Farewell and Middle Styx Survey areas
CGG Project #: 12084
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This archive consists of 1 DVD-ROM

GPR 2014_004_ReadMe.PDF

FAREWELL AND MIDDLE STYX: Project report, interpretation maps, EM anomalies, stacked multi-channel profiles, and other products of the airborne geophysical surveys for parts of the McGrath, Lime Hills, and Tyonek quadrangles, western Alaska

by
CGG and Fugro Geosciences

CONTENTS of this ReadMe file:

PROJECT AND TECHNICAL INFORMATION

Project Name:	Middle Styx and Farewell Surveys
Informal Project Name:	Farewell Survey (contract contained both areas)
Contracting Agency:	State of Alaska, Department of Natural Resources, Division of Geological & Geophysical Surveys (DGGS)
DGGS Section:	Minerals Section
Program:	Alaska Airborne Geophysical/Geological Mineral Inventory (AGGMI) Program and the Strategic and Critical Minerals Capital Improvement Project (CIP)
Funding Source:	Alaska State Legislature and Cook Inlet Region, Inc. (CIRI)
Land Information:	Most of the land is State owned. CIRI land is shown in Figure 3 of the browse_graphic.pdf file. Permission must be obtained from CIRI to obtain access to their land.
CIRI contact information:	CIRI Land and Resources Department (http://www.ciri.com/our-lands/)
Land ownership web sites:	Alaska State, Alaska Mapper (http://dnr.alaska.gov/MapAK/) and U.S. BLM Land Record site (http://sdms.ak.blm.gov/sdms/)
Contractor:	Fugro GeoServices, Inc.
Survey Flown By:	CGG
Fugro Project Number:	12084-B
DGGS Contract Manager:	Laurel E. Burns
Data Acquisition:	Digitally acquired
Platform:	Helicopter
Platform: Model:	AS-350-B2 / B3 Squirrel

Survey Altitude Model:	Mean terrain clearance (height above ground)
Nominal Helicopter Height:	200 feet
Nominal Bird Height:	100 feet

Farewell:

Line Miles/Km:	4466.2 mi/7187.39 km
Data Acquisition:	
Start Date (YYYY-MM-DD): ...	2012-10-11
End Date (YYYY-MM-DD): ...	2012-10-22
Start Date (YYYY-MM-DD): ...	2013-07-09
End Date (YYYY-MM-DD): ...	2013-09-27
Traverse: Line Azimuth:	Headings 120/300 degrees
Traverse: Line Spacing:	1/4 mile (402.3 m)
Tie: Line Azimuth:	Headings 30/210 degrees
Tie: Line Spacing:	Approximately 3 miles (approximately 4828 m)

Middle Styx:

Line Miles/Km:	717.60 mi / 1154.86 km
Data Acquisition:	
Start Date (YYYY-MM-DD): ...	2012-09-24
End Date (YYYY-MM-DD): ...	2012-10-09
Traverse: Line Azimuth:	Headings 70/250 degrees
Traverse: Line Spacing:	1/4 mile (402.3 m)
Tie: Line Azimuth:	Headings 160/340 degrees
Tie: Line Spacing:	Approximately 3 miles (approximately 4828 m)

Both surveys:

Border lines:	Present around all edges
Magnetics: Magnetometer:	Fugro D1344 cesium magnetometer with Scintrex CS3
.....	cesium sensor, mounted in bird
Electromagnetics:	
Sensor Model:	Dighem(V)
Navigation System: Sensor:	Global Positioning System
Navigation System: Sensor:	Novatel OEM5-GL2
Navigation System: Method:	Post-flight differential positioning
Navigation System: Accuracy: ...	Better than 10m with respect to the UTM grid
Additional equipment:	Radar and laser altimeters, video camera, and
.....	50/60 Hz monitors

INFORMATION FILES
'ROOT DIRECTORY' FILES: are now included in the metadata folder, but are listed immediately below because of their important information.

Name	**Description**
gpr2014-4_ReadMe	This descriptive file: txt, PDF formats

gpr2014-4_browsegraphic.pdf

Fig. 1: Location of Farewell & Middle Styx surveys in Alaska

Fig. 2: Location map showing Farewell, Middle Styx, Styx River, and East Styx surveys and the approximate boundary of Cook Inlet Region, Inc. (CIRI) land. (See CIRI contact information above to request access to CIRI's land.)

Fig. 3: Location of land owned by Cook Inlet Region, Inc.

Fig. 4: Farewell survey: Location of sheet boundaries for 63,360-scale maps and images.

