLAND

LEGEND:

- SCOFIELD ISLAND SURVEY BASELINE
- PL — PIPELINE
- BOTTOM ELEVATION ABOVE -6 FT NAVD88
- BOTTOM ELEVATION -6 TO -10 FT NAVD88
- BOTTOM ELEVATION BELOW -10 FT NAVD88
- MAGNETOMETER ANOMALY

300' 150' 0' 300' 600'

C. H. FENSTERMAKER & ASSOCIATES, INC.

DATE: JANUARY 2010	F.B.	PG.
DRAWN:	F.B.	PG.
CHECKED:	F.B.	PG.
SCALE: 1"=300'	F.B.	PG.
SEC. 1, T19S–R28E	F.B.	PG.
ACAD NO. 2069965.00C	REF. NO.	BA–40

BATHYMETRIC AND MAGNETOMETER
SURVEY OF CONVEYANCE CORRIDOR
OPEN WATER SEGMENT
SCOFIELD ISLAND RESTORATION (BA-40)

COASTAL ENGINEERING CONSULTANTS INC.
PH: (239) 643-2324
FX: (239) 643-5143
3106 SOUTH HORSESHOE DRIVE
NAPLES, FLORIDA 34104

STB GROUP, LLC
QUALITY BY DESIGN
P.O. BOX 1751
BATON ROUGE, LA. 70821
PHONE (225) 769-3400
FAX (225) 769-3596

SHEET 23 OF 32
FILE NO.: 31179.0 TASK 903

MATCHLINE SHEET 25

mag 701
142g/45ft

mag 699
299g/39ft

mag 696
343g/43ft

PIPELINE DETAILS UNDETERMINED

PROMIX PIPELINE

PIPELINE DETAILS UNDETERMINED

PL

75+00

70+00

65+00

60+00

55+00

50+00

273,000' N

3,850,000' E

GULF OF MEXICO

SCOFIELD ISLAND

mag 754
200g/15ft

mag 755
469g/20ft

276,000' N

3,849,000' E

mag 691
220g/39ft

mag 689
162g/69ft

mag 690
166g/36ft

MATCHLINE SHEET 23

LEGEND:

30+00 SCOFIELD ISLAND SURVEY BASELINE

PL PIPELINE

BOTTOM ELEVATION ABOVE -6 FT NAVD88

BOTTOM ELEVATION -6 TO -10 FT NAVD88

BOTTOM ELEVATION BELOW -10 FT NAVD88

MAGNETOMETER ANOMALY

300' 150' 0' 300' 600'

C. H. FENSTERMAKER & ASSOCIATES, INC.

DATE: JANUARY 2010 F.B. PG.

DRAWN: F.B. PG.

CHECKED: F.B. PG.

SCALE: 1"=300' F.B. PG.

SEC. 1, T19S–R28E F.B. PG.

ACAD NO. 2069965.00C REF. NO. BA–40

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA-40)

COASTAL ENGINEERING CONSULTANTS INC.
PH: (239) 643-2324
FAX: (239) 643-5114
3106 SOUTH HORSESHOE DRIVE
NAPLES, FLORIDA 34104

STB GROUP, LLC
QUALITY BY DESIGN
P.O. BOX 1751
BATON ROUGE, LA. 70821
PHONE (225) 769-3400
FAX (225) 769-3596

SHEET 24 OF 32

FILE NO.: 31179.0 TASK 903

MATCHLINE SHEET 26

mag 712
218g/59ft

mag 710
379g/48ft

mag 706
821g/60ft

mag 704
113g/29ft

PIPELINE DETAILS UNDETERMINED

PROMIX PIPELINE

PIPELINE DETAILS UNDETERMINED

SCOFIELD ISLAND

GULF OF MEXICO

105+00

100+00

95+00

90+00

85+00

80+00

3,853,000' E

272,000' N

3,852,000' E

275,000' N

MATCHLINE SHEET 24

LEGEND:

- 30+00 SCOFIELD ISLAND SURVEY BASELINE
- PL PIPELINE
- BOTTOM ELEVATION ABOVE -6 FT NAVD88
- BOTTOM ELEVATION -6 TO -10 FT NAVD88
- BOTTOM ELEVATION BELOW -10 FT NAVD88
- MAGNETOMETER ANOMALY

300' 150' 0' 300' 600'

C.H. FENSTERMAKER & ASSOCIATES, INC.

DATE: JANUARY 2010	F.B.	PG.
DRAWN:	F.B.	PG.
CHECKED:	F.B.	PG.
SCALE: 1"=300'	F.B.	PG.
SEC. 1, T19S–R28E	F.B.	PG.
ACAD NO. 2069965.00C	REF. NO.	BA–40

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA-40)

COASTAL ENGINEERING CONSULTANTS INC.
PH: (239) 643-2324
FAX: (239) 643-5144
3106 SOUTH HORSESHOE DRIVE
NAPLES, FLORIDA 34104

STB GROUP, LLC
QUALITY BY DESIGN
P.O. BOX 1751
BATON ROUGE, LA. 70821
PHONE (225) 769-3400
FAX (225) 769-3596

SHEET 25 OF 32
FILE NO.: 31179.0 TASK 903

LEGEND:

