



## Aircraft and Equipment

### Piper PA-31 Navajo with VG and LR Fuel Kit

Registration: .....C-GJBB, C-GJBG  
Cruise Range:.....1500 km  
Survey Duration: .....6.5 hours plus reserve  
Max Climb Gradient: .....800 ft/NM (13%)  
Max Descent Gradient: .....1000 ft/NM  
Cruising Speed:.....140 knots  
Aviation Fuel: .....100 LL aviation gasoline  
Fuel Consumption: .....200 pounds per hour total  
Oil Consumption.....0.2 liters per hour total  
Long Range Comm: .....Iridium Sat Phone, SPOT  
ELT Frequency .....121.5 Mhz, 406 MHz  
Tail Stinger: .....4 meter composite  
Wingtip Pods .....1.2 meter composite  
Gradiometer  
Dimensions:  
Horizontal: .....14.783 metres  
Longitudinal: .....8.661 metres  
Vertical: .....2.29 metres  
FOM:.....0.9 nT typical



## Cessna Caravan 208

Registration: .....C-GLDX  
Cruise Range: .....1800 km  
Survey Duration: .....6 hours plus reserve  
Max Climb Gradient: .....800 ft/NM  
Max Descent Gradient: .....1000 ft/NM  
Cruising Speed: .....180 knots  
Aviation Fuel: .....Jet A  
Consumption: .....330 pounds per hour total  
Oil Consumption.....0.2 liters per hour total  
Long Range Comm: .....Iridium Sat Phone, Skytrac  
ELT Frequency .....121.5 Mhz, 406 MHz  
Tail Stinger: .....4 meter composite  
Wingtip Pods: .....1.2 metre composite  
Gradiometer  
Dimensions:  
Horizontal: .....14.783 metres  
Longitudinal: .....8.661 metres  
Vertical: ..... 2.29 metres  
FOM:.....0.9 nT typical



## Equipment

### Aircraft Magnetometers:

Manufacturer: .....Geometrics  
Type and Model Number: .....Cesium G-822A  
Range in nT:.....20,000 to 90,000  
Sensitivity in nT: .....0.005  
Sampling Rate: .....Unlimited

### Digital Compensation System:

Manufacturer: .....RMS Instruments  
Type and Model Number: .....AADCII or DAARC  
Range in nT:.....20,000 to 100,000  
Resolution in nT: .....0.001  
Max Sampling Rate: .....20 Hz

### Positioning System:

Manufacturer: .....Goldak Exploration Technology  
Type and Model Number: .....GEDAS  
3D capability:.....yes  
Displays: .....10" Color LCD data display  
.....3D Autodrape LCD pilot display

### GPS / Attitude Determination Subsystem (Navajo):

Manufacturer .....Novatel  
Type and Model Number: .....ProPak OEM IV Dual Frequency  
Number Channels:.....72  
CDGPS Capable:.....yes  
System Resolution:.....1 meter  
Overall accuracy: .....1 meters in real-time

### GPS / Attitude Determination Subsystem (Caravan):

Manufacturer .....Novatel  
Type and Model Number: .....Span CPT  
Number Channels:.....12  
CDGPS Capable:.....yes  
System Resolution:.....1 meter  
Overall accuracy: .....1 meters in real-time

### Barometric Altimeter:

Manufacturer: .....Setra Systems  
Type and Model Number: .....270  
Range:.....-1200 to 4300 m  
Resolution: .....1 meter  
Accuracy: .....0.05%

**Primary Radar Altimeter:**

Manufacturer .....Thompson – CFS  
Type and Model Number: .....530A  
Range:.....0-2500 m  
Resolution: .....1 meter  
Accuracy: .....2%

**Secondary Radar Altimeter:**

Manufacturer .....Terra  
Type and Model Number: .....TRA-30/TRI-40  
Range:.....10-900 m  
Resolution: .....1 meter  
Accuracy: .....5%

**Spectrometer System**

Manufacturer .....Radiation Solutions Inc.  
Type and Model Number: .....RS-500 - RSX-5 (x2),  
Total Detector Volume... .....33.6 litres downward, 8.4 litres upward  
Number of Channels: .....1024  
Sample rate: .....1 Hz  
GPS Time Sync:.....Yes – 1 pps

**Barometric Pressure and Temperature Sensor:**

Manufacturer .....Honeywell  
Type and Model Number: .....PPT0020AWN2VA

**VLF Receiver:**

Manufacturer .....Herz  
Type and Model Number: .....Totem 2-A  
Frequency Range:.....10 to 30 Khz  
Internal Noise.....1.3 mV mrms

**Video Camera:**

Manufacturer .....Panasonic  
Type and Model Number: .....GPKR402 HRSV  
Lens: .....WV-LR4R5 4.5 mm  
Field of View at 100m AGL:.....317 x 396 m

**VideoTitler:**

Manufacturer .....Horatia  
Model Number:.....SCT-50  
Type:.....video overlay with 10 Hz clock

**VideoRecorder:**

Manufacturer .....Toronto Micro Electronics  
Model Number:.....MDVR301  
Type:.....digital MPEG

**Ground Reference Equipment:**

**Base Station Magnetometers**

Manufacturer: .....GEM Systems  
Type and Model Number: .....Overhauser GSM-19W w/GPS  
Number of units: .....2  
Range in nT:.....20,000 to 120,000  
Sensitivity in nT: .....0.01  
Sampling Rate: .....1 Hz  
Data Logger: .....Acumen  
GPS Time Sync:.....Garmin internal GPS

**Base GPS System**

Manufacturer .....Novatel  
Type and Model Number: .....ProPak V3  
Number Channels:.....60  
Signal tracking: .....GPS L1, L2, L2C, L5  
.....GLONASS L1, L2  
Logging Software:.....Novatel Connect

**Field Workstation:**

**Computer**

Manufacturer .....Lenovo  
Model .....Thinkcentre  
Processor .....Intel Pentium 3.4 GHz dual core  
Memory.....4 GB  
Hard Disc Capacity.....1 Terabyte Internal  
.....1 Terabyte external

**Software**

Manufacturer .....Geosoft  
Type & Version .....Oasis Montaj v 7.3  
Function .....analysis of geophysical data  
Manufacturer .....Novatel  
Type & Version .....GrafNav v 8.5  
Function .....GPS post flight processing