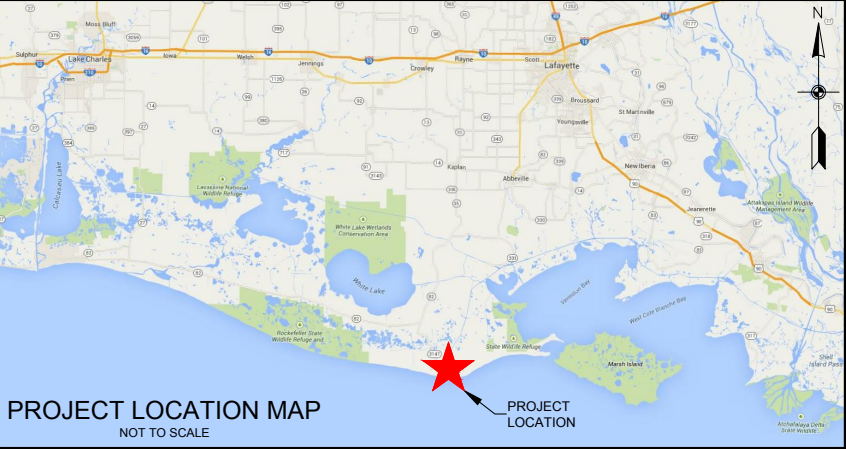


LEGEND:

- BM BENCH MARK
- ⊗ HORIZONTAL VERTICAL CONTROL POINT
- MARSH BOUNDARY LINE
- - - DIKE CENTER LINE
- ACCESS ROAD
- BORROW AREA BOUNDARY
- MAGNETOMETER TRACKLINE
- PLANNED LINE

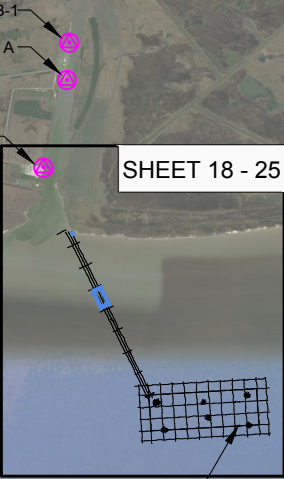


BENCHMARK
ME31-SM-01
3/4" STAINLESS STEEL ROD ENCASED IN PVC SLEEVE
ACCESS COVER STAMPED "ME31-SM-01 2017"
DRIVEN TO REFUSAL AT 56.0' DEPTH
X= 2974957.344
Y= 399655.852
GEOID 2012A Z= 1.764
GEOID 1999 Z= 2.244
LAT = 29°35'43.56886"N
LONG = 92°17'44.79468"W
HEIGHT = -82.005

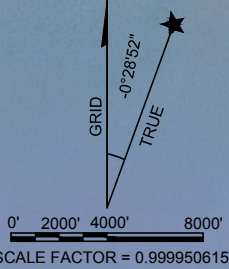
INSET

GRID -0°28'52" TRUE

0 250 500 1000
SCALE FACTOR = 0.999950615



Monument	Northing	Easting	Geoid 99 Elevation	Geoid 12A Elevation	Latitude	Longitude	Height	Description
876 6072 A	383801.170	2971813.740	7.440	6.960	29°33'06.35545"N	92°18'18.87877"W	-76.394	Existing Brass Cap (Primary Project Control)
ME31-SM-01	399655.852	2974957.344	2.244	1.764	29°35'43.56886"N	92°17'44.79468"W	-82.005	Set Flange encased Rod
ME04-SM-03(PECAN)	410380.158	2956350.821	1.317	0.907	29°37'28.13766"N	92°21'16.63094"W	-83.286	Existing Aluminum Cap and sleeve
F 382	430013.178	2953784.175	3.633	3.222	29°40'42.26265"N	92°21'47.71081"W	-81.559	Existing Flange encased Rod
FWB-1	385375.568	2971914.711	2.899	2.419	29°33'21.94942"N	92°18'17.88672"W	-80.874	Found Iron Rod and Cap
FWB-2	380169.111	2970841.703	4.889	4.409	29°32'30.31875"N	92°18'29.53428"W	-78.761	Set Iron Rod and Cap for TBM



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2. HORIZONTAL COORDINATES SHOWN ARE REFERENCED TO NAD83 2011 USING STATE PLANE LOUISIANA SOUTH (1702) IN U.S. SURVEY FEET.

3. ELEVATIONS ARE REFERENCED TO NAVD 88 USING GEOID 99.
4. THE INFORMATION DEPICTED ON THIS PLAT CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THE TIME THE SURVEY WAS MADE.

5. AERIAL PHOTOGRAPHY SHOWN HAS AN ACQUISITION DATE OF 2/8/2017 FROM GOOGLE IMAGERY.

6. PLANNED LINES SHOWN FOR AREAS CLEARED BY FIELD SURVEY CREW.

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OVERVIEW
OF
MAGNETOMETER
SURVEY



MAGNETOMETER SURVEY
ME-31 FRESHWATER BAYOU
MARCH CREATION PROJECT
VERMILION PARISH, LOUISIANA

SCALE	AS SHOWN	SURVEY DATE	PLOT DATE	REV.#	JOB NUMBER	SHEET
DRAWN	JP	2/28/2018	4/26/2018	00	EMC-17-093	1/25

LEGEND:

- MARSH BOUNDARY LINE
- DIKE CENTER LINE
- PROBED PIPELINE LOCATION
- GIS PIPELINE LOCATION

PROBE TABLE					
TRANSCO PIPELINE					
Pt. No.	Northing	Easting	Ground Elevation	Pipe Elevation	Depth of Cover
11131	412763.10	2978301.45	-0.25	-1.67	1.42
11133	412350.04	2978554.68	-0.05	-1.72	1.67
11135	411935.30	2978808.60	-0.13	-1.90	1.77
11138	411508.00	2979067.73	0.13	-1.79	1.92
11139	411084.86	2979324.27	-0.08	-1.91	1.83
11142	410665.04	2979579.44	-0.11	-1.74	1.63
11143	410242.84	2979832.79	0.93	-1.83	2.76
11145	410091.16	2979926.82	-1.25	-2.23	0.98
11148	410054.15	2979950.50	-1.18	-2.11	0.93
11149	410016.68	2979973.63	-1.06	-1.91	0.85
11152	409976.33	2979998.90	-0.70	-1.62	0.92
11153	409941.18	2980020.00	-0.39	-1.63	1.24
11156	409898.61	2980045.73	0.50	-1.75	2.25
11157	409859.89	2980069.41	0.69	-1.80	2.50
11160	409818.48	2980094.70	0.29	-1.94	2.23
11161	409776.50	2980119.26	-0.27	-2.00	1.73
11164	409735.58	2980143.94	0.59	-2.07	2.66
11165	409692.66	2980169.35	0.59	-1.87	2.45
11168	409651.58	2980193.42	0.85	-1.56	2.41
11169	409611.35	2980216.73	-0.86	-1.63	0.77
11172	409198.03	2980469.14	-4.18	-4.39	0.21
11173	408786.24	2980719.37	-4.92	-4.98	0.06
HILCORP 10" PIPELINE					
Pt. No.	Northing	Easting	Ground Elevation	Pipe Elevation	Depth of Cover
11089	409342.25	2975908.65	1.01	-5.19	6.20
11090	409373.18	2976416.54	-0.40	-5.64	5.24
11094	409375.93	2976468.09	0.81	-7.64	8.44
11093	409377.09	2976515.00	0.76	-6.86	7.62
11097	409379.93	2976564.92	0.53	-4.91	5.44
11098	409382.83	2976615.16	0.79	-3.51	4.30
11101	409384.89	2976665.45	0.67	-4.44	5.11
11102	409388.00	2976714.82	0.56	-5.20	5.76
11105	409390.20	2976763.14	0.31	-5.40	5.71
11106	409392.68	2976813.03	0.59	-5.12	5.71
11109	409395.66	2976862.98	0.37	-4.75	5.12
11110	409398.71	2976912.08	1.28	-4.56	5.83
11113	409401.77	2976962.01	0.72	-3.98	4.70
11219	409415.90	2977155.55	-0.34	-5.77	5.43
11218	409450.13	2977650.02	-0.69	-6.19	5.51
11215	409483.24	2978135.08	-0.52	-5.38	4.86
11214	409513.74	2978623.27	-0.40	-5.46	5.06
11211	409544.29	2979118.69	0.11	-5.92	6.02
11210	409573.11	2979600.64	0.74	-3.89	4.63
11207	409576.12	2979645.64	1.30	-3.47	4.77
11206	409578.69	2979694.04	0.79	-4.38	5.17
11203	409581.35	2979743.70	0.90	-5.56	6.45
11202	409583.93	2979792.71	1.22	-6.83	8.05
11199	409586.15	2979828.75	0.69	-7.45	8.14
11198	409589.60	2979878.67	0.68	-7.48	8.16
11195	409592.44	2979928.91	-1.34	-7.61	6.27
11194	409595.09	2979975.53	-0.39	-7.34	6.96
11191	409598.79	2980021.20	0.49	-6.40	6.90
11190	409602.74	2980067.58	0.38	-5.53	5.91
11178	409606.06	2980111.52	0.39	-4.91	5.30
11179	409609.65	2980161.88	0.24	-5.35	5.59
11182	409613.27	2980210.70	-0.67	-5.72	5.05
11183	409616.23	2980255.25	-0.40	-5.43	5.02
11186	409619.43	2980304.97	1.62	-4.63	6.24
11187	409621.02	2980339.99	-1.38	-4.52	3.13
11175	409633.11	2980581.67	-0.51	-5.86	5.36