- 30+00 SCOFIELD ISLAND SURVEY BASELINE
- PL PIPELINE
- BOTTOM ELEVATION ABOVE -6 FT NAVD88
- BOTTOM ELEVATION -6 TO -10 FT NAVD88
- BOTTOM ELEVATION BELOW -10 FT NAVD88
- MAGNETOMETER ANOMALY

mag 731 39g/20ft
mag 742 26g/43ft
mag 730 237g/73ft
mag 728 170g/47ft
mag 740 26g/70ft
mag 725 31g/24ft
mag 739 35g/60ft
mag 729 50g/61ft
mag 735 100g/115ft
mag 727 42g/36ft
mag 734 50g/61ft
mag 726 201g/53ft
mag 733 93g/2642ft
mag 732 85g/2613ft
mag 724 182g/73ft
mag 719 88g/109ft
mag 716 73g/95ft
mag 700 86g/30ft
mag 702 53g/21ft
mag 703 38g/27ft
mag 705 78g/24ft
mag 707 71g/20ft
mag 758 15g/9ft
mag 757 35g/18ft
mag 721 105g/119ft
mag 756 31g/10ft
mag 697 189g/53ft
mag 698 180g/549ft
mag 761 51g/12ft
mag 760 17g/10ft
mag 723 97g/64ft
mag 759 18g/12ft
mag 722 87g/22ft
mag 720 42g/26ft
mag 718 83g/90ft
mag 717 33g/24ft
mag 711 30g/23ft
mag 709 69g/121ft
mag 715 218g/65ft
mag 713 252g/90ft
mag 665 271g/66ft

PIPELINE DETAILS UNDETERMINED
PROMIX PIPELINE
PIPELINE DETAILS UNDETERMINED
PIPELINE DETAILS UNDETERMINED

135+00
130+00
125+00
120+00
115+00
110+00

3,856,000' E
271,000' N
3,855,000' E
274,000' N

SCOFIELD ISLAND

GULF OF MEXICO

MATCHLINE SHEET 25

300' 150' 0' 300' 600'

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA-40)

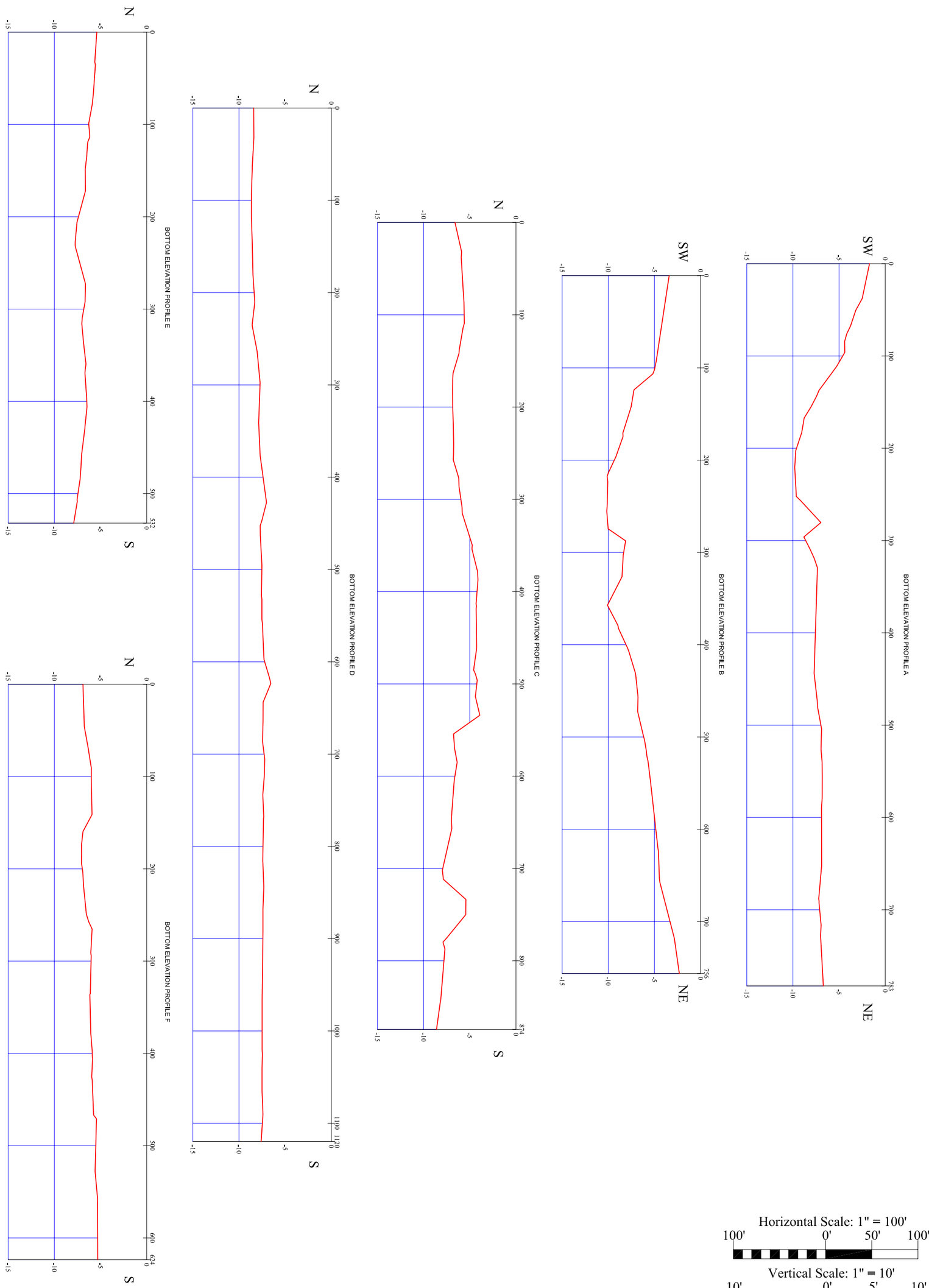
DATE: JANUARY 2010	F.B.	PG.	
DRAWN:	F.B.	PG.	
CHECKED:	F.B.	PG.	
SCALE: 1"=300'	F.B.	PG.	
SEC. 1, T19S–R28E	F.B.	PG.	
ACAD NO. 2069965.00C	REF. NO.	BA–40	

