BC Geological Survey
Assessment Report
29738

ASSESSMENT REPORT

RE: BOULDER GOLD GRAVITY SURVEY

BOULDER GOLD PROPERTY

Tenure Nos. 522851 and 539862
Wild Horse Creek Area

Located on Trim Map 82G.063
UTM Coordinates
609500E and 5504500N

Operators
B.G. Kostiuk
and
D.L. Pighin

Owner
B.G. Kostiuk
514 – 13th Avenue South
Cranbrook, B.C. V1C 2W4

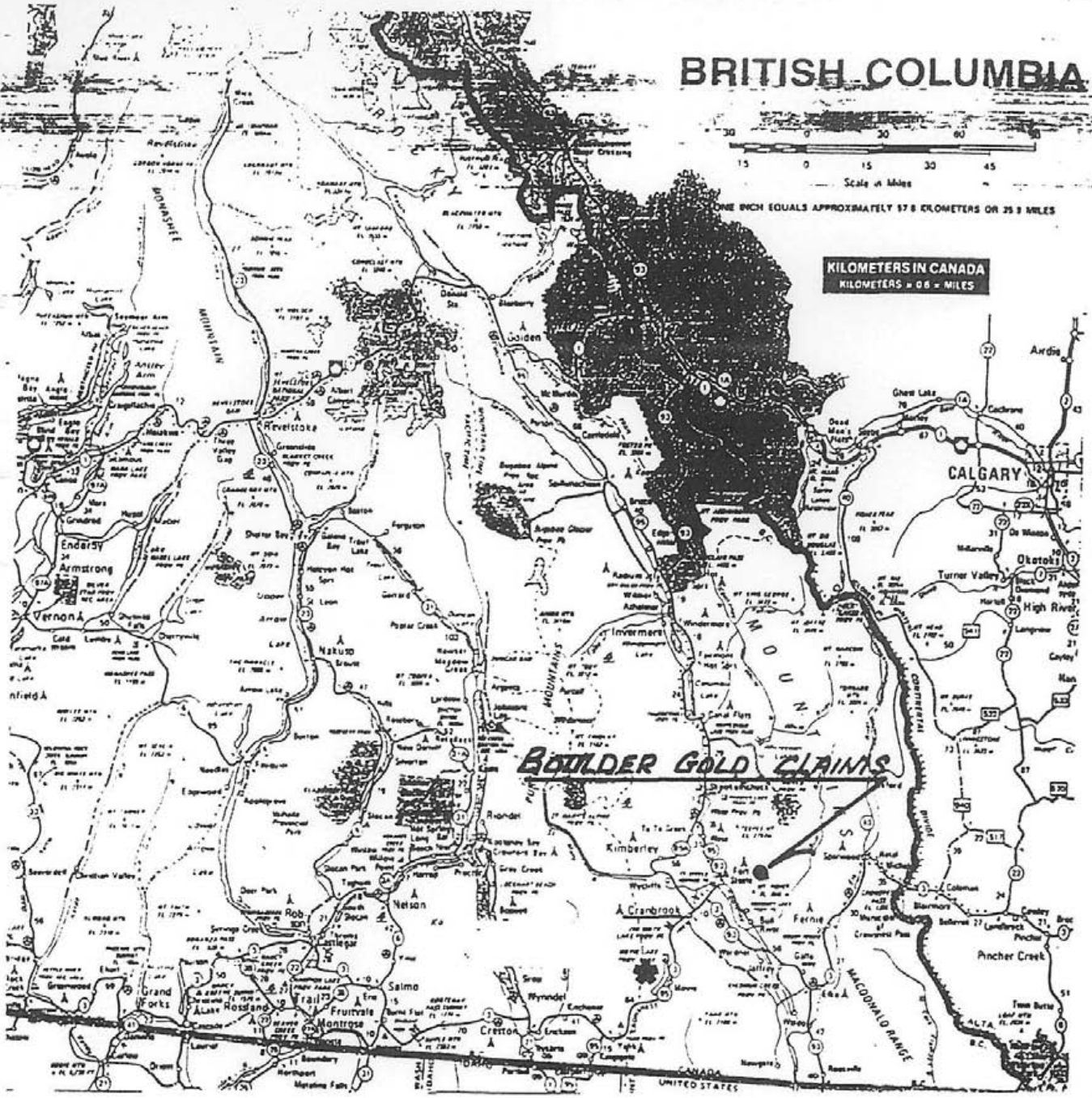
Reported by
D.L. Pighin, P.Geo.
301 – 8th Street South
Cranbrook, B.C. V1C 1P2

March, 2008

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT
29738

INDEX MAP

This is page 1



INDEX MAP

BOULDER GOLD PROPERTY

Scale as shown	Date: Dec. 2006	Figure 1

1.00 INTRODUCTION

1.10 Location and Access

The Boulder Gold property is located 13.5 kilometers N.E. of Fort Steele, B.C. The claims are in the Fort Steele Mining District and situated around UTM Coords: 609500E and 5504500N in the Wild Horse creek drainage. (Fig. 1).

Access to the property beginning from Fort Steele, B.C., is via 26.5 kilometers of good Forestry roads. Access on the property is also provided by good Forestry roads.

1.20 The Property

The registered owner of the Boulder Gold property is:

Brian George Kostiuk,
514 – 13th Avenue South
Cranbrook, B.C. V1C 2W4.

The property consists of 2 claims totaling 501.79 hectares, tenure Nos. 522851 and 539862. (Fig.2).

1.30 Physiography

The Boulder Gold claims cover the pass between the Boulder creek and Tanglefoot creek drainages. The relief ranges from moderate in the center of the property to extreme in the areas north and south of the pass. Elevations on the claims range from 1800 meters to 2560 meters.