PROBE TABLE					
UNKNOWN PIPELINE					
Pt. No.	Northing	Easting	Ground Elevation	Pipe Elevation	Depth of Cover
11129	412412.08	2977124.70	-1.61	-6.73	5.12
11008	412483.93	2977513.51	-1.34	-6.75	5.42
11128	412499.55	2977596.65	-1.51	-7.07	5.57
11125	412589.13	2978093.32	-1.39	-7.55	6.16
11124	412672.73	2978541.22	-1.70	-6.10	4.41
11120	412724.87	2978827.07	-2.07	-4.54	2.47
11119	412798.58	2979225.84	-1.36	-6.47	5.11
11115	412900.12	2979804.77	-0.46	-6.60	6.15
11116	412901.83	2979813.88	-1.06	-6.41	5.34
TRUNKLINE 20" PIPELINE (NORTH MARSH)					
Pt. No.	Northing	Easting	Ground Elevation	Pipe Elevation	Depth of Cover
11079	412922.96	2977816.70	0.00	-4.96	4.95
11003	412510.11	2977643.44	-1.43	-4.02	2.59
11085	412502.57	2977640.87	-1.29	-3.95	2.65
11011	412446.06	2977618.13	-1.25	-4.81	3.55
11012	411972.49	2977418.83	-1.44	-5.04	3.59
11023	411507.16	2977225.57	-1.33	-5.33	3.99
11035	411039.05	2977030.29	-0.78	-5.14	4.36
11040	410600.23	2976847.28	-0.74	-5.16	4.42
11051	410136.27	2976653.96	-0.36	-5.04	4.68
11058	409662.24	2976455.97	-0.30	-5.27	4.96
11067	409207.61	2976268.21	0.22	-5.02	5.23
11072	408786.00	2976093.60	1.40	-4.80	6.20
SEA ROBIN PIPELINE WEST PIPE (NORTH MARSH)					
Pt. No.	Northing	Easting	Ground Elevation	Pipe Elevation	Depth of Cover
11080	412896.27	2977866.73	-0.10	-3.17	3.07
11005	412655.95	2977767.10	0.80	-3.80	4.60
11017	411955.87	2977474.49	-1.72	-3.38	1.66
11024	411486.77	2977279.48	-1.37	-3.58	2.21
11036	411041.71	2977093.94	1.36	-3.96	5.32
11045	410569.41	2976897.10	-0.34	-3.67	3.33
11052	410104.19	2976707.06	-0.21	-3.77	3.57
11063	409638.00	2976511.84	-0.01	-3.91	3.90
11068	409189.49	2976324.81	0.70	-4.54	5.24
11075	408789.18	2976158.53	0.86	-4.52	5.38
SEA ROBIN PIPELINE EAST PIPE (NORTH MARSH)					
Pt. No.	Northing	Easting	Ground Elevation	Pipe Elevation	Depth of Cover
11084	412882.69	2977894.24	-0.39	-4.27	3.88
11030	412403.44	2977695.32	-0.70	-4.24	3.55
11018	411947.30	2977504.98	-1.44	-4.01	2.56
11029	411480.04	2977311.33	-1.33	-3.99	2.66
11039	411032.02	2977123.02	0.71	-4.25	4.96
11046	410560.59	2976926.46	-0.25	-4.52	4.27
11057	410092.96	2976732.45	0.22	-3.64	3.86
11064	409629.17	2976540.66	1.28	-4.10	5.38
11071	409177.62	2976353.49	0.81	-4.01	4.82
11076	408798.10	2976195.01	0.83	-4.38	5.21
CYPRESS PIPELINE (NORTH MARSH)					
Pt. No.	Northing	Easting	Ground Elevation	Pipe Elevation	Depth of Cover
11224	408443.31	2981017.75	-1.87	1.01	-2.88
11221	408366.54	2980959.83	-2.34	-0.23	-2.11
11225	408338.72	2980940.02	0.08	-0.88	0.96
11228	408333.42	2980936.45	-0.27	-0.94	0.67
11229	408318.67	2980926.00	0.07	-1.06	1.13
11232	408253.83	2980881.80	0.61	-0.98	1.59
11233	408134.87	2980801.13	-0.29	-0.96	0.67
11236	408053.42	2980745.70	1.59	-1.21	2.80
11237	408012.14	2980717.28	-0.37	-1.20	0.83
11240	407975.05	2980691.97	0.14	-1.05	1.19
11241	407934.32	2980663.97	2.26	-1.09	3.35
11244	407893.34	2980636.02	0.37	-0.79	1.16
11245	407852.34	2980608.17	0.54	-1.18	1.72
11248	407814.16	2980582.20	1.22	-0.98	2.20
11249	407773.45	2980554.73	0.35	-1.08	1.43
11252	407733.35	2980527.15	1.78	-1.09	2.87
11253	407692.90	2980499.57	1.87	-1.09	2.96
11256	407652.56	2980472.15	1.29	-0.89	2.18

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3. ELEVATIONS ARE REFERENCED TO NAVD 88 USING GEOID 99.

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5. AERIAL PHOTOGRAPHY SHOWN HAS AN ACQUISITION DATE OF 2/8/2017 FROM GOOGLE IMAGERY.

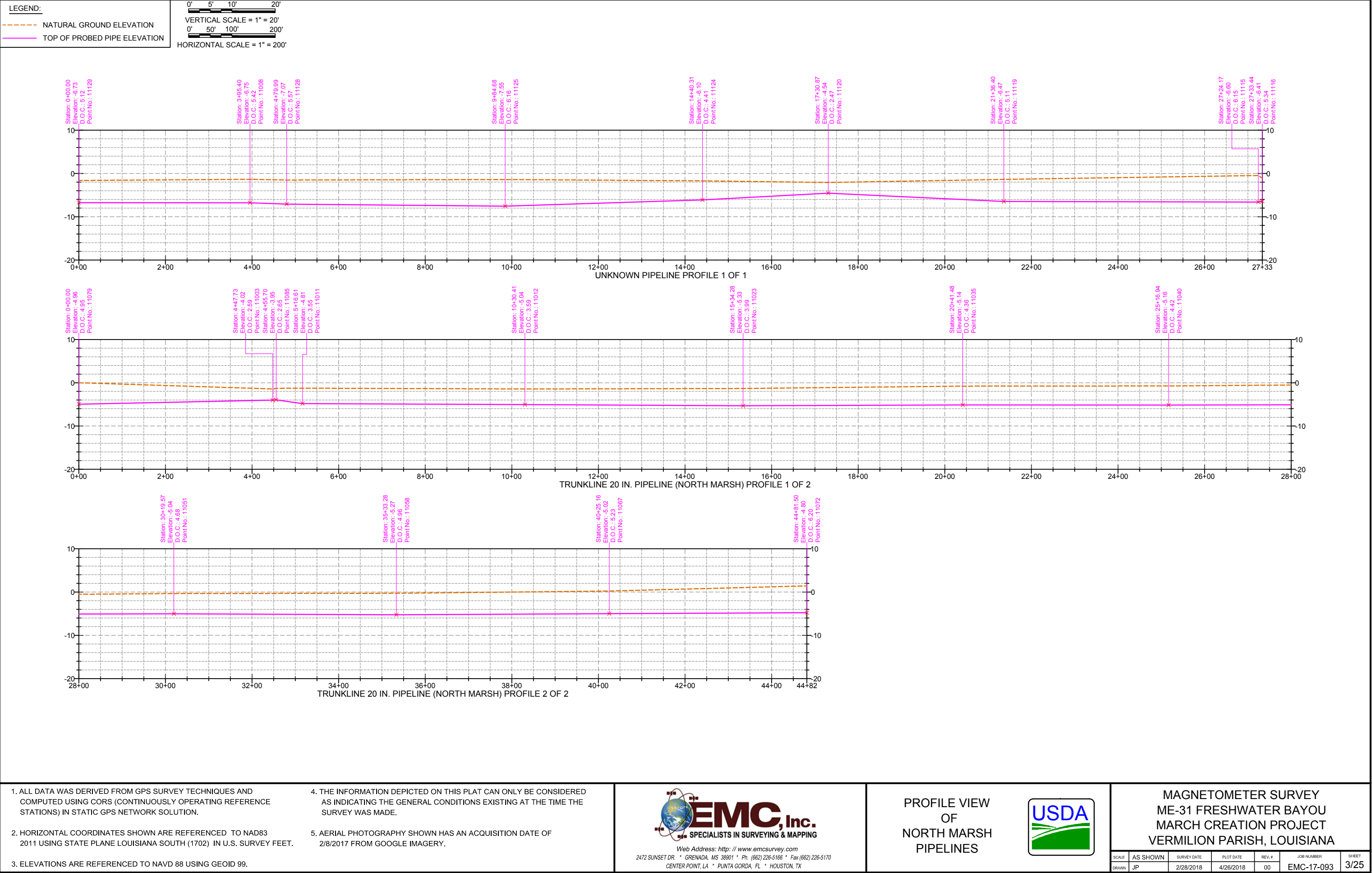
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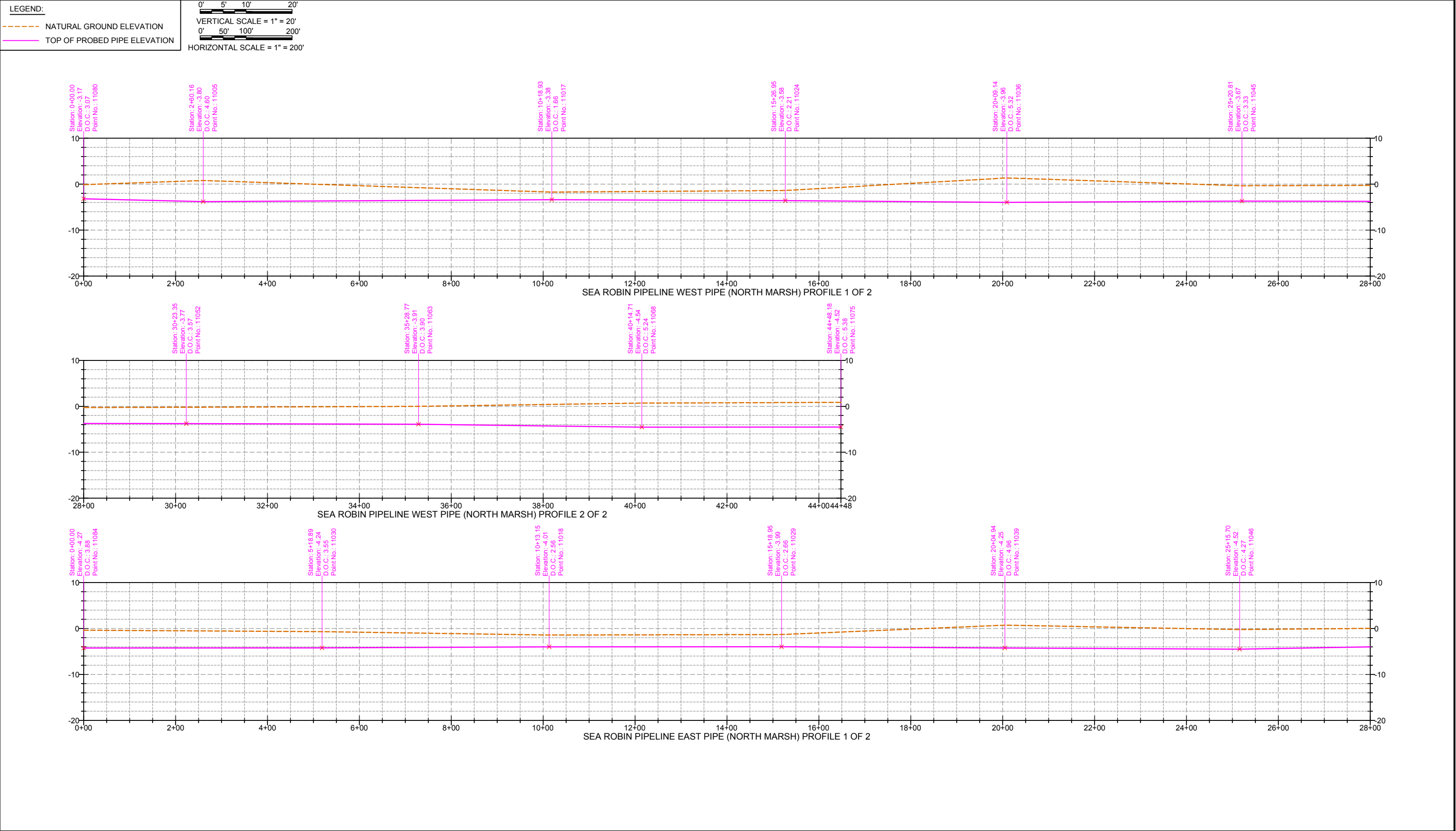
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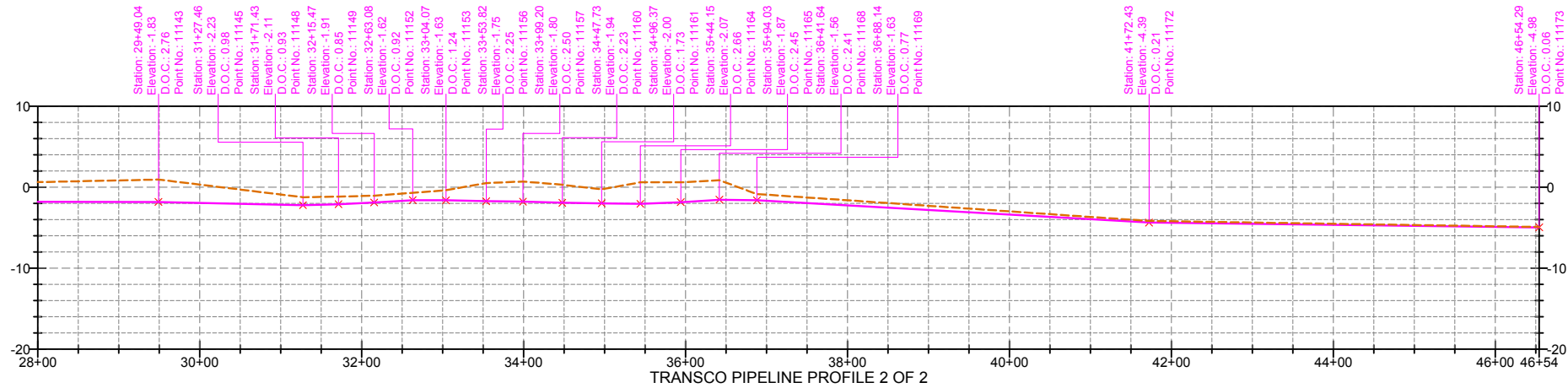
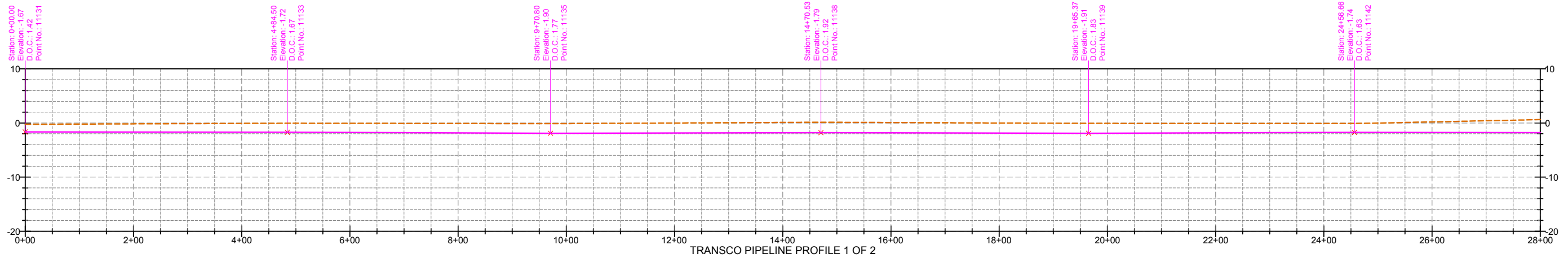
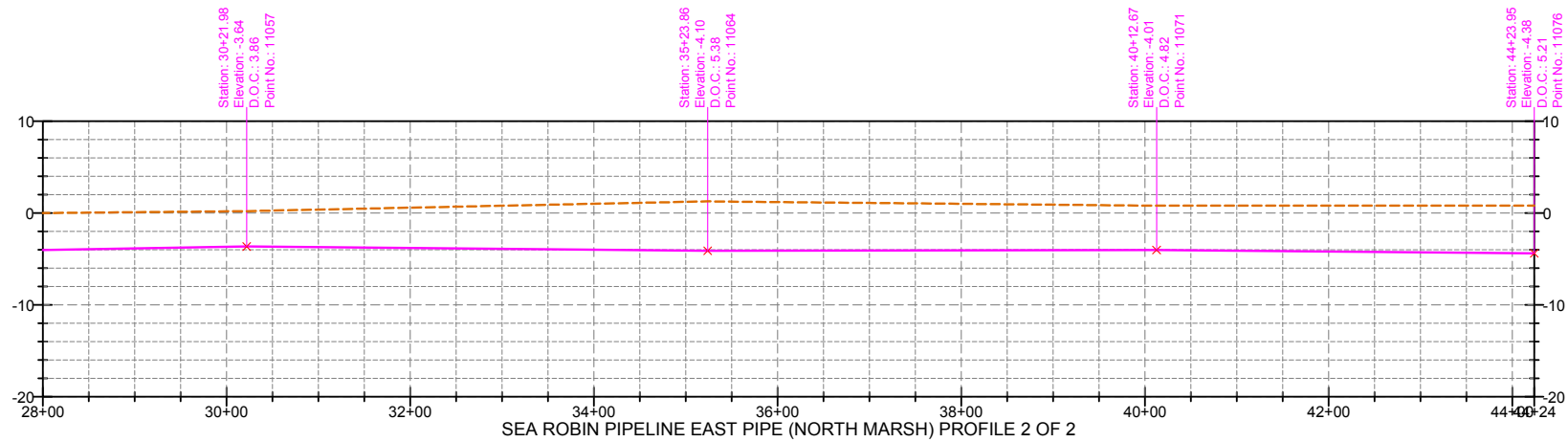
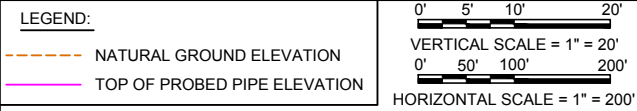
PLAN VIEW
OF
NORTH MARSH
PIPELINE SURVEY