C. H. FENSTERMAKER & ASSOCIATES, INC.

COASTAL ENGINEERING CONSULTANTS INC.
PH: (239) 643-2324
FAX: (239) 643-2336
3106 SOUTH HORSESHOE DRIVE
NAPLES, FLORIDA 34104

STB GROUP, LLC
QUALITY BY DESIGN
P.O. BOX 1751 BATON ROUGE, LA. 70821
PHONE (225) 769-3400
FAX (225) 769-3596

SHEET 26 OF 32
FILE NO.: 31179.0 TASK 903



Horizontal Scale: 1" = 100'

100' 0' 50' 100'

Vertical Scale: 1" = 10'

10' 0' 5' 10'

Vertical Exaggeration x10

SHEET 27 OF 32
FILE NO.: 31179.0 TASK 903

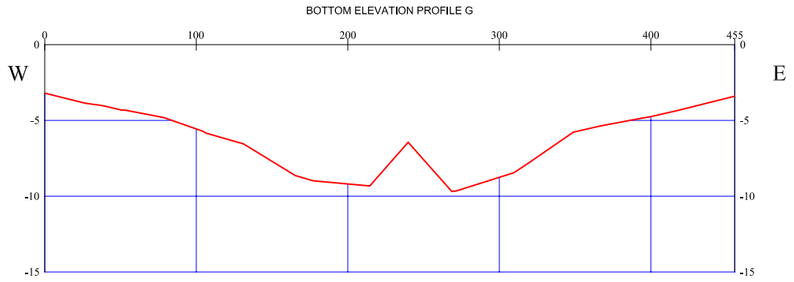
SJB GROUP, LLC
QUALITY BY DESIGN
P.O. BOX 1751
BATON ROUGE, LA. 70821
PHONE (225) 769-3400
FAX (225) 769-3596

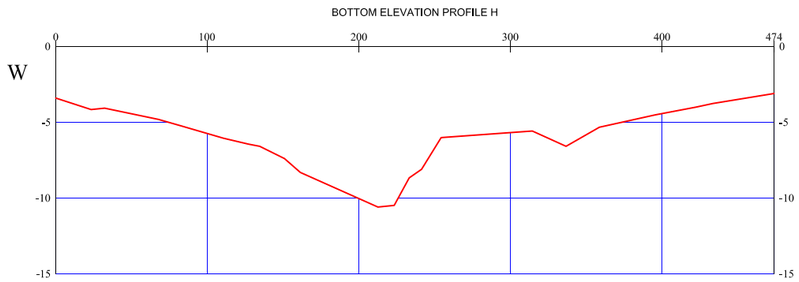
COASTAL ENGINEERING CONSULTANTS INC.
PH: (239) 643-2324
FAX: (239) 643-1143
3106 SOUTH HORSESHOE DRIVE
NAPLES, FLORIDA 34104

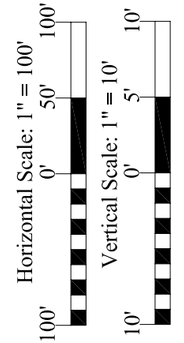
BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR
OPEN WATER SEGMENT
SCOFIELD ISLAND RESTORATION (BA-40)

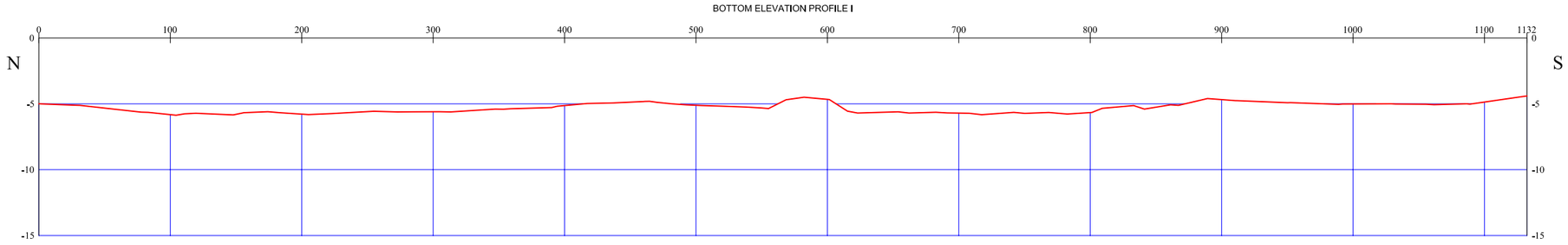
DATE: JANUARY 2010	F.B.	PG.
DRAWN:	F.B.	PG.
CHECKED:	F.B.	PG.
SCALE: 1"=300'	F.B.	PG.
SEC. 1, T19S-R28E	F.B.	PG.
ACAD NO. 2069965.00C	REF. NO. BA-40	