Fig. 5: Middle Styx: Location of the sheet boundary for the 63,360-scale map and images

Fig. 6: Farewell and Middle Styx Surveys: Location of the sheet boundaries for the 31,680-scale maps and images.

CONTENTS of the online publication/DVD:
This publication, GPR2014-4, contains files in the following 7 main folders:

PROJECT_REPORT
(subfolder) EMANOMS
GEOTIFFS
KMZs
MAPS
SM_PROFILES
VECTORS
METADATA

PROJECT_REPORT (Folder)

GPR2014-4-1_ProjectReport	Contractor's Final report, PDF format
EMAnoms (subfolder)	
EMAnom.i0	Geosoft EM anomaly import template
Farewell-MiddleStyx_EMAnom_ReadMe	EM anomalies description file in Word, PDF formats
Frl-EMAnomalies.csv	Farewell EM anomalies in ASCII csv format
Frl-EMAnomalies.xyz	Farewell EM anomalies in Geosoft xyz format
MSt-EMAnomalies.csv	Middle Styx EM anomalies in ASCII csv format
MSt-EMAnomalies.xyz	Middle Styx EM anomalies in Geosoft xyz format

GEOTIFFS (Folder)
Geotiff files automatically register correctly as NAD 27, UTM Zone 5N in GIS programs. Geotiff files can be opened in any graphics program, and as long as the file is not saved the registration information will still be valid.

Interpretation files are based on the 1:63,360 sheet layout where 4 sheets cover Farewell, and 1 sheet covers Middle Styx. EM Anomaly files are based on the 1:31,680 sheet layout, where 8 sheets cover Farewell, and 2 sheets cover Middle Styx. See figures 3, 4, and 5 in file gpr2014_4browsegraphic.pdf for sheet locations.

Filename	Area	Type Map	Sheet	Scale
Frl_Interp_ShA.TIF	Farewell-N	Interpretation	A	1:63,360
Frl_Interp_ShB.TIF	Farewell-W	Interpretation	B	1:63,360
Frl_Interp_ShC.TIF	Farewell-E	Interpretation	C	1:63,360
Frl_Interp_ShD.TIF	Farewell-S	Interpretation	D	1:63,360
MSt_Interp_ShE.TIF	Middle Styx	Interpretation	E	1:63,360
Frl_EManom_Sha.tif	Farewell-NW	Detailed EM anomalies	a	1:31,680
Frl_EManom_Shb.tif	Farewell-NE	Detailed EM anomalies	b	1:31,680
Frl_EManom_Shc.tif	Farewell-W	Detailed EM anomalies	c	1:31,680
Frl_EManom_Shd.tif	Farewell-WC	Detailed EM anomalies	d	1:31,680
Frl_EManom_She.tif	Farewell-EC	Detailed EM anomalies	e	1:31,680
Frl_EManom_Shf.tif	Farewell-E	Detailed EM anomalies	f	1:31,680
Frl_EManom_Shg.tif	Farewell-SW	Detailed EM anomalies	g	1:31,680
Frl_EManom_Shh.tif	Farewell-SE	Detailed EM anomalies	h	1:31,680
MSt_EManom_Shi.tif	Middle Styx-N	Detailed EM anomalies	i	1:31,680
MSt_EManom_Shj.tif	Middle Styx-S	Detailed EM anomalies	j	1:31,680
Frl_Interp_Legend.jpg		Farewell Interpretation legend		
MSt_Interp_Legend.jpg		Middle Styx Interpretation legend		
EMAnom_Legend.jpg		EM anomaly legend		

KMZs (Folder)
All files in the KMZs folder have the extension '.kmz' (Google Earth zip format). One may drag and drop the KMZ files into 'My Places" in the free downloadable Google Earth program (http://earth.google.com/download-earth.html); data will be automatically registered with the locational information used by Google Earth, i.e. WGS84 datum and CGS projection.