MAGNETOMETER SURVEY
ME-31 FRESHWATER BAYOU
MARCH CREATION PROJECT
VERMILION PARISH, LOUISIANA

SCALE	AS SHOWN	SURVEY DATE	2/28/2018	PLOT DATE	4/26/2018	REV.#	00	JOB NUMBER	EMC-17-093	SHEET	2/25
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1. ALL DATA WAS DERIVED FROM GPS SURVEY TECHNIQUES AND COMPUTED USING CORS (CONTINUOUSLY OPERATING REFERENCE STATIONS) IN STATIC GPS NETWORK SOLUTION.
2. HORIZONTAL COORDINATES SHOWN ARE REFERENCED TO NAD83 2011 USING STATE PLANE LOUISIANA SOUTH (1702) IN U.S. SURVEY FEET.
3. ELEVATIONS ARE REFERENCED TO NAVD 88 USING GEOID 99.

4. THE INFORMATION DEPICTED ON THIS PLAT CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THE TIME THE SURVEY WAS MADE.
5. AERIAL PHOTOGRAPHY SHOWN HAS AN ACQUISITION DATE OF 2/8/2017 FROM GOOGLE IMAGERY.

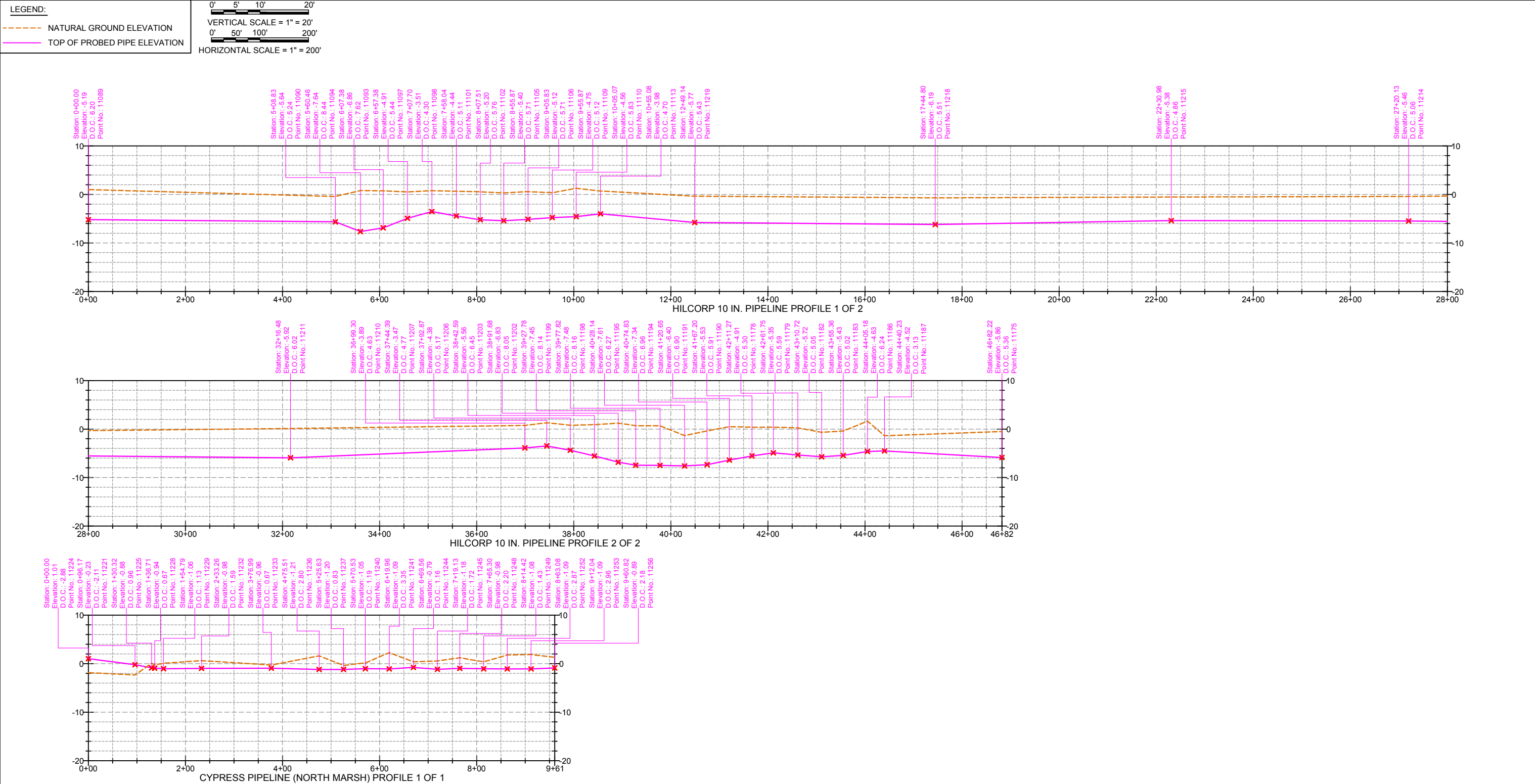


PROFILE VIEW
OF
NORTH MARSH
PIPELINES



MAGNETOMETER SURVEY
ME-31 FRESHWATER BAYOU
MARCH CREATION PROJECT
VERMILION PARISH, LOUISIANA

SCALE	AS SHOWN	SURVEY DATE	PLOT DATE	REV. #	JOB NUMBER	SHEET
DRAWN	JP	2/28/2018	4/26/2018	00	EMC-17-093	5/25



1. ALL DATA WAS DERIVED FROM GPS SURVEY TECHNIQUES AND COMPUTED USING CORS (CONTINUOUSLY OPERATING REFERENCE STATIONS) IN STATIC GPS NETWORK SOLUTION.