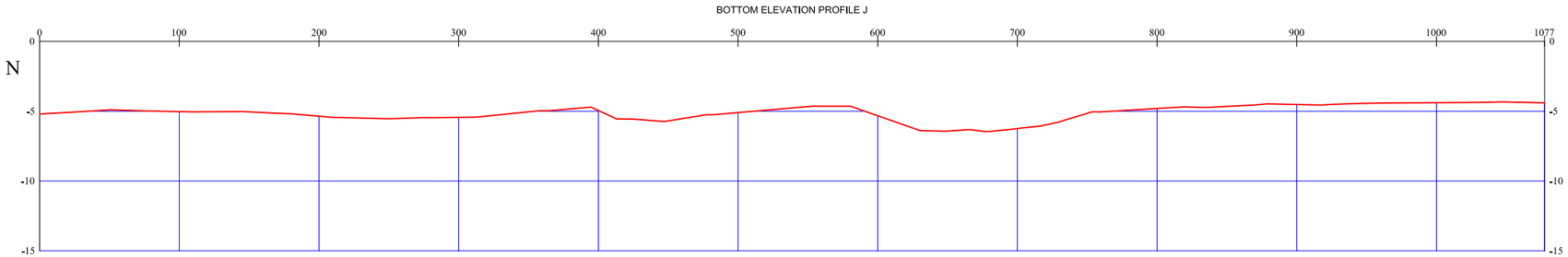
C.H. FENSTERMAKER & ASSOCIATES, INC.

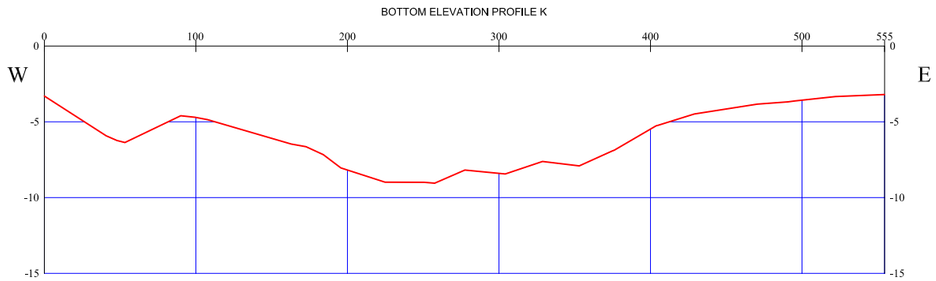


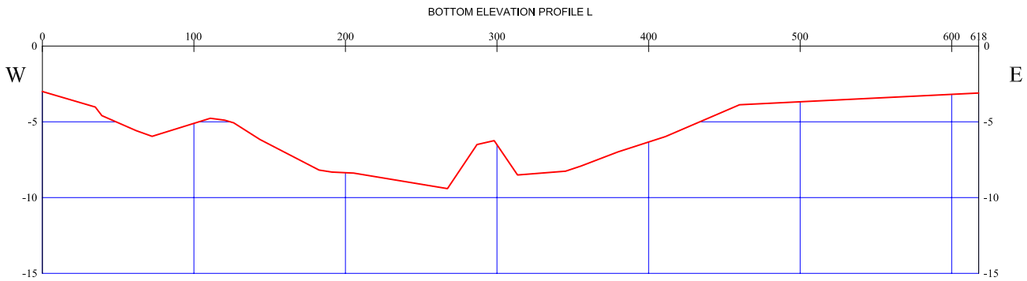


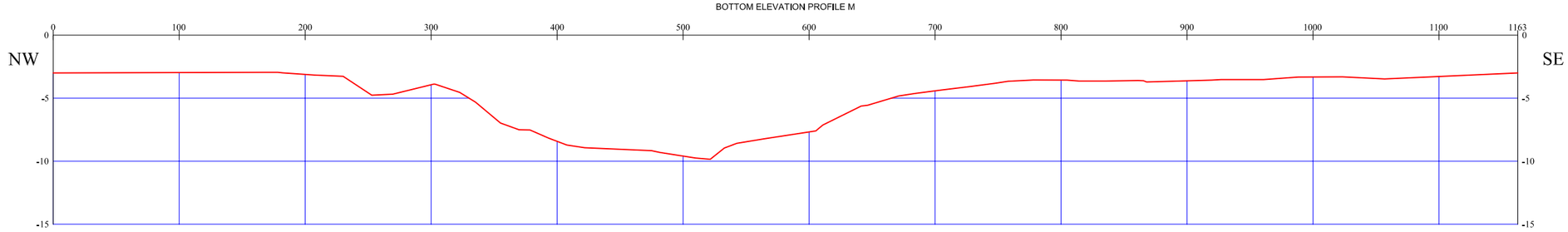












C.H. FENSTERMAKER & ASSOCIATES, INC.

