GRAVITY SURVEY

ON THE

GLASS BUTTES GEOTHERMAL EXPLORATION PROJECT

LAKE COUNTY, OREGON

FOR

ORMAT TECHNOLOGIES INC.

DATA ACQUISITION REPORT

ISSUE DATE: 12 October 2011

ZONGE JOB NUMBER 10110

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GRAVITY SURVEY
ON THE
GLASS BUTTES GEOTHERMAL EXPLORATION PROJECT

INTRODUCTION

Zonge Geosciences, Inc. performed a gravity survey on the Glass Buttes Geothermal Exploration Project, located in Lake County, Oregon for ORMAT Technologies Inc. The survey was conducted during 21 June 2010 to 26 June 2010.

The survey area is located in T23S, R 21-23E and lies within the Glass Buttes, Hat Butte, and Potato Lake, Oregon 1:24,000 topographic sheets. A total of 180 gravity stations were acquired along five profile lines. These stations are in addition to 355 gravity stations acquired in 2009 under Zonge job number 2009.109. Station locations are shown in Figure 1 and Plate 1. Plates are included in the back pocket of this report and are included as figures in Appendix A.

This survey was conducted by Kam Moezzi, Geophysical Crew Chief, for Zonge Geosciences, Inc. under Zonge job number 10110.

This report covers data acquisition, instrumentation and processing for job number 10110.

INSTRUMENTATION

Gravity data were acquired with a LaCoste & Romberg Model-G gravimeter, serial number 233. These gravity meters have a reading resolution of .01 milligals and a typical repeatability of .01 milligals. Specifications for these instruments are included in Appendix B. Positioning was obtained with Leica Geosystems model SR530 GPS receivers. These are survey-grade receivers capable of centimeter-level accuracy. GPS receiver specifications are included in Appendix C.
DATA ACQUISITION

GPS DATA

Carrier-phase GPS data were acquired for two to five minute sessions at each station during simultaneous acquisition at a fixed GPS base station. Real Time Kinematic (RTK) mode was used to acquire GPS data for this survey. Operation in RTK mode allowed for on-site evaluation of positioning solution quality and stake out. At locations where radio reception was lost, GPS observations were made for 5-minute occupations. A discussion of positioning quality is included under the section titled Data Quality, GPS.

One GPS base station was used for this survey. The position of base station (1000) was determined by submitting an 8 hour GPS occupation of this point to the National Geodetic Survey (NGS) On-line Positioning User Service (OPUS). OPUS processed this observation file with respect to 3 Continuously Operating Reference Stations (CORS).
Control point specifications and OPUS data solutions are listed in Appendix D.

GRAVITY DATA

Gravity measurements were made in a series of looped-traverses that were closed within a maximum of 10.5 hours for the local survey. At least two measurements were made at each occupation.

One local gravity base (1000) was established for this survey. The value for this base was determined from three loop-traverses to the Department of Defense (DoD) base # 1280-1 located in Burns, Oregon.

The gravity value and position for this base is shown in Appendix E.

DATA QUALITY

The average loop closure for the local survey was 0.04 milligals. Individual loop closures are tabulated in Appendix F.

Gravity measurement precision is evaluated by making repeat readings at selected gravity stations. For this survey, 6 gravity measurements were repeated, and 4 repeat measurements were made at 2009 survey stations. The average difference between repeat measurements is 0.03 milligals, and the maximum difference is 0.05 milligals. Repeated gravity measurements are tabulated in Appendix G.

An important factor that determines the accuracy of the reduced measurement is the accuracy in determining a station’s location, particularly the elevation. The vertical gradient of the earth’s field is approximately -.308596 milligals per meter of increase in elevation. The Bouguer correction is .1119 milligals per meter of elevation increase, for a density of 2.67 gm/cm³. This results in a total error in the Bouguer Anomaly of 0.1967 milligals per meter of elevation error, for a reduction density of 2.67 gm/cm³.
GPS positioning precision is evaluated by making repeated GPS measurements at randomly selected stations. Comparison of 10 duplicate GPS measurements that were made over a range of field conditions and baseline lengths, show a maximum elevation difference of 7 cm. A tabulation of repeated GPS measurements is presented in Appendix G.
DATA PROCESSING

GPS PROCESSING

Locations of the gravity stations were determined as baselines from the GPS base in WGS-84 coordinates and ellipsoidal heights. The Real Time Kinematic (RTK) solutions were used where available. Where RTK solutions were not available, the GPS observations were processed after data acquisition (post-processing) using Leica Geo-Office™ software. Stations that required post-processing are noted in the data files with a “PP” designation for the class.