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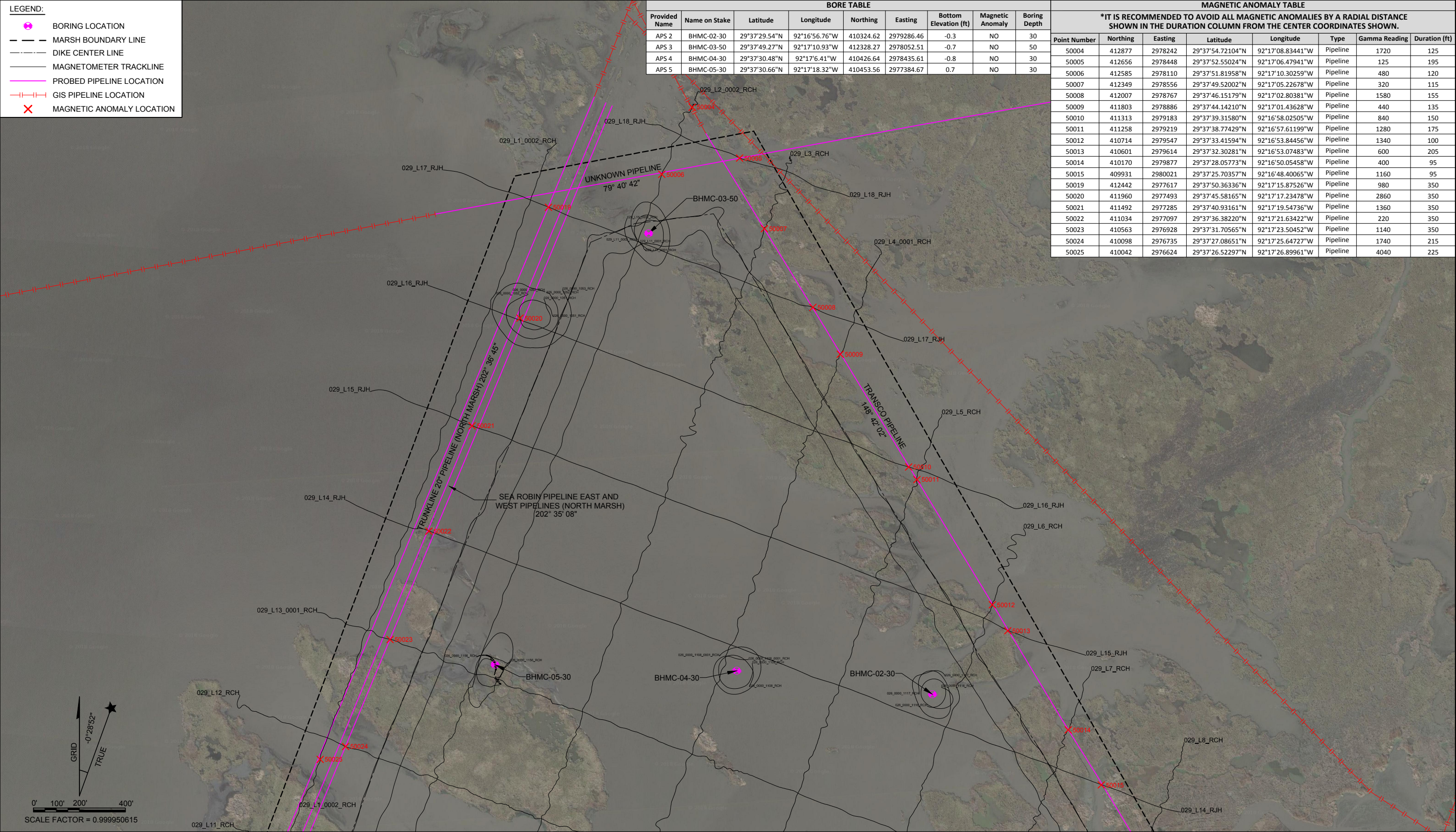
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PROFILE VIEW
OF
NORTH MARSH
PIPELINES



MAGNETOMETER SURVEY
ME-31 FRESHWATER BAYOU
MARCH CREATION PROJECT
VERMILION PARISH, LOUISIANA

SCALE	AS SHOWN	SURVEY DATE	PLOT DATE	REV.#	JOB NUMBER	SHEET
DRAWN	JP	2/28/2018	4/26/2018	00	EMC-17-093	6/25



LEGEND:

BORING LOCATION

MARSH BOUNDARY LINE

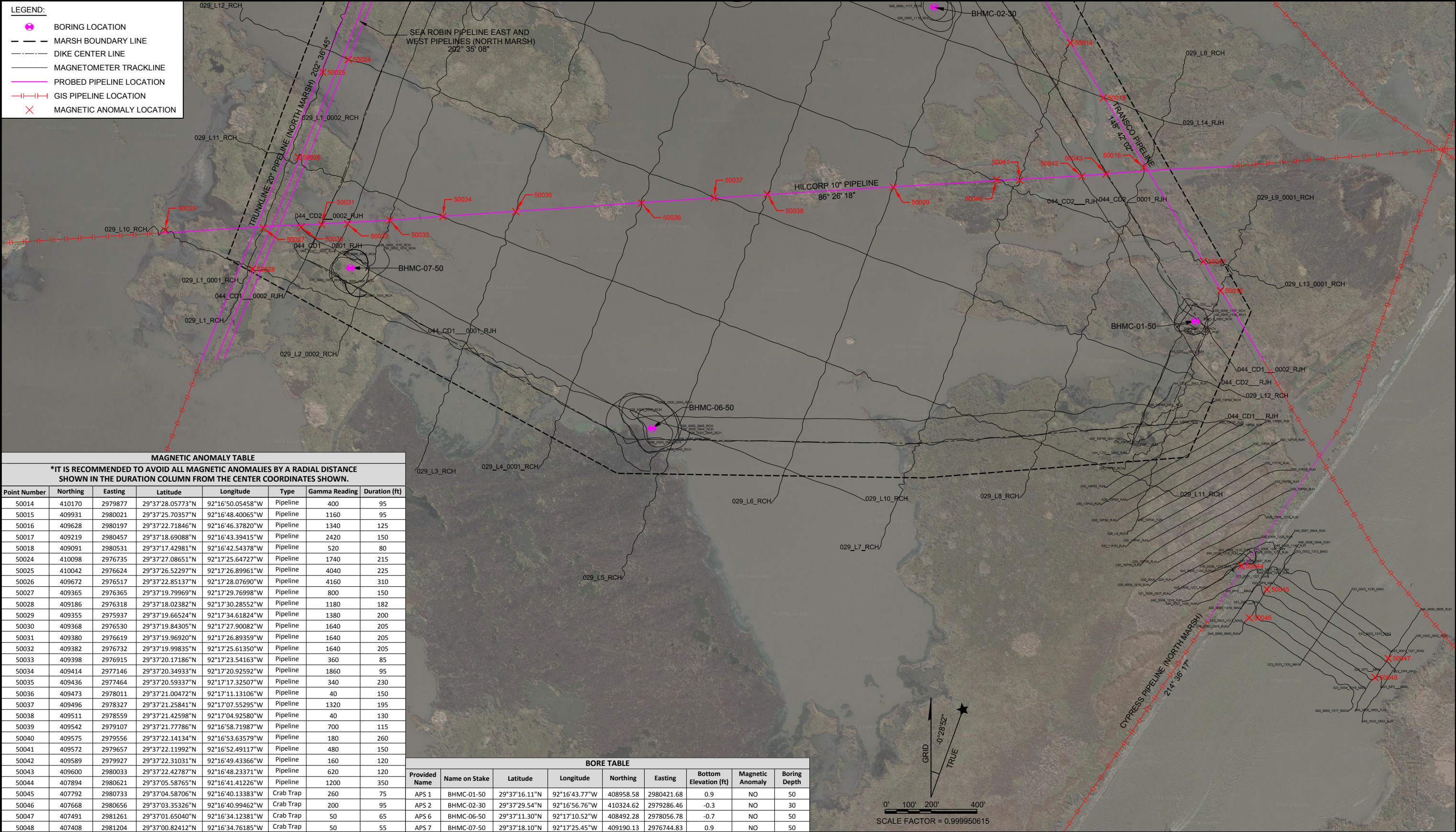
DIKE CENTER LINE

MAGNETOMETER TRACKLINE

PROBED PIPELINE LOCATION

GIS PIPELINE LOCATION

MAGNETIC ANOMALY LOCATION



MAGNETIC ANOMALY TABLE							
*IT IS RECOMMENDED TO AVOID ALL MAGNETIC ANOMALIES BY A RADIAL DISTANCE SHOWN IN THE DURATION COLUMN FROM THE CENTER COORDINATES SHOWN.							
Point Number	Northing	Easting	Latitude	Longitude	Type	Gamma Reading	Duration (ft)
50014	410170	2979877	29°37'28.05773"N	92°16'50.05458"W	Pipeline	400	95
50015	409931	2980021	29°37'25.70357"N	92°16'48.40065"W	Pipeline	1160	95
50016	409628	2980197	29°37'22.71846"N	92°16'46.37820"W	Pipeline	1340	125
50017	409219	2980457	29°37'18.69088"N	92°16'43.39415"W	Pipeline	2420	150
50018	409091	2980531	29°37'17.42981"N	92°16'42.54378"W	Pipeline	520	80
50024	410098	2976735	29°37'27.08651"N	92°17'25.64727"W	Pipeline	1740	215
50025	410042	2976624	29°37'26.52297"N	92°17'26.89961"W	Pipeline	4040	225
50026	409672	2976517	29°37'22.85137"N	92°17'28.07690"W	Pipeline	4160	310
50027	409365	2976365	29°37'19.79969"N	92°17'29.76998"W	Pipeline	800	150
50028	409186	2976318	29°37'18.02382"N	92°17'30.28552"W	Pipeline	1180	182
50029	409355	2975937	29°37'19.66524"N	92°17'34.61824"W	Pipeline	1380	200
50030	409368	2976530	29°37'19.84305"N	92°17'27.90082"W	Pipeline	1640	205
50031	409380	2976619	29°37'19.96920"N	92°17'26.89359"W	Pipeline	1640	205
50032	409382	2976732	29°37'19.99835"N	92°17'25.61350"W	Pipeline	1640	205
50033	409398	2976915	29°37'20.17186"N	92°17'23.54163"W	Pipeline	360	85
50034	409414	2977146	29°37'20.34933"N	92°17'20.92592"W	Pipeline	1860	95
50035	409436	2977464	29°37'20.59337"N	92°17'17.32507"W	Pipeline	340	230
50036	409473	2978011	29°37'21.00472"N	92°17'11.13106"W	Pipeline	40	150
50037	409496	2978327	29°37'21.25841"N	92°17'07.55295"W	Pipeline	1320	195
50038	409511	2978559	29°37'21.42598"N	92°17'04.92580"W	Pipeline	40	130
50039	409542	2979107	29°37'21.77786"N	92°16'58.71987"W	Pipeline	700	115
50040	409575	2979556	29°37'22.14134"N	92°16'53.63579"W	Pipeline	180	260
50041	409572	2979657	29°37'22.11992"N	92°16'52.49117"W	Pipeline	480	150
50042	409589	2979927	29°37'22.31031"N	92°16'49.43366"W	Pipeline	160	120
50043	409600	2980033	29°37'22.42787"N	92°16'48.23371"W	Pipeline	620	120
50044	407894	2980621	29°37'05.58765"N	92°16'41.41226"W	Pipeline	1200	350
50045	407792	2980733	29°37'04.58706"N	92°16'40.13383"W	Crab Trap	260	75
50046	407668	2980656	29°37'03.35326"N	92°16'40.99462"W	Crab Trap	200	95
50047	407491	2981261	29°37'01.65040"N	92°16'34.12381"W	Crab Trap	50	65
50048	407408	2981204	29°37'00.82412"N	92°16'34.76185"W	Crab Trap	50	55

BORE TABLE									
Provided Name	Name on Stake	Latitude	Longitude	Northing	Easting	Bottom Elevation (ft)	Magnetic Anomaly	Boring Depth	
APS 1	BHMC-01-50	29°37'16.11"N	92°16'43.77"W	408958.58	2980421.68	0.9	NO	50	
APS 2	BHMC-02-30	29°37'29.54"N	92°16'56.76"W	410324.62	2979286.46	-0.3	NO	30	
APS 6	BHMC-06-50	29°37'11.30"N	92°17'10.52"W	408492.28	2978056.78	-0.7	NO	50	
APS 7	BHMC-07-50	29°37'18.10"N	92°17'25.45"W	409190.13	2976744.83	0.9	NO	50	

1. ALL DATA WAS DERIVED FROM GPS SURVEY TECHNIQUES AND COMPUTED USING CORS (CONTINUOUSLY OPERATING REFERENCE STATIONS) IN STATIC GPS NETWORK SOLUTION.
2. HORIZONTAL COORDINATES SHOWN ARE REFERENCED TO NAD83 2011 USING STATE PLANE LOUISIANA SOUTH (1702) IN U.S. SURVEY FEET.
3. ELEVATIONS ARE REFERENCED TO NAVD 88 USING GEOID 99.