DATE: JANUARY 2010 | F.B. | PG.
DRAWN: | F.B. | PG.
CHECKED: | F.B. | PG.
SCALE: 1"=300' | F.B. | PG.
SEC. 1, T19S-R28E | F.B. | PG.
ACAD NO. 2069965.00C | REF. NO. | BA-40

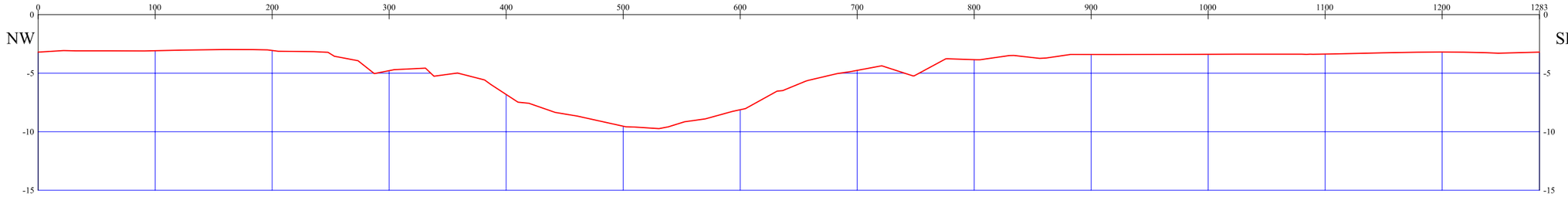
BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA-40)

COASTAL ENGINEERING CONSULTANTS INC.
PH: (239) 643-2324
FAX: (239) 643-1114
3106 SOUTH HORSESHOE DRIVE
NAPLES, FLORIDA 34104

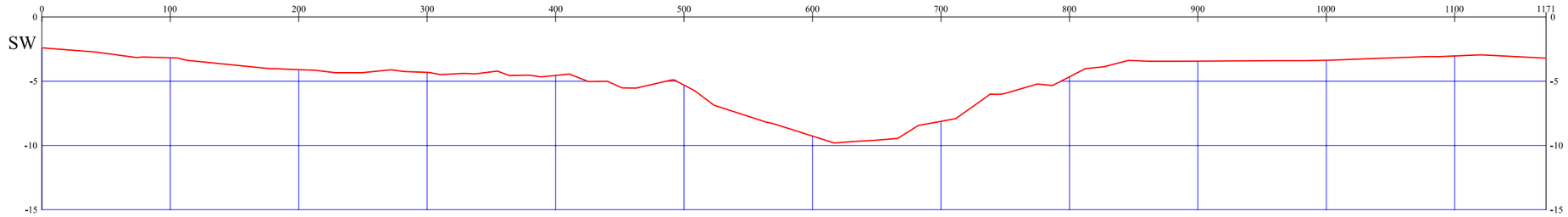
STB GROUP, LLC
QUALITY BY DESIGN
P.O. BOX 1751
BATON ROUGE, LA. 70821
PHONE (225) 769-3400
FAX (225) 769-3596