Filename	Area	Type Map	Sheet	Scale
Frl_Interp_ShA.kmz	Farewell-N	Interpretation	A	1:63,360
Frl_Interp_ShB.kmz	Farewell-W	Interpretation	B	1:63,360
Frl_Interp_ShC.kmz	Farewell-E	Interpretation	C	1:63,360
Frl_Interp_ShD.kmz	Farewell-S	Interpretation	D	1:63,360
MSt_Interp_ShE.kmz	Middle Styx	Interpretation	E	1:63,360
Frl_Interp_Legend.jpg		Farewell Interpretation legend		
MSt_Interp_Legend.jpg		Middle Styx Interpretation legend		

MAPS (Folder)
Maps are provided as HPGL/2 (PRN) and PDF files. The HPGL/2 files were created with HP Design jet T1300 printer driver and will not work with all plotters, but do plot on the DGGS HP Design Jet T1300. The HPGL/2 files have brighter colors and sharper topography than the Adobe Acrobat files, and should be used or requested if at all possible. Freeware software 'printfile', available currently at http://www.lerup.com/printfile prints HPGL/2 files easily on compatible printers. The Adobe Acrobat format files were created with Adobe Acrobat Distiller v10.1.10 from postscript files created from the HPGL/2 files.

Five sheets are needed to cover the survey areas at 1:63,360-scale.Ten sheets are needed to cover the survey area at 1:31,680-scale. See figures 3, 4, and 5 in file gpr2014_4_browsegraphic.pdf for sheet boundaries.

Abbreviations used below: RMI = residual magnetic intensity (field); EM = electromagnetic, anom = anomaly, and topo = topography
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Filename	Area	Type Map	Sheet	Scale
GPR2014-3-1A	Farewell-N	Interpretation map	A	1:63,360
GPR2014-3-1B	Farewell-W	Interpretation map	B	1:63,360
GPR2014-3-1C	Farewell-E	Interpretation map	C	1:63,360
GPR2014-3-1D	Farewell-S	Interpretation map	D	1:63,360
GPR2014-3-1E	Middle Styx	Interpretation map	E	1:63,360
GPR2014-3-1F	Farewell-N	Interpretation map, RMI	A	1:63,360
GPR2014-3-1G	Farewell-W	Interpretation map, RMI	B	1:63,360
GPR2014-3-1H	Farewell-E	Interpretation map, RMI	C	1:63,360
GPR2014-3-1I	Farewell-S	Interpretation map, RMI	D	1:63,360
GPR2014-3-1J	Middle Styx	Interpretation map, RMI	E	1:63,360
GPR2014-3-2a	Farewell-NW	Detailed EM anom, RMI, topo	a	1:31,680
GPR2014-3-2b	Farewell-NE	Detailed EM anom, RMI, topo	b	1:31,680
GPR2014-3-2c	Farewell-W	Detailed EM anom, RMI, topo	c	1:31,680
GPR2014-3-2d	Farewell-WC	Detailed EM anom, RMI, topo	d	1:31,680
GPR2014-3-2e	Farewell-EC	Detailed EM anom, RMI, topo	e	1:31,680
GPR2014-3-2f	Farewell-E	Detailed EM anom, RMI, topo	f	1:31,680
GPR2014-3-2g	Farewell-SW	Detailed EM anom, RMI, topo	g	1:31,680
GPR2014-3-2h	Farewell-SE	Detailed EM anom, RMI, topo	h	1:31,680
GPR2014-3-2i	Middle Styx-N	Detailed EM anom, RMI, topo	i	1:31,680
GPR2014-3-2j	Middle Styx-S	Detailed EM anom, RMI, topo	j	1:31,680

SM PROFILES (Folder)
Stacked multi-channel profiles (GPR 2014-4-3) were produced at a scale of 1:31,680 (inch to one-half mile) in Adobe Acrobat format (*.pdf) v1.3 There are 151 sheets total; and up to four flight lines per sheet.

Farewell_MiddleStyx-SMProfiles_Readme	Parameters, EM anomaly characteristics and line number sheet index in Word and PDF
GPR2014-4-3**a**-Sh##_#####.pdf	Farewell, 127 sheets
GPR2014-4-3**b**-Sh##_#####.pdf	Middle Styx, 24 sheets
GPR2014-4-3*****-Sh##_#####.pdf	where 'Sh##' pertains to sheet number and '_#####' pertains to the first line number (5 digits) included on that sheet.

VECTORS (Folder)
The vectors are provided in ESRI shape file (SHP) format and AutoCAD drawing exchange (DXF) format.