4. THE INFORMATION DEPICTED ON THIS PLAT CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THE TIME THE SURVEY WAS MADE.
5. AERIAL PHOTOGRAPHY SHOWN HAS AN ACQUISITION DATE OF 2/8/2017 FROM GOOGLE IMAGERY.

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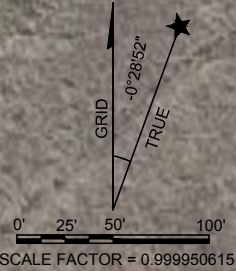
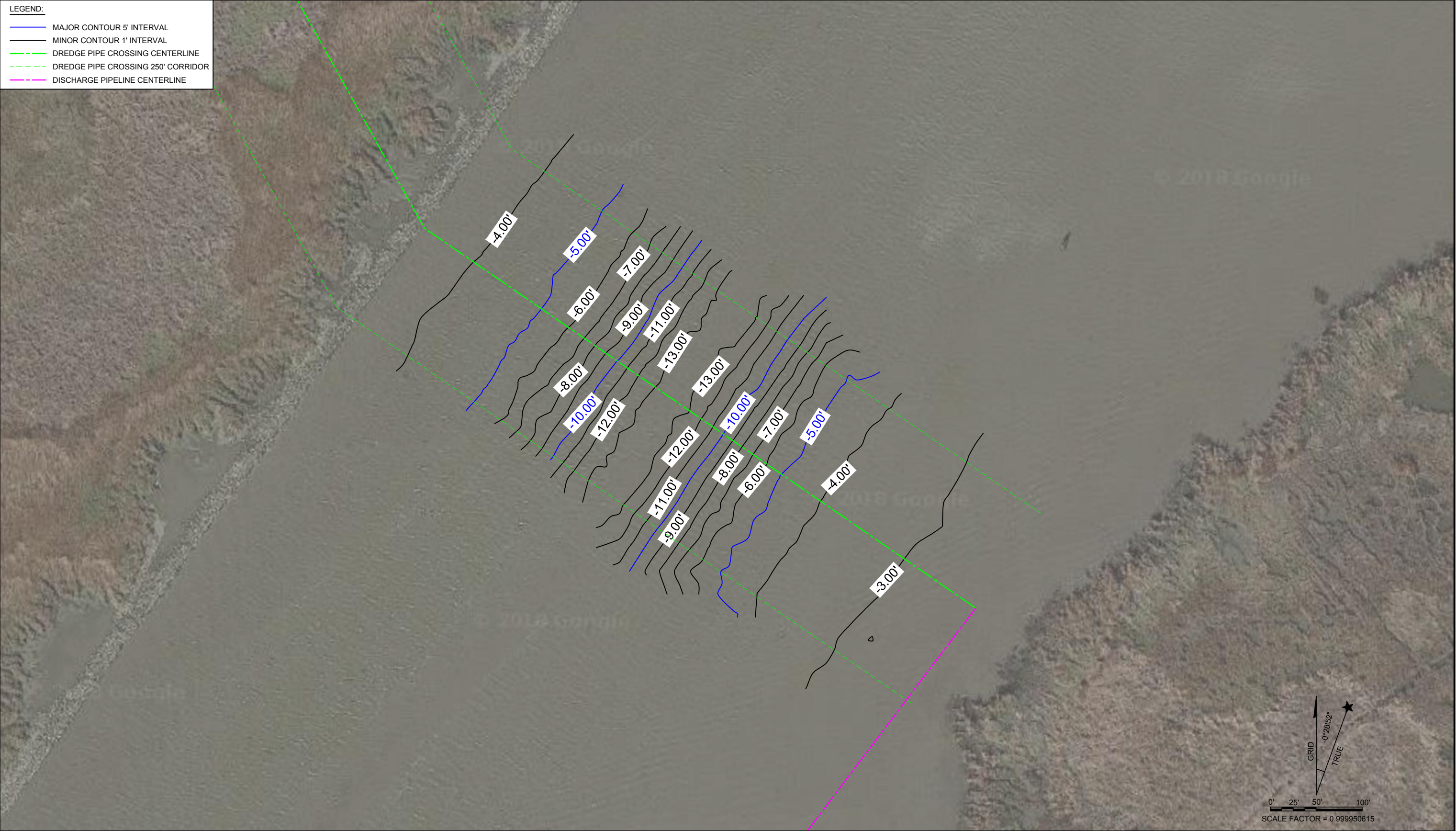
PLAN VIEW
OF
NORTH MARSH
MAGNETOMETER SURVEY

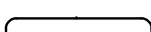
MAGNETOMETER SURVEY
ME-31 FRESHWATER BAYOU
MARCH CREATION PROJECT
VERMILION PARISH, LOUISIANA

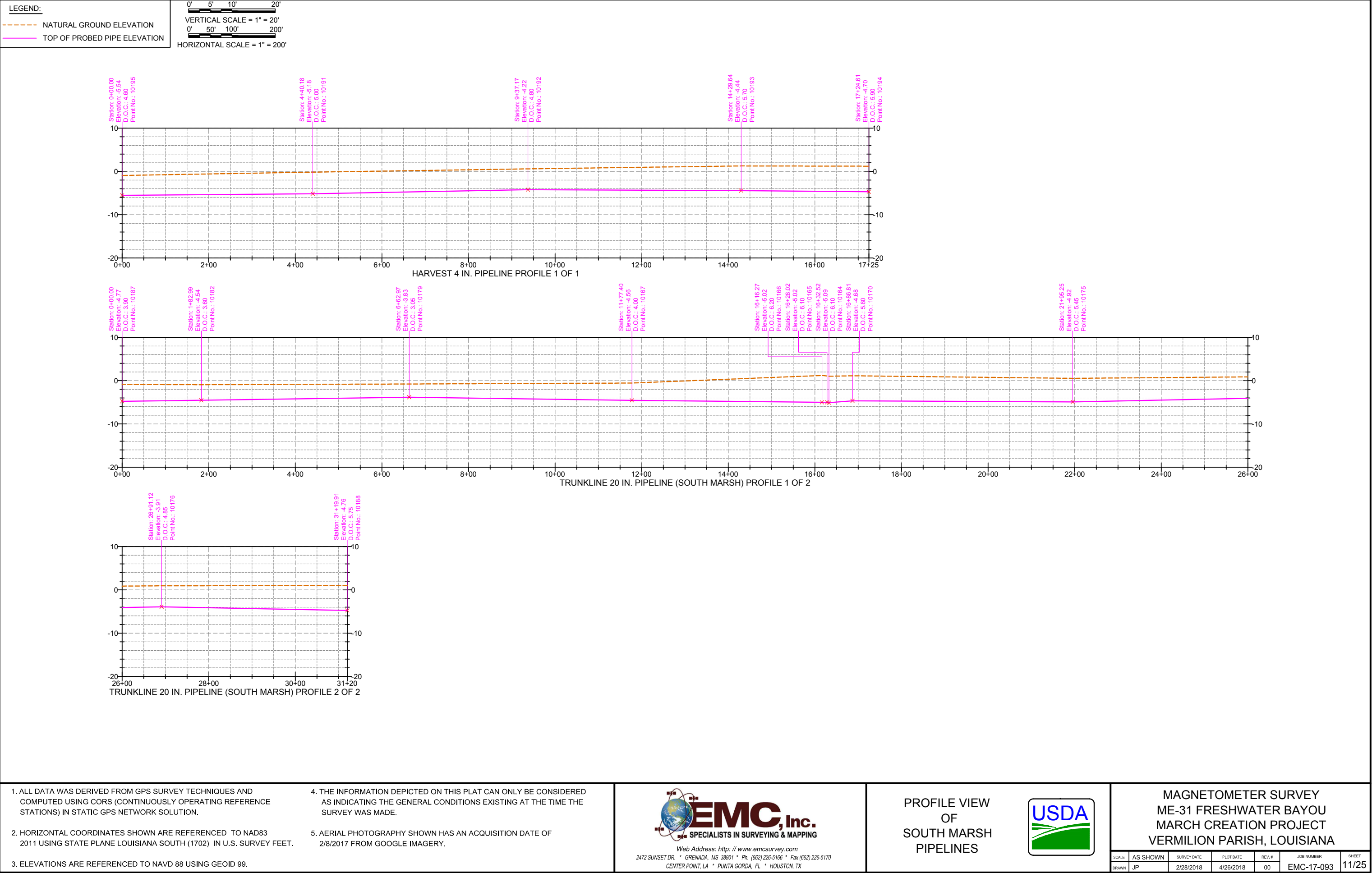
SCALE	AS SHOWN	SURVEY DATE	PLOT DATE	REV.#	JOB NUMBER	SHEET
DRAWN	JP	2/28/2018	4/26/2018	00	EMC-17-093	8/25