The WGS84 ellipsoidal heights were converted to geoidal (orthometric) heights in the NAVD88 datum using the NGS program, GEOID 2003. Daily .raw files are provided in UTM zone 11N, NAD 83 datum.

GRAVITY PROCESSING

The basic processing of gravimeter readings to calculate the observed gravity was made using software from Geosoft LTD of Toronto, Canada. The assigned gravity value for the local gravity base (1000) was established from three loop-traverses to the Department of Defense (DoD) base # 1280-1 located in Burns, Oregon.

Gravity base specifications are listed in Appendix E.

The observed gravity is the gravitational acceleration, in milligals, that is determined by relative measurements made in a loop from a gravity base, after the meter readings have been corrected for instrument height, instrument scale factor, instrument drift and earth tides.

The long-term instrument drift is the rate at which each particular instrument accumulates error due to instrument factors such as vibration, battery voltage changes, and elastic relaxation, among others. It is minimized by proper technique, and warm up of the instrument.

Earth tides cause variations in observed gravity for land-based surveys of up to approximately .03 milligals per hour. Corrections are computed by use of pre-programmed theoretical tide tables that are a part of the Geosoft™ gravity reduction software. The effect
of earth tides can be further minimized by frequently tying loops to local gravity bases.

The observed gravity is a function of position (geographic latitude and elevation) and variations in the density of the subsurface material. A series of reductions is made to remove the gravity variation caused by position so that the gravity variations caused by subsurface density distribution remain.

A latitude correction must be made to the observed gravity measurements because the earth is not spherical, but has a slightly larger radius at the equator. It includes terms for both the Newtonian attraction of the earth as a flattened spheroid and the centrifugal force caused by the earth’s rotation. The latitude correction is calculated for the International Ellipsoid of 1967 (International Association of Geodesy, 1971).

\[
g_\phi = g_a \left(1 + f_2 \sin^2 \phi + f_4 \sin^4 \phi\right)
\]

where:

- \(g_\phi\) = Latitude correction (gravity reference field on the ellipsoid).
- \(\phi\) = Latitude of the gravity observation.
- \(f_2 = -f + \frac{5}{2} \frac{m}{2} + \frac{1}{2} \frac{f^2}{m} - \frac{26}{7} \frac{f m}{m} + \frac{15}{4} \frac{m^2}{m^2}\)
- \(f_4 = -\frac{1}{2} f^2 + \frac{5}{2} f m\)
- \(m = \omega^2 a^2 b / (k M) = 3.44980143430 \times 10^{-3}\)
- \(f = (a - b) / a = 1 / 298.24716742\)
- \(a\) = Semi-major axis of the ellipsoid = 6378160 meter
- \(b\) = Semi-minor axis of the ellipsoid = 6356775 meters
- \(\omega\) = Angular velocity of the Earth
- \(M\) = Mass of the Earth
- \(k\) = Newton’s gravitational constant

The elevation correction has two parts: the free air correction and the Bouguer correction. The free air correction compensates for the variation of the earth’s gravitational field with distance away from the center of the earth. The approximate and often-used
correction is -0.308596 milligals per meter above the ellipsoid. In practice this is usually referenced to the Geoid due the fact that until recent advent of GPS technology, elevations were derived by leveling, which are by their nature, referenced to the Geoid. For this survey all elevations are referenced to the Geoid by use of the Geoid 2003 model.

The free air correction is calculated using the following formula:

$$\Delta g_{fa} = g_a - g_l h_s + g_2 h_s^2 - g_l$$

where,

$$g_1 = 0.308768 - 0.00043986 \sin^2 \phi$$

$$g_2 = 7.212 \times 10^{-8}$$

$$g_{fa} = \text{free air anomaly in milligals}$$

$$g_a = \text{observed gravity}$$

$$g_l = \text{latitude correction}$$

$$h_s = \text{station elevation in meters}$$

The Bouguer correction compensates for the mass of material located between the station elevation and the Geoid (mean sea level). The Bouguer correction is calculated on the basis of the gravitational attraction of a horizontal slab of infinite extent whose thickness is equal to the elevation difference between the stations of interest and mean sea level:

$$g_{ba} = g_{fa} - 0.0419088 \times [\rho h_s]$$

where,

$$g_{ba} = \text{Simple Bouguer anomaly in milligals}$$

$$g_{fa} = \text{free air anomaly}$$

$$\rho = \text{density of rock}$$

The Complete Bouguer Anomaly includes those corrections found in the Simple Bouguer Anomaly as well as corrections for the effect of the surrounding topography and the curvature of the earth (Bullard B correction).