SHEET 28 OF 32
FILE NO.: 31179.0 TASK 903

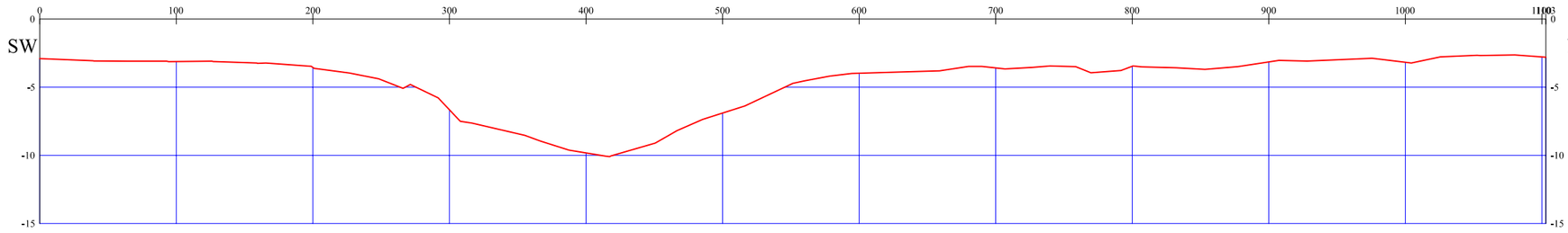
BOTTOM ELEVATION PROFILE N



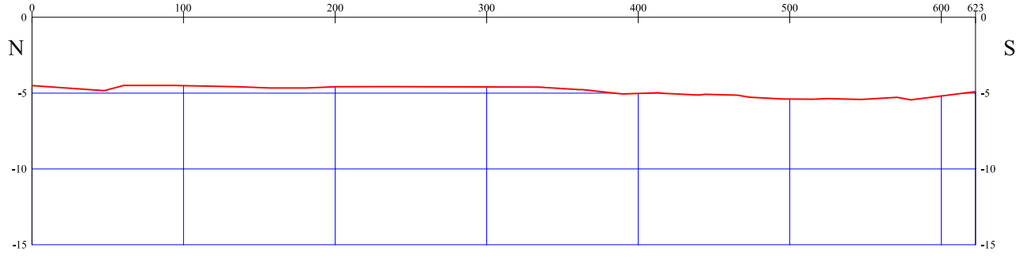
BOTTOM ELEVATION PROFILE O



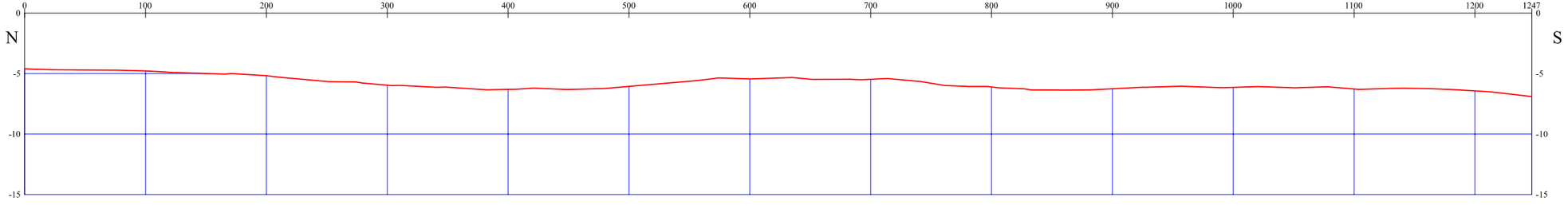
BOTTOM ELEVATION PROFILE P



BOTTOM ELEVATION PROFILE Q

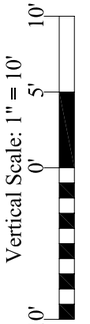


BOTTOM ELEVATION PROFILE R



Horizontal Scale: 1" = 100'

Vertical Scale: 1" = 10'



Vertical Exaggeration x10

C.H. FENSTERMAKER & ASSOCIATES, INC.

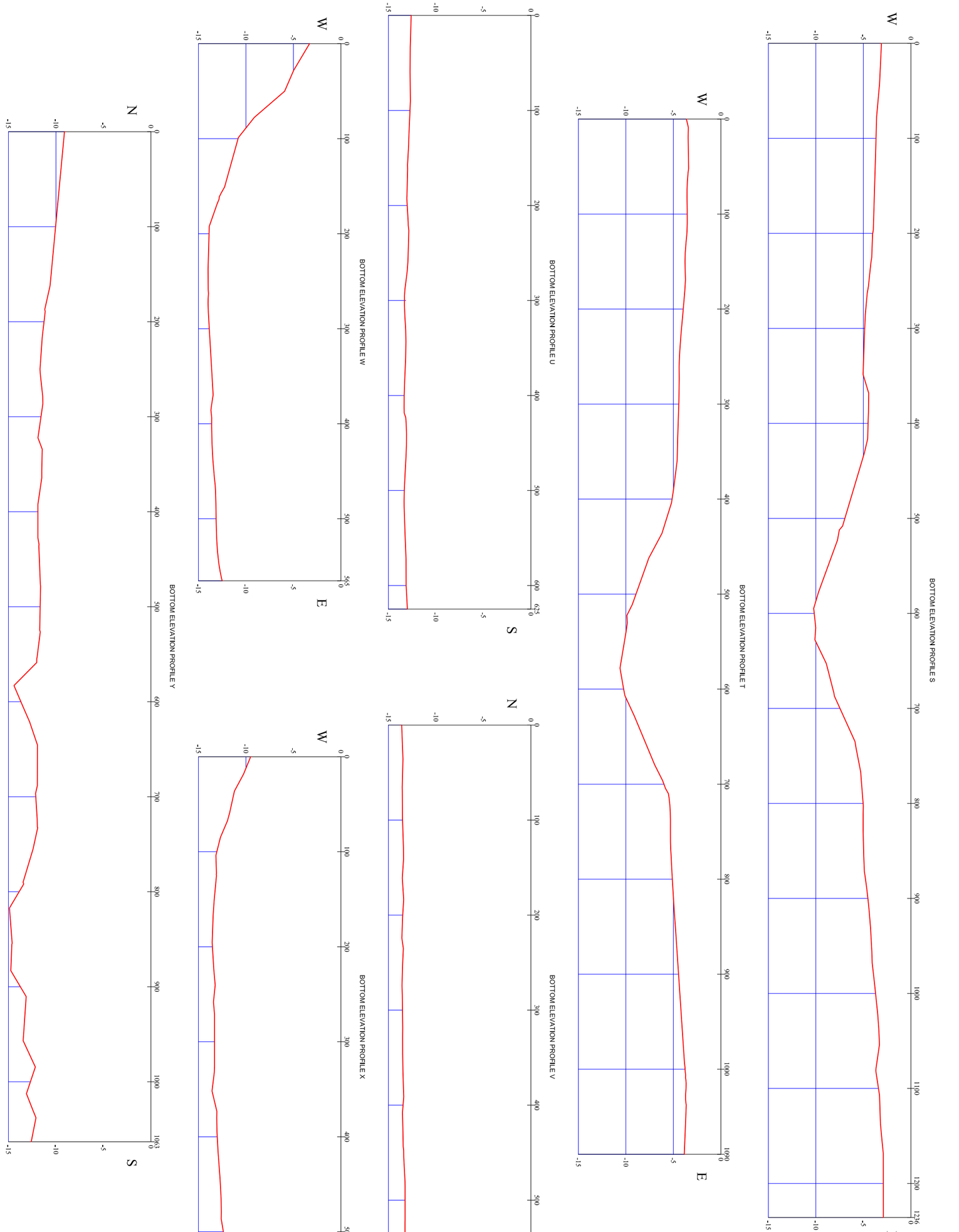
DATE: JANUARY 2010	F.B.	PG.	F.B.	PG.	
DRAWN:	F.B.	PG.	F.B.	PG.	
CHECKED:	F.B.	PG.	F.B.	PG.	
SCALE: 1"=300'	F.B.	PG.	F.B.	PG.	
SEC. 1, T19S-R28E	F.B.	PG.	F.B.	PG.	
ACAD NO. 2069965.00C	REF. NO.	BA-40			