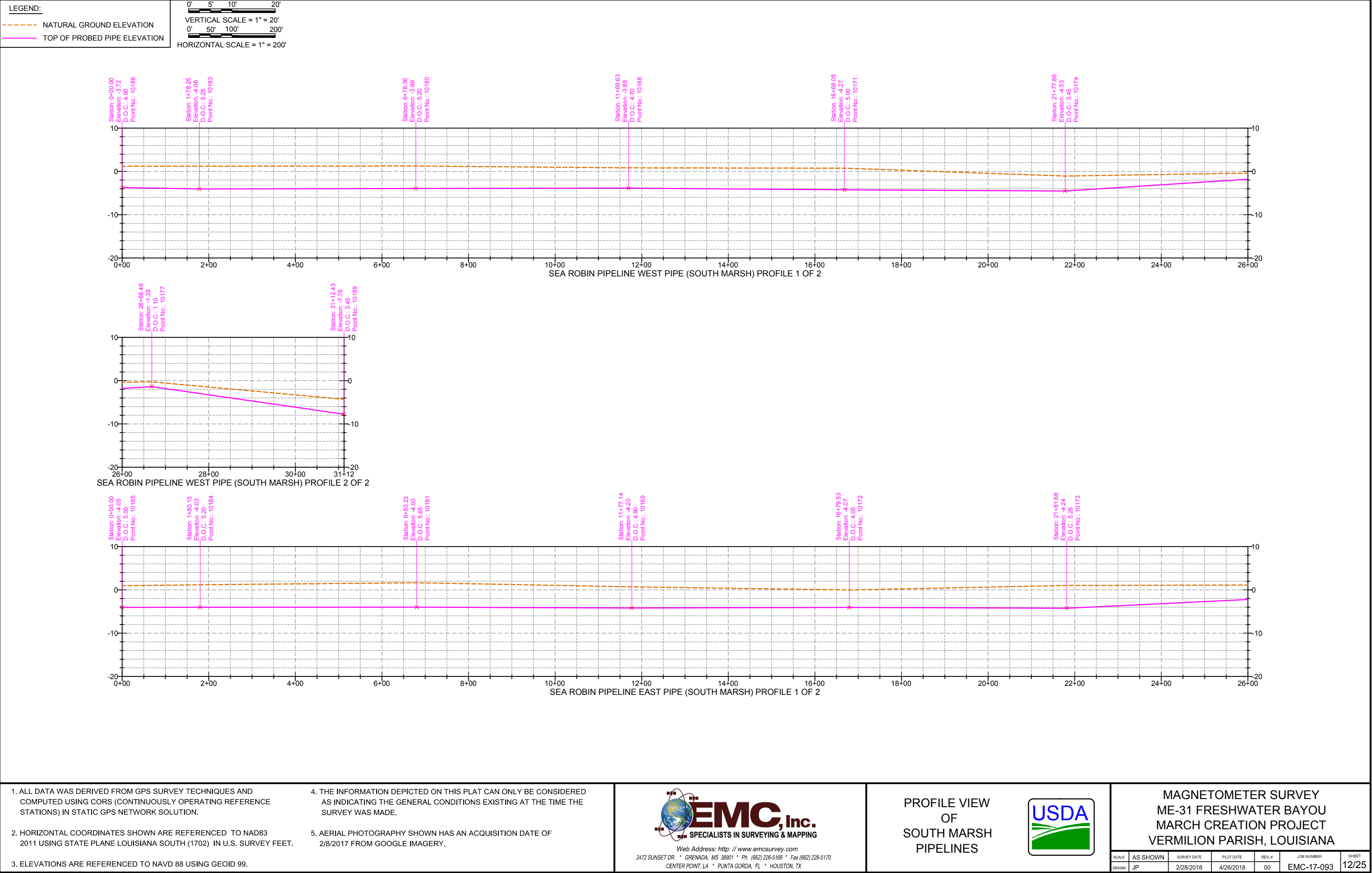
LEGEND:

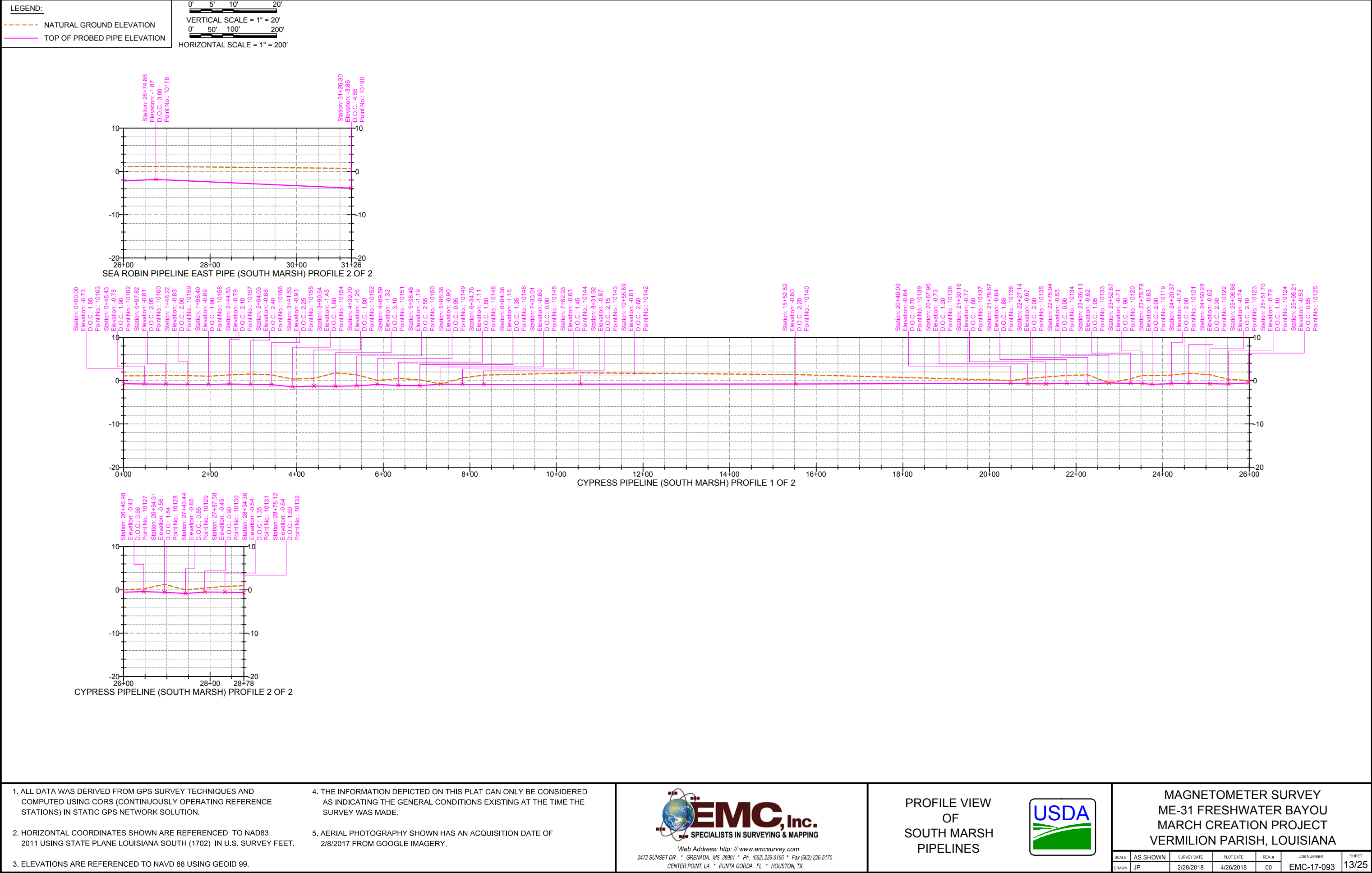
- MAJOR CONTOUR 5' INTERVAL
- MINOR CONTOUR 1' INTERVAL
- DREDGE PIPE CROSSING CENTERLINE
- DREDGE PIPE CROSSING 250' CORRIDOR
- DISCHARGE PIPELINE CENTERLINE