$$g_{cba} = g_{ba} + g_{BB} + g_{tc}$$

The Bullard B correction is used to correct for the fact that the mass of rock between the Geoid and the station elevation is a spherical shell as opposed to an infinite horizontal
slab. The correction used by Zonge Geosciences is based on the formula given by LaFehr (1991):

\[ g_{BB} = 2\pi k \rho (\mu h_s - \lambda R), \]

where

\[ g_{BB} = \text{Bullard B Correction} \]
\[ R = \text{Earth radius to the station} \ (R_0 + h, \text{where } R_0 \text{ is the earth’s radius}) \]

\(2\pi k \rho\) is the simple Bouguer slab formula; \(\mu\) and \(\lambda\) are dimensionless coefficients whose definitions are given in the appendix of LaFehr’s 1991 paper.

Terrain corrections for topography from 10 meters to 15 kilometer radius were made from National Elevation Dataset (NED) 1/3 Arc Second (9m) data using software (RASTERTC™) described by Cogbill (1990). This algorithm performs a surface fit from a user specified inner radius (10 m) out to a selected intermediate radius (15 km). Terrain corrections are computed for this interval using a numerical integration of the surface along radial lines at 5-degree increments. From the intermediate radius (15 km) out to an outer radius (167 km), terrain corrections are made using the approximation that each elevation represents the elevation of a rectangular compartment equal to the area of the elevation sample (cell size). The effect of each compartment is calculated using a line element formula.

Corrections from 15 km to 167 km were made using Shuttle Radar Topography Mission (SRTM) “Finished” 3 Arc Second (90m) digital terrain data. A curvature correction to the terrain model was computed at distances beyond 14 km.

Simple and Complete Bouguer gravity anomalies were computed for densities ranging from 1.40 gm/cm\(^3\) to 2.90 gm/cm\(^3\). If the density of the near-surface rocks differs from the reduction density, then an elevation dependent error will result. This error is approximately 1.25 microgals per foot for each 0.1 gm/cm\(^3\) difference in density (Hinze, 1990). The density which minimizes the correlation between elevation and the reduced gravity is generally chosen as the reduction density for further processing and plotting. A principle fact file providing densities ranging from 1.40 gm/cm\(^3\) to 2.90 gm/cm\(^3\) is included on a CD-ROM located in the back pockets of this report.
DATA PRESENTATION

Plan maps are provided as plates in the back pockets of this report. Plates 1-4 are registered in UTM Zone 11N, NAD83 and plotted at a scale of 1:50000.

Plate 1 shows the locations of gravity stations on a topographic base. Plate 2 shows the Complete Bouguer Anomaly at a reduction density of 2.25 gm/cm$^3$. Plate 3 shows the calculated first vertical derivative of the Complete Bouguer Anomaly at a reduction density of 2.25 gm/cm$^3$ upward continued 400 meters. Plate 4 shows the horizontal gradient of the Complete Bouguer Anomaly at a reduction density of 2.25 gm/cm$^3$ upward continued 200 meters. These plates are also included as page-size plots in Appendix A and as ArcView ™ tiff files on the Data CD-ROM.

Digital data files are included on a CD-ROM. A description of the CD contents can be found in Appendix H.

SAFETY AND ENVIRONMENTAL ISSUES

No health, safety incidents or accidents occurred during the course of this survey. No environmental damage was sustained as a result of the survey progress.

Vehicle travel was limited to existing roads during this survey.