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA-40)

COASTAL ENGINEERING CONSULTANTS INC.
PH: (239) 643-2324
FAX: (239) 643-7143
3106 SOUTH HORSESHOE DRIVE
NAPLES, FLORIDA 34104

STB GROUP, LLC
QUALITY BY DESIGN
P.O. BOX 1751
BATON ROUGE, LA. 70821
PHONE (225) 769-3400
FAX (225) 769-3596

SHEET 29 OF 32
FILE NO.: 31179.0 TASK 903



SJB GROUP, LLC
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PHONE (225) 769-3400
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COASTAL ENGINEERING CONSULTANTS INC.
PH: (239) 643-2324
FAX: (239) 643-1143
3106 SOUTH HORSESHOE DRIVE
NAPLES, FLORIDA 34104

BATHYMETRIC AND MAGNETOMETER SURVEY OF CONVEYANCE CORRIDOR OPEN WATER SEGMENT SCOFIELD ISLAND RESTORATION (BA-40)

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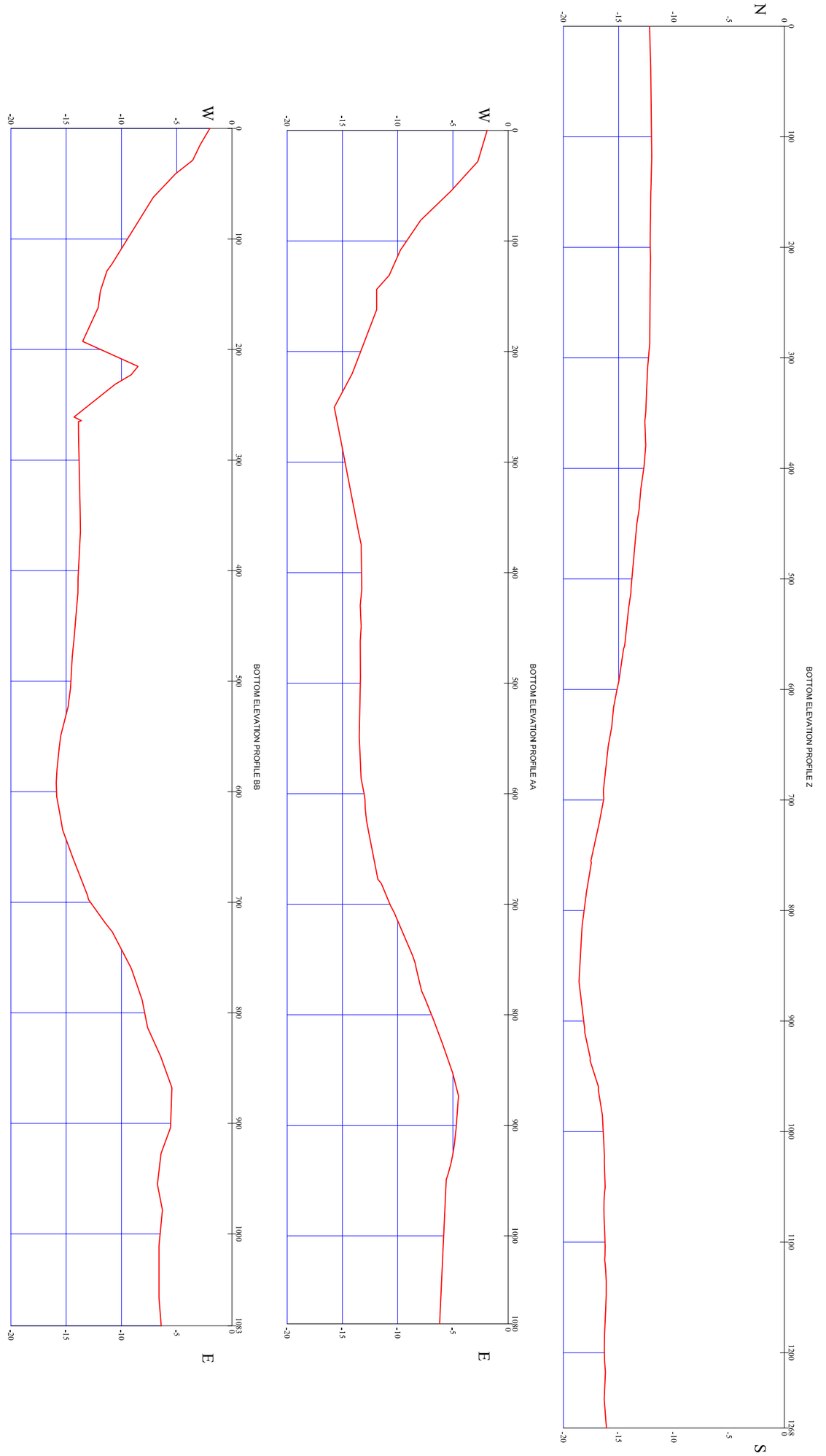
DRAWN:	F.B.	PG.
CHECKED:	F.B.	PG.
SCALE: 1"=300'	F.B.	PG.
SEC. 1, T19S-R28E	F.B.	PG.
ACAD NO. 2069965.00C	REF. NO.	BA-40