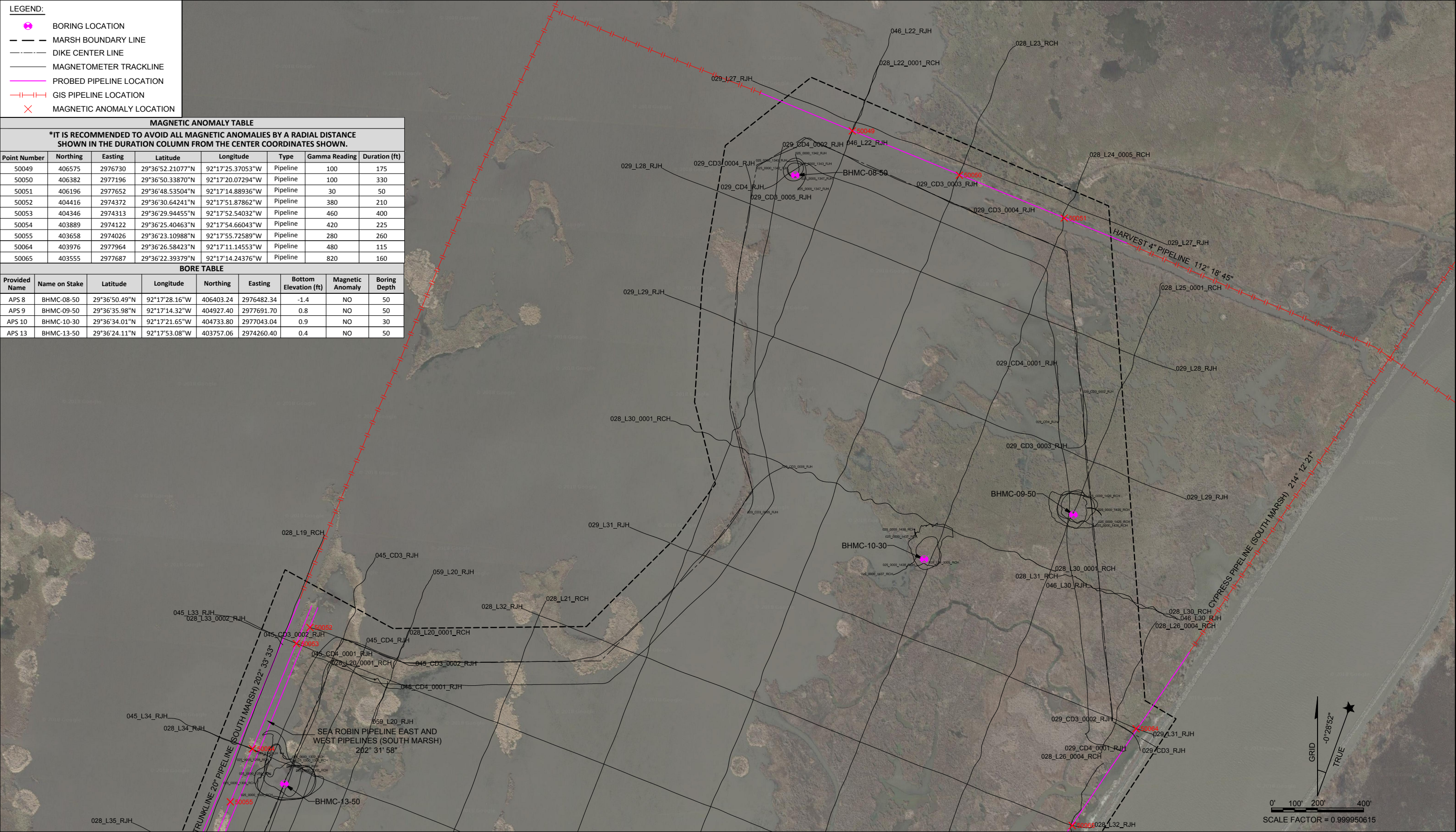


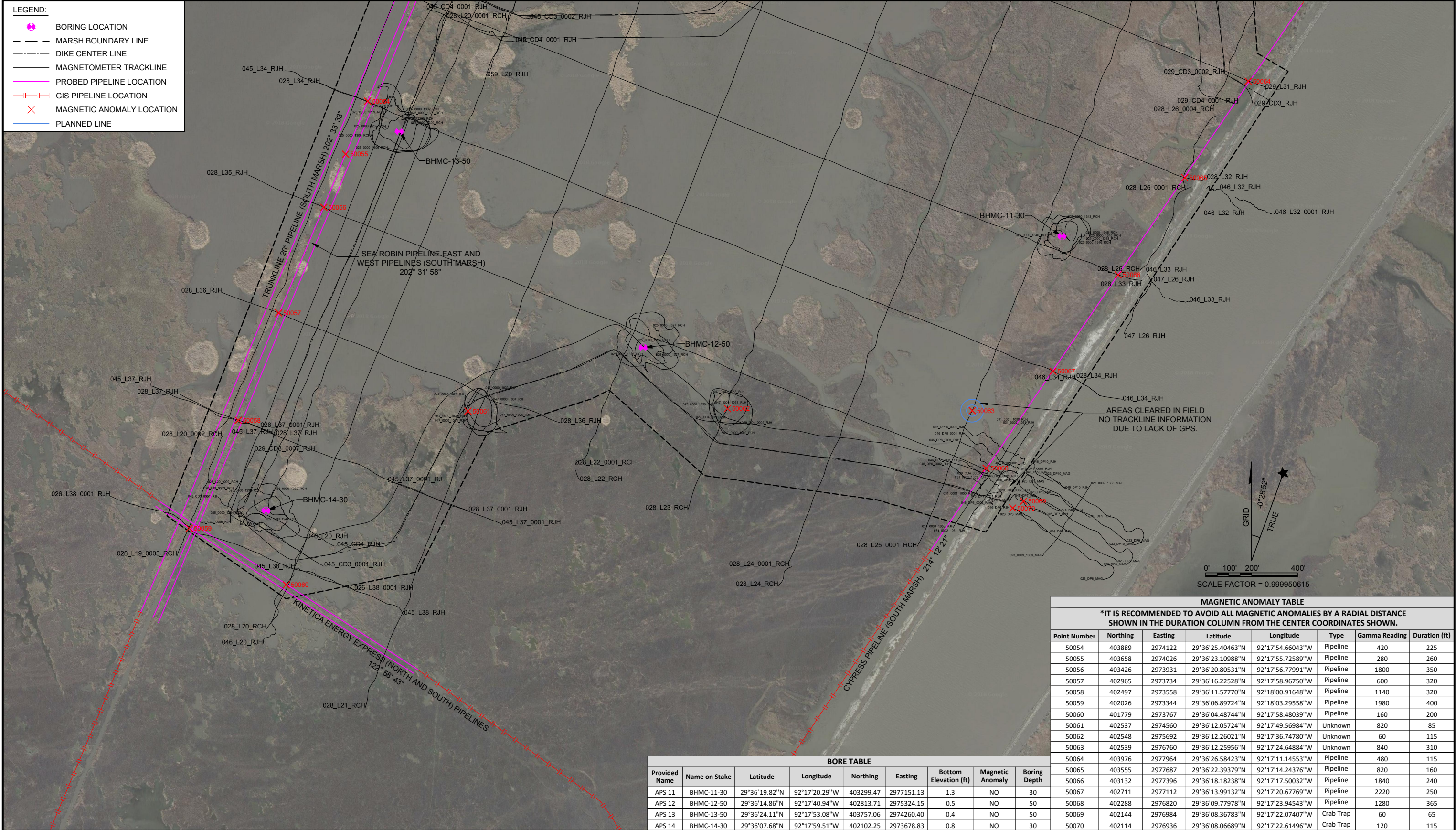
1. ALL DATA WAS DERIVED FROM GPS SURVEY TECHNIQUES AND COMPUTED USING CORS (CONTINUOUSLY OPERATING REFERENCE STATIONS) IN STATIC GPS NETWORK SOLUTION.		4. THE INFORMATION DEPICTED ON THIS PLAT CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THE TIME THE SURVEY WAS MADE.		 EMC, Inc. SPECIALISTS IN SURVEYING & MAPPING Web Address: http://www.emcsurvey.com 2472 SUNSET DR. * GRENADA, MS 38901 * Ph. (662) 226-5166 * Fax (662) 226-5170 CENTER POINT, LA * PUNTA GORDA, FL * HOUSTON, TX	PLAN VIEW OF NORTH MARSH DISCHARGE PIPE CROSSING HYDROGRAPHIC SURVEY			MAGNETOMETER SURVEY ME-31 FRESHWATER BAYOU MARCH CREATION PROJECT VERMILION PARISH, LOUISIANA					
2. HORIZONTAL COORDINATES SHOWN ARE REFERENCED TO NAD83 2011 USING STATE PLANE LOUISIANA SOUTH (1702) IN U.S. SURVEY FEET.		5. AERIAL PHOTOGRAPHY SHOWN HAS AN ACQUISITION DATE OF 2/8/2017 FROM GOOGLE IMAGERY.			SCALE AS SHOWN SURVEY DATE PLOT DATE REV. # JOB NUMBER SHEET								
3. ELEVATIONS ARE REFERENCED TO NAVD 88 USING GEOID 99.					DRAWN JP 2/28/2018 4/26/2018 00 EMC-17-093 9/25								











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5. AERIAL PHOTOGRAPHY SHOWN HAS AN ACQUISITION DATE OF 2/8/2017 FROM GOOGLE IMAGERY.

6. PLANNED LINES SHOWN FOR AREAS CLEARED BY FIELD SURVEY CREW.

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PLAN VIEW
OF
SOUTH MARSH
MAGNETOMETER SURVEY



MAGNETOMETER SURVEY
ME-31 FRESHWATER BAYOU
MARCH CREATION PROJECT
VERMILION PARISH, LOUISIANA

SCALE	AS SHOWN	SURVEY DATE	PLOT DATE	REV.#	JOB NUMBER	SHEET
DRAWN	JP	2/28/2018	4/26/2018	00	EMC-17-093	16/25



1. ALL DATA WAS DERIVED FROM GPS SURVEY TECHNIQUES AND COMPUTED USING CORS (CONTINUOUSLY OPERATING REFERENCE STATIONS) IN STATIC GPS NETWORK SOLUTION.		4. THE INFORMATION DEPICTED ON THIS PLAT CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THE TIME THE SURVEY WAS MADE.		EMC, Inc. SPECIALISTS IN SURVEYING & MAPPING Web Address: http://www.emcsurvey.com 2472 SUNSET DR. * GRENADA, MS 38901 * Ph. (662) 226-5166 * Fax (662) 226-5170 CENTER POINT, LA * PUNTA GORDA, FL * HOUSTON, TX	PLAN VIEW OF SOUTH MARSH DISCHARGE PIPE CROSSING HYDROGRAPHIC SURVEY 	MAGNETOMETER SURVEY ME-31 FRESHWATER BAYOU MARCH CREATION PROJECT VERMILION PARISH, LOUISIANA										
2. HORIZONTAL COORDINATES SHOWN ARE REFERENCED TO NAD83 2011 USING STATE PLANE LOUISIANA SOUTH (1702) IN U.S. SURVEY FEET.		5. AERIAL PHOTOGRAPHY SHOWN HAS AN ACQUISITION DATE OF 2/8/2017 FROM GOOGLE IMAGERY.								SCALE	AS SHOWN	SURVEY DATE	PLOT DATE	REV. #	JOB NUMBER	SHEET
3. ELEVATIONS ARE REFERENCED TO NAVD 88 USING GEOID 99.										DRAWN	JP	2/28/2018	4/26/2018	00	EMC-17-093	17/25

LEGEND:

- BORING LOCATION
- MAGNETOMETER TRACKLINE
- MAGNETIC ANOMALY LOCATION
- PLANNED LINE
- DISCHARGE PIPELINE CENTERLINE

MAGNETIC ANOMALY TABLE							
*IT IS RECOMMENDED TO AVOID ALL MAGNETIC ANOMALIES BY A RADIAL DISTANCE SHOWN IN THE DURATION COLUMN FROM THE CENTER COORDINATES SHOWN.							
Point Number	Northing	Easting	Latitude	Longitude	Type	Gamma Reading	Duration (ft)
50001	377413	2972044	29°32'03.13615"N	92°18'15.65886"W	Unknown	3200	490
50002	374798	2973307	29°31'37.35511"N	92°18'01.11191"W	Unknown	500	35



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5. AERIAL PHOTOGRAPHY SHOWN HAS AN ACQUISITION DATE OF 2/8/2017 FROM GOOGLE IMAGERY.

6. PLANNED LINES SHOWN FOR AREAS CLEARED BY FIELD SURVEY CREW.

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PLAN VIEW
OF
BORROW AREA
MAGNETOMETER SURVEY

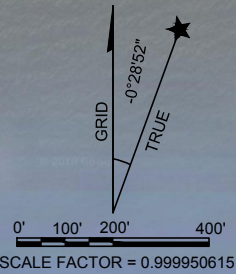
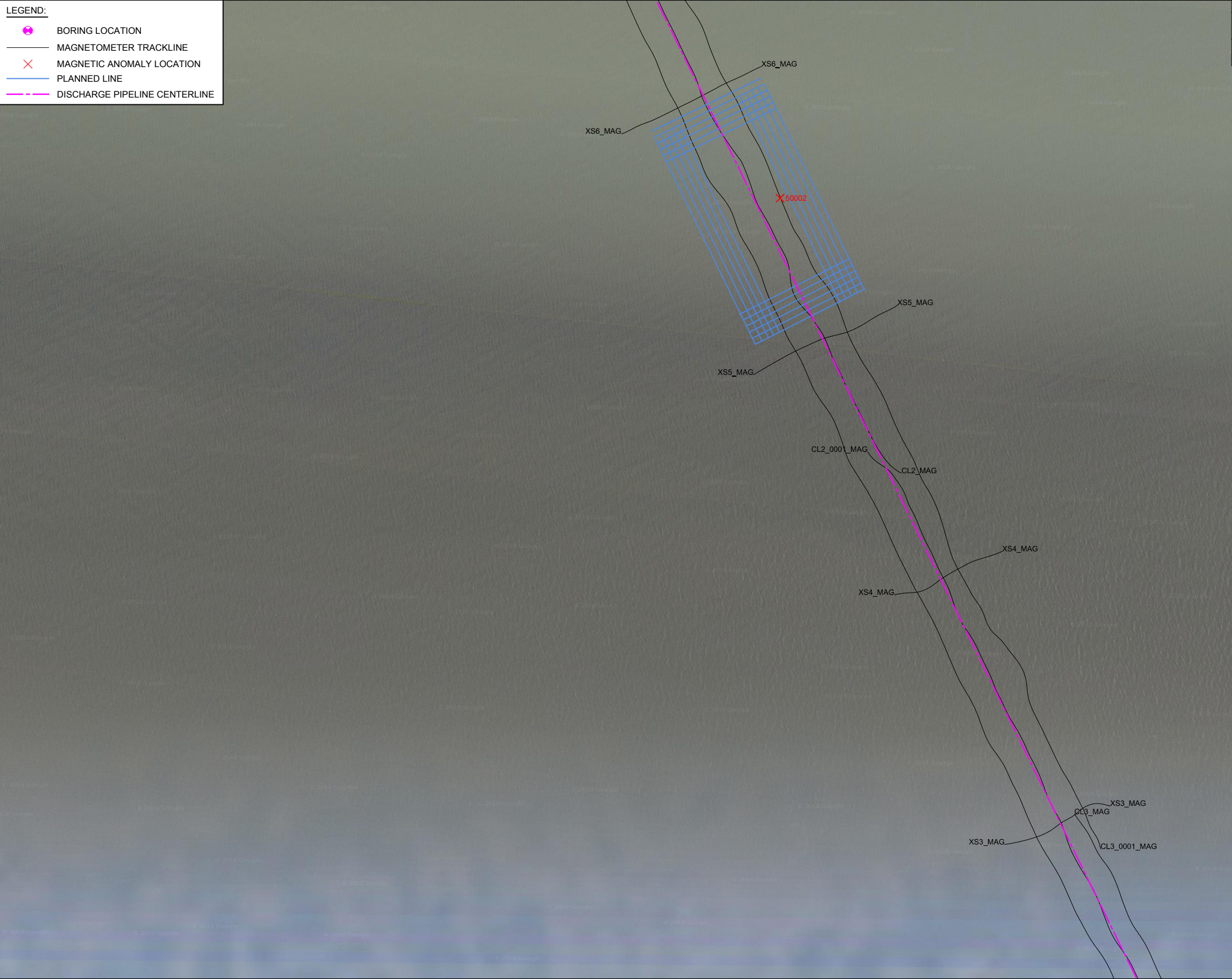
MAGNETOMETER SURVEY
ME-31 FRESHWATER BAYOU
MARCH CREATION PROJECT
VERMILION PARISH, LOUISIANA