Respectfully submitted,

Grady Pearce
Geophysicist
Zonge Geosciences, Inc.
REFERENCES


APPENDIX A. PLATES AS FIGURES

Figure A1: Station location map.
Figure A2: Complete Bouguer Anomaly 2.25 gm/cc.
**Figure A3:** Calculated First Vertical Derivative of CBA Gravity Upward Continued 400m @ 2.25 gm/cm³
**Figure A4:** Horizontal Gradient of the CBA Gravity Upward Continued 200m @ 2.25 gm/cm$^3$
## APPENDIX B. GRAVITY METER SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>7000 milligal</td>
</tr>
<tr>
<td>Accuracy</td>
<td>0.04 milligals</td>
</tr>
<tr>
<td>Drift</td>
<td>1 milligal per month or less</td>
</tr>
<tr>
<td>Repeatability</td>
<td>0.01 milligal</td>
</tr>
<tr>
<td>Length</td>
<td>7-3/4 inches (19.7 cm)</td>
</tr>
<tr>
<td>Width</td>
<td>7 inches (17.8 cm)</td>
</tr>
<tr>
<td>Height</td>
<td>9-7/8 inches (25.1 cm)</td>
</tr>
<tr>
<td>Weight</td>
<td>7 pounds (3.2 kg)</td>
</tr>
<tr>
<td>Weight of suitable battery</td>
<td>5 pounds (2.3 kg)</td>
</tr>
<tr>
<td>Weight of meter, battery, and case</td>
<td>22 pounds (10.0 kg)</td>
</tr>
</tbody>
</table>
## APPENDIX C. GPS RECEIVER SPECIFICATIONS

**Leica Geosystems SR530 survey receiver**

<table>
<thead>
<tr>
<th><strong>Kinematic Survey</strong></th>
<th>L1/L2 P-code and full cycle carrier, or L1 C/A code, L1/L2 full cycle carrier and cross-correlation of the encrypted P-code</th>
</tr>
</thead>
</table>
| **Modes:**           | Continuous  
                        Stop and Go  
                        Pseudostatic (pseudokinematic) survey  
                        Fast Static survey |
| **Accuracy**         | 10mm + 2 ppm baseline rms for Real-time kinematic |
| **Occupation**       | Continuous: 0.2 sec. Measurement time  
                        Stop & Go: 2 sec. (minimum) with 5 satellites |
| **Tracking:**        | 12 channels of L1/L2 P-code and full cycle carrier phase or 12 channels L1 C/A code, L1/L2 full cycle carrier phase and cross correlation of the encrypted P-code |
APPENDIX D. GPS BASE DESCRIPTIONS

NGS OPUS SOLUTION REPORT

All computed coordinate accuracies are listed as peak-to-peak values. For additional information: www.ngs.noaa.gov/OPUS/Using_OPUS.html#accuracy

USER:                        DATE: September 30, 2009
RINEX FILE: 1000272n.09o    TIME: 10:46:13 UTC

SOFTWARE: page5 0909.08 master11.pl 081023  START: 2009/09/29 13:52:00
NAV FILE: brdc2720.09n  OBS USED: 17385 / 17718   :  98%
ANT NAME: LEIAT502        # FIXED AMB:    56 /    58   :  97%
ARP HEIGHT: 0.825          OVERALL RMS: 0.013(m)

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000)             ITRF00 (EPOCH:2009.7444)
X:     -2316061.735(m) 0.011(m)   -2316062.513(m) 0.011(m)
Y:     -4007512.365(m) 0.007(m)   -4007511.128(m) 0.007(m)
Z:      4375510.094(m) 0.024(m)    4375510.114(m) 0.024(m)
LAT:   43 34 54.52575      0.017(m)          43 34 54.54144      0.017(m)
E LON:  239 58 30.33457      0.013(m)       239 58 30.27697      0.013(m)
W LON:  120  1 29.66543      0.013(m)       120  1 29.72303      0.013(m)
EL HGT:         1391.654(m) 0.017(m)              1391.174(m) 0.017(m)
ORTHO HGT:   1411.227(m) 0.038(m)   [NAVD88 (Computed using GEOID03)]

UTM COORDINATES    STATE PLANE COORDINATES
UTM (Zone 10)       SPC (3602 OR S)
Northing (Y) [meters]  4829728.577           212850.547
Easting (X)  [meters]   740199.882            1538368.764
Convergence  [degrees]    2.05197609           0.32503358
Point Scale                       1.00030974           0.99992058
Combined Factor            1.00009149           0.99970242

US NATIONAL GRID DESIGNATOR: 10TGP4020029729(NAD 83)