Filename	Area	Type Map	Sheet	Scale
Frl_Interp_All	ALL Farewell	Interpretation	ALL	1:63,360
Frl_Interp_ShA	Farewell-N	Interpretation	A	1:63,360
Frl_Interp_ShB	Farewell-N	Interpretation	B	1:63,360
Frl_Interp_ShC	Farewell-N	Interpretation	C	1:63,360
Frl_Interp_ShD	Farewell-N	Interpretation	D	1:63,360
MSt_Interp_ShE	Middle Styx	Interpretation	E	1:63,360
Frl_Anom_All	ALL Farewell	EM anomaly symbols	ALL	1:63,360
Frl_Anom_ShA	Farewell-N	EM anomaly symbols	a	1:31,680
Frl_Anom_ShB	Farewell-N	EM anomaly symbols	b	1:31,680
Frl_Anom_ShC	Farewell-N	EM anomaly symbols	c	1:31,680
Frl_Anom_ShD	Farewell-N	EM anomaly symbols	d	1:31,680
Frl_Anom_ShE	Farewell-N	EM anomaly symbols	e	1:31,680
Frl_Anom_ShF	Farewell-N	EM anomaly symbols	f	1:31,680
Frl_Anom_ShG	Farewell-N	EM anomaly symbols	g	1:31,680
Frl_Anom_ShH	Farewell-N	EM anomaly symbols	h	1:31,680
MSt_Anom_All	ALL Middle Styx	EM anomaly symbols	ALL	1:63,360
MSt_Anom_ShI	Middle Styx-N	EM anomaly symbols	i	1:31,680
MSt_Anom_ShJ	Middle Styx-S	EM anomaly symbols	j	1:31,680
Frl_Interp_Legend		Farewell Interpretation legend		
MSt_Interp_Legend		Middle Styx Interpretation legend		
EMAnom_Legend		EM Anomaly legend		

ACCESSORY VECTORS: (* represents Frl and MSt)
*_SecGrid Alaska PLSS Section Grid for the map sheets; with township and range labels.
*_UTMGrid Alaska UTM Grid for the map sheets; includes UTM labels on edges.
*_FP Flight path (made up with Frl_FP_1, _2, _3, and _4 files, etc.)

METADATA (Folder)
Metadata is provided in three formats.

GPR2014-4.faq.html	Hypertext Markup Language format (Question and Answer)
GPR2014-4.txt	ASCII text
GPR2014-4.xml	Extensible Markup Language format

Other files included in the metadata folder are listed above under the heading 'INFORMATION FILES' at the start of this document.

PROJECTION INFORMATION:

Grids, Geotiffs, Vectors, and Linedata channels Easting & Northing

DATUM:	NAD27 Spheroid, Clarke 1866
PROJECTION:	UTM Zone 5N
CENTRAL MERIDIAN:	-153 deg
FALSE EASTING:	500000
FALSE NORTHING:	0
SCALE FACTOR:	0.9996
NORTHERN PARALLEL:	N/A
BASE PARALLEL:	N/A
WGS84 to LOCAL:	Molodensky conversion method
DELTA X SHIFT:	+5
DELTA Y SHIFT:	-135
DELTA z SHIFT:	-172

KMZ files

DATUM:	WGS84
PROJECTION:	CGS

AVAILABILITY and TECHNICAL REQUIREMENTS:
DVD-ROM: Purchased by mail, e-mail (mailto:dggspubs@alaska.gov), or in person from DGGS, 3354 College Road, Fairbanks, Alaska, 99709-3707 for $10 plus postage; 1 DVD-ROM.

ON-LINE: All parts of this publication can be downloaded from the DGGS Web link http://dx.doi.org/10.14509/29349 in data groups, e.g. MapsAsPDFS. The downloadable groups are near the bottom of the web page. Note that the 'Read Me' file available for each link is not the same file as this document.

MAPS: The PDF version of the maps may be viewed, downloaded, or (probably) printed individually from the same link as the downloads: http://dx.doi.org/10.14509/29349 which will contain related geophysical or geological data that are produced in the future. Maps are also available on paper or Mylar through the DGGS office for $13/sheet plus mail costs. Please ask for the maps to be printed from HPGL/2 files to ensure the best quality image.

Technical requirements for the data on this publication includes software with ability to use, import, or convert Geosoft float GRD, Geosoft binary GDB or ASCII XYZ files, ESRI Shape files, Adobe Acrobat

PDF, Google Earth files, and text files. Free downloadable interfaces to view or convertshape files are available at the Geosoft Web site (http://www.geosoft.com; Oasis Montaj viewer). The KMZ files can be dragged and dropped into the 'My Places' folder of the free downloadable 'Google Earth' software. Freeware software 'printfile' (http://www.lerup.com/printfile) prints HPGL/2 files easily on compatible printers. The HPGL/2 files have brighter colors and sharper topography than the PDF maps and should be used for printing when possible. The PDF format maps are the only maps digitally viewable in this publication.

If you have any problems with this archive please contact Laurel Burns or the current geophysicist at the DGGS office.