SCALE	AS SHOWN	SURVEY DATE	PLOT DATE	REV. #	JOB NUMBER	SHEET
DRAWN	JP	2/28/2018	4/26/2018	00	EMC-17-093	18/25

LEGEND:

- BORING LOCATION
- MAGNETOMETER TRACKLINE
- MAGNETIC ANOMALY LOCATION
- PLANNED LINE
- DISCHARGE PIPELINE CENTERLINE

MAGNETIC ANOMALY TABLE							
*IT IS RECOMMENDED TO AVOID ALL MAGNETIC ANOMALIES BY A RADIAL DISTANCE SHOWN IN THE DURATION COLUMN FROM THE CENTER COORDINATES SHOWN.							
Point Number	Northing	Easting	Latitude	Longitude	Type	Gamma Reading	Duration (ft)
50002	374798	2973307	29°31'37.35511"N	92°18'01.11191"W	Unknown	500	35



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6. PLANNED LINES SHOWN FOR AREAS CLEARED BY FIELD SURVEY CREW.

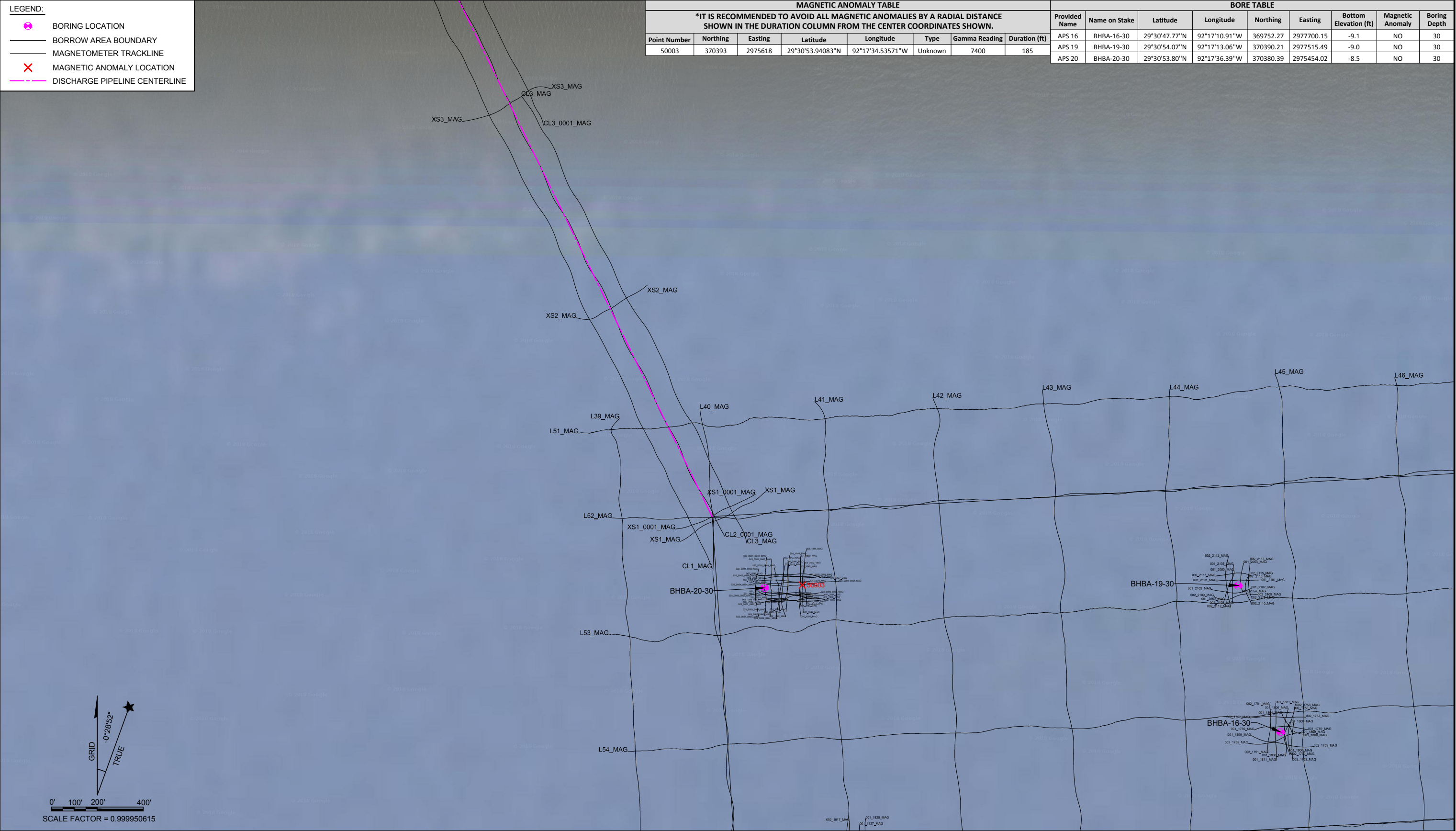
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PLAN VIEW
OF
BORROW AREA
MAGNETOMETER SURVEY



MAGNETOMETER SURVEY
ME-31 FRESHWATER BAYOU
MARCH CREATION PROJECT
VERMILION PARISH, LOUISIANA

SCALE	AS SHOWN	SURVEY DATE	PLOT DATE	REV.#	JOB NUMBER	SHEET
DRAWN	JP	2/28/2018	4/26/2018	00	EMC-17-093	19/25





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2. HORIZONTAL COORDINATES SHOWN ARE REFERENCED TO NAD83 2011 USING STATE PLANE LOUISIANA SOUTH (1702) IN U.S. SURVEY FEET.	3. ELEVATIONS ARE REFERENCED TO NAVD 88 USING GEOID 99.	5. AERIAL PHOTOGRAPHY SHOWN HAS AN ACQUISITION DATE OF 2/8/2017 FROM GOOGLE IMAGERY.					
SCALE	AS SHOWN	SURVEY DATE	PLOT DATE	REV. #	JOB NUMBER	SHEET	
DRAWN	JP	2/28/2018	4/26/2018	00	EMC-17-093	22/25	



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2. HORIZONTAL COORDINATES SHOWN ARE REFERENCED TO NAD83 2011 USING STATE PLANE LOUISIANA SOUTH (1702) IN U.S. SURVEY FEET.		5. AERIAL PHOTOGRAPHY SHOWN HAS AN ACQUISITION DATE OF 2/8/2017 FROM GOOGLE IMAGERY.					SCALE	AS SHOWN	SURVEY DATE	PLOT DATE	REV. #	JOB NUMBER	SHEET
3. ELEVATIONS ARE REFERENCED TO NAVD 88 USING GEOID 99.							DRAWN	JP	2/28/2018	4/26/2018	00	EMC-17-093	23/25

LEGEND:

-  BORING LOCATION
-  BORROW AREA BOUNDARY
-  MAJOR CONTOUR 1' INTERVAL
-  MINOR CONTOUR .25' INTERVAL
-  DISCHARGE PIPELINE CENTERLINE

BORE TABLE

Provided Name	Name on Stake	Latitude	Longitude	Northing	Easting	Bottom Elevation (ft)	Magnetic Anomaly	Boring Depth
APS 16	BHBA-16-30	29°30'47.77"N	92°17'10.91"W	369752.27	2977700.15	-9.1	NO	30
APS 19	BHBA-19-30	29°30'54.07"N	92°17'13.06"W	370390.21	2977515.49	-9.0	NO	30
APS 20	BHBA-20-30	29°30'53.80"N	92°17'36.39"W	370380.39	2975454.02	-8.5	NO	30



- ALL DATA WAS DERIVED FROM GPS SURVEY TECHNIQUES AND COMPUTED USING CORS (CONTINUOUSLY OPERATING REFERENCE STATIONS) IN STATIC GPS NETWORK SOLUTION.
- HORIZONTAL COORDINATES SHOWN ARE REFERENCED TO NAD83 2011 USING STATE PLANE LOUISIANA SOUTH (1702) IN U.S. SURVEY FEET.
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PLAN VIEW
OF
BORROW AREA
HYDROGRAPHIC SURVEY



MAGNETOMETER SURVEY
ME-31 FRESHWATER BAYOU
MARCH CREATION PROJECT
VERMILION PARISH, LOUISIANA

SCALE	AS SHOWN	SURVEY DATE	PLOT DATE	REV.#	JOB NUMBER	SHEET
DRAWN	JP	2/28/2018	4/26/2018	00	EMC-17-093	24/25

LEGEND:

- BORING LOCATION
- BORROW AREA BOUNDARY
- MAJOR CONTOUR 1' INTERVAL
- MINOR CONTOUR .25' INTERVAL
- DISCHARGE PIPELINE CENTERLINE

BORE TABLE								
Provided Name	Name on Stake	Latitude	Longitude	Northing	Easting	Bottom Elevation (ft)	Magnetic Anomaly	Boring Depth
APS 15	BHBA-15-30	29°30'44.77"N	92°16'51.58"W	369435.07	2979405.48	-9.8	NO	30
APS 16	BHBA-16-30	29°30'47.77"N	92°17'10.91"W	369752.27	2977700.15	-9.1	NO	30
APS 17	BHBA-17-30	29°30'42.51"N	92°17'31.56"W	369236.17	2975871.24	-9.1	NO	30
APS 18	BHBA-18-30	29°30'57.035"N	92°16'52.56"W	370674.17	2979329.14	-9.1	NO	30
APS 19	BHBA-19-30	29°30'54.07"N	92°17'13.06"W	370390.21	2977515.49	-9.0	NO	30
APS 20	BHBA-20-30	29°30'53.80"N	92°17'36.39"W	370380.39	2975454.02	-8.5	NO	30



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PLAN VIEW
OF
BORROW AREA
HYDROGRAPHIC SURVEY

MAGNETOMETER SURVEY
ME-31 FRESHWATER BAYOU
MARCH CREATION PROJECT
VERMILION PARISH, LOUISIANA

SCALE	AS SHOWN	SURVEY DATE	PLOT DATE	REV.#	JOB NUMBER	SHEET
DRAWN	JP	2/28/2018	4/26/2018	00	EMC-17-093	25/25