C.H. FENSTERMAKER & ASSOCIATES, INC.

SHEET 30 OF 32
FILE NO.: 31179.0 TASK 903



Horizontal Scale: 1" = 100'

100' 0' 50' 100'

Vertical Scale: 1" = 10'

10' 0' 5' 10'

Vertical Exaggeration x10

SHEET 31 OF 32
FILE NO.: 31179.0 TASK 903

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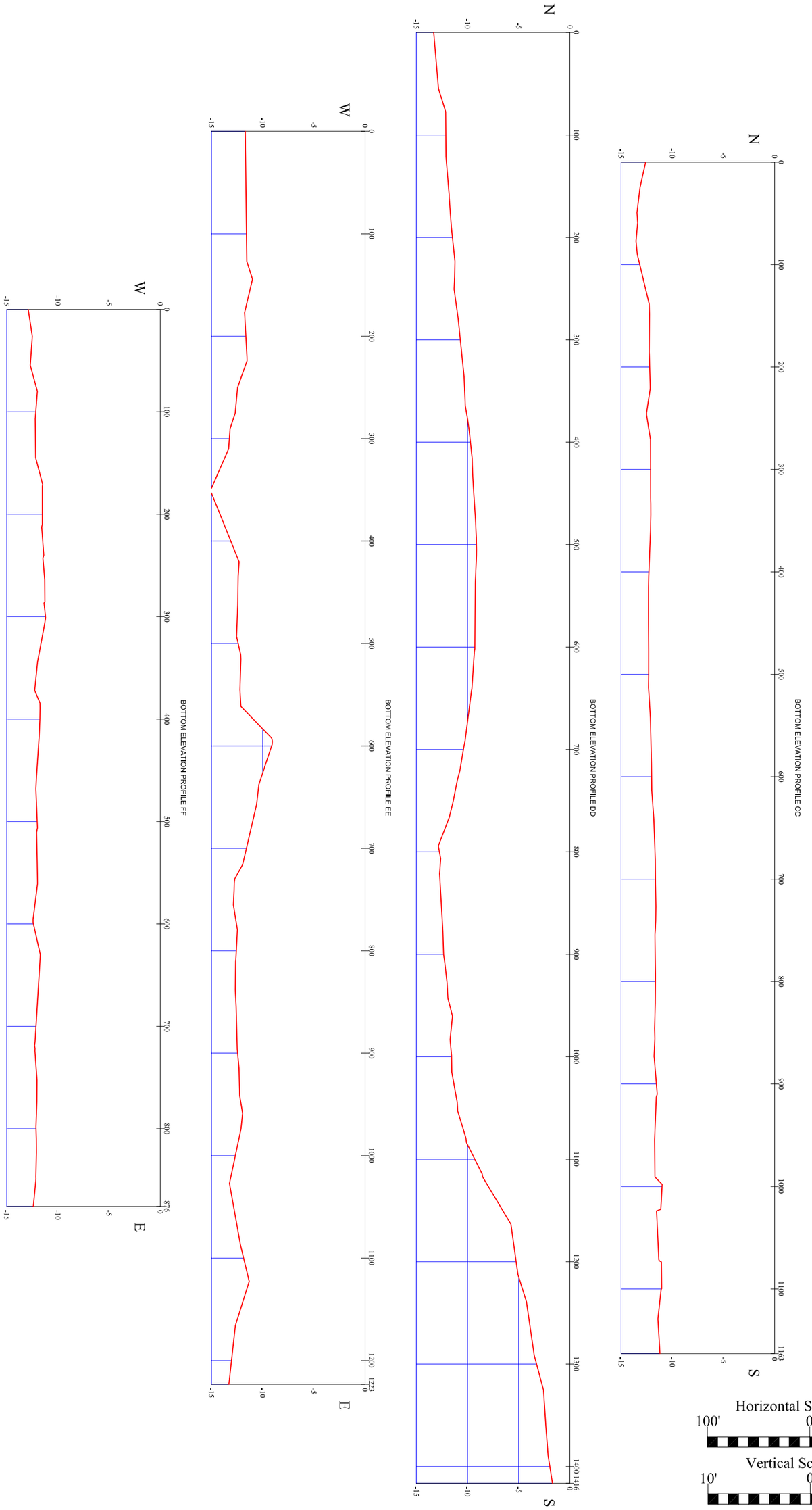

Horizontal Scale: 1" = 100'

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FILE NO.: 31179.0 TASK 903

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