BASE STATIONS USED

<table>
<thead>
<tr>
<th>PID</th>
<th>DESIGNATION</th>
<th>LATITUDE</th>
<th>LONGITUDE DISTANCE(m)</th>
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<tbody>
<tr>
<td>DH3761</td>
<td>MDMT MEDICINE MOUNTAIN CORS ARP</td>
<td>N422506.012</td>
<td>W1211317.707 161981.9</td>
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<tr>
<td>AH2507</td>
<td>REDM REDMOND CORS ARP</td>
<td>N441535.145</td>
<td>W1210852.316 117526.4</td>
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<tr>
<td>AH8524</td>
<td>BURN BURNS JUNCTION CORS ARP</td>
<td>N424646.187</td>
<td>W1175036.652 198512.9</td>
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</table>

NEAREST NGS PUBLISHED CONTROL POINT

<table>
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<tr>
<th>PID</th>
<th>DESIGNATION</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
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<tbody>
<tr>
<td>PB0565</td>
<td>C 374</td>
<td>N433516.</td>
<td>W1200146. 758.2</td>
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This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.
## APPENDIX E. GRAVITY BASE DESCRIPTIONS

<table>
<thead>
<tr>
<th>Gravity Base</th>
<th>WGS84 Lat D.ddddd</th>
<th>WGS84 Lon D.ddddd</th>
<th>WGS84 Elevation (m)</th>
<th>NAVD88 Elevation (m)</th>
<th>Gravity milligals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td>43.58181271</td>
<td>-120.0249071</td>
<td>1391.654</td>
<td>1411.227</td>
<td>980087.810</td>
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</tbody>
</table>

**GRAVITY BASE STATION**

<table>
<thead>
<tr>
<th>STATION DESIGNATION</th>
<th>COUNTRY/STATE</th>
<th>ELEVATION</th>
<th>METER(S)</th>
<th>REFERENCE CODE NUMBERS</th>
<th>ADOPTED GRAVITY VALUE</th>
<th>ESTIMATED ACCURACY</th>
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<tr>
<td>BURNS</td>
<td>USA/Oregon</td>
<td>1266.4</td>
<td>(1)</td>
<td>ACIC 1280-1</td>
<td>g= 980 110.28 mgals</td>
<td>0.1 mgals</td>
</tr>
</tbody>
</table>

Station is located in Burns, Oregon, at the intersection of North Broadway and West Jefferson Streets. (1)
## APPENDIX F. LOOP CLOSURES

<table>
<thead>
<tr>
<th>Date</th>
<th>Base</th>
<th>Loop #</th>
<th>Duration</th>
<th>Closure (mG)</th>
<th>Abs_Closure (mG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>22-Jun</td>
<td>1000</td>
<td>1</td>
<td>8:11</td>
<td>0.044</td>
<td>0.044</td>
</tr>
<tr>
<td>23-Jun</td>
<td>1000</td>
<td>1</td>
<td>9:50</td>
<td>0.049</td>
<td>0.049</td>
</tr>
<tr>
<td>24-Jun</td>
<td>1000</td>
<td>1</td>
<td>10:47</td>
<td>0.032</td>
<td>0.032</td>
</tr>
<tr>
<td>25-Jun</td>
<td>1000</td>
<td>1</td>
<td>8:28</td>
<td>-0.022</td>
<td>0.022</td>
</tr>
</tbody>
</table>

**Average Closure** 0.036
### APPENDIX G. GPS AND GRAVITY REPEATS

<table>
<thead>
<tr>
<th>Station</th>
<th>NAD83Z10_E</th>
<th>NAD83Z10_N</th>
<th>NAVD88</th>
<th>Abs_G</th>
<th>Time</th>
<th>Date</th>
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<tbody>
<tr>
<td>108</td>
<td>262527.64</td>
<td>4826423.69</td>
<td>1416.77</td>
<td>980075.17</td>
<td>12:18:50</td>
<td>10.01</td>
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<tr>
<td>90108</td>
<td>262528.54</td>
<td>4826422.14</td>
<td>1416.71</td>
<td>980075.22</td>
<td>10:37:08</td>
<td>6.22</td>
</tr>
<tr>
<td><strong>Diff</strong></td>
<td><strong>-0.9</strong></td>
<td><strong>1.55</strong></td>
<td><strong>0.07</strong></td>
<td><strong>-0.05</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>275</td>
<td>258842.61</td>
<td>4822902.54</td>
<td>1615.61</td>
<td>980032.89</td>
<td>8:17:31</td>
<td>10.06</td>
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<tr>
<td>90275</td>
<td>258843.01</td>
<td>4822904.01</td>
<td>1615.67</td>
<td>980032.93</td>
<td>9:07:23</td>
<td>6.23</td>
</tr>
<tr>
<td><strong>Diff</strong></td>
<td><strong>-0.4</strong></td>
<td><strong>-1.47</strong></td>
<td><strong>-0.06</strong></td>
<td><strong>-0.04</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>280</td>
<td>260565.98</td>
<td>4822293.68</td>
<td>1521.13</td>
<td>980054.90</td>
<td>14:11:34</td>
<td>10.05</td>
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<tr>
<td>90280</td>
<td>260566.96</td>
<td>4822293.29</td>
<td>1521.09</td>
<td>980054.94</td>
<td>10:53:47</td>
<td>6.23</td>
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<tr>
<td><strong>Diff</strong></td>
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<td><strong>0.04</strong></td>
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<tr>
<td>1576</td>
<td>262802.07</td>
<td>4826255.91</td>
<td>1421.06</td>
<td>980074.66</td>
<td>10:49:55</td>
<td>6.22</td>
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<tr>
<td>91576</td>
<td>262802.11</td>
<td>4826255.87</td>
<td>1421.06</td>
<td>980074.69</td>
<td>15:41:55</td>
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<td><strong>Diff</strong></td>
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<td><strong>0.04</strong></td>
<td><strong>0.00</strong></td>
<td><strong>-0.04</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1418</td>
<td>246810.61</td>
<td>4829072.17</td>
<td>1373.48</td>
<td>980084.33</td>
<td>7:46:06</td>
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<td>246810.5</td>
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APPENDIX H. DATA DISK CONTENTS

Data

GlassButtes_Gravity.csv: Comma separated ASCII XYZ file containing gravity principal facts for this survey.

The following are columns included in this file.

- **Stn:** Station Number
- **Date:** Date
- **Time:** Local time (GMT-7)
- **Meter:** Gravity meter serial number
- **Reading:** Meter counter reading
- **NAD83Z10_UTM_E:** UTM Easting, Zone 10N, meters. NAD83
- **NAD83Z10_UTM_N:** UTM Northing, Zone 10N, meters. NAD83
- **NAD83Z11_UTM_E:** UTM Easting, Zone 11N, meters. NAD83
- **NAD83Z11_UTM_N:** UTM Northing, Zone 11N, meters. NAD83
- **NAVD88:** Station elevation, meters. NAVD88 vertical datum
- **NGVD29:** Station elevation, meters. NGVD29 vertical datum
- **Obs_Grav:** Observed gravity, milligals
- **TC10m_167Km:** Terrain corrections, 10 m to 167Km for 1.00 gm/cm$^3$
- **TC_Density:** Density used for terrain corrections and curvature correction 1 gm/cm$^3$
- **Curv_Cor:** Bullard B, curvature correction for 1.00 gm/cm$^3$
- **Free_Air:** Free Air gravity, milligals
- **SBA_200, etc.:** Simple Bouguer Anomaly for 2.00 gm/cm$^3$, etc
- **CBA_200, etc.:** Complete Bouguer Anomaly for 2.00 gm/cm$^3$, etc

**G233.sfc:** Meter calibration file for Model-G serial number 233.

**MMDDYY.raw files:** Daily raw instrument dump files. X, Y in NAD83 UTM Zone 11N.

Elevation in NAVD88 vertical datum.
Plots

Digital images in Geosoft map¹ and ArcView tiff file formats. Coordinates in NAD83, UTM Zone 11N, meters.

Plate 1: Station Location Map.
Plate 2: Complete Bouguer Anomaly Gravity @ 2.25 gm/cm³
Plate 3: Calculated First Vertical Derivative of CBA Gravity Upward Continued 400m @ 2.25 gm/cm³
Plate 4: Horizontal Gradient of the CBA Gravity Upward Continued 200m @ 2.25 gm/cm³

Report

Glass_Buttes_Grav_LR: Gravity data acquisition logistics report (this report) in Adobe PDF format.

¹ Requires Geosoft Oasis Montaj Viewer software. Free download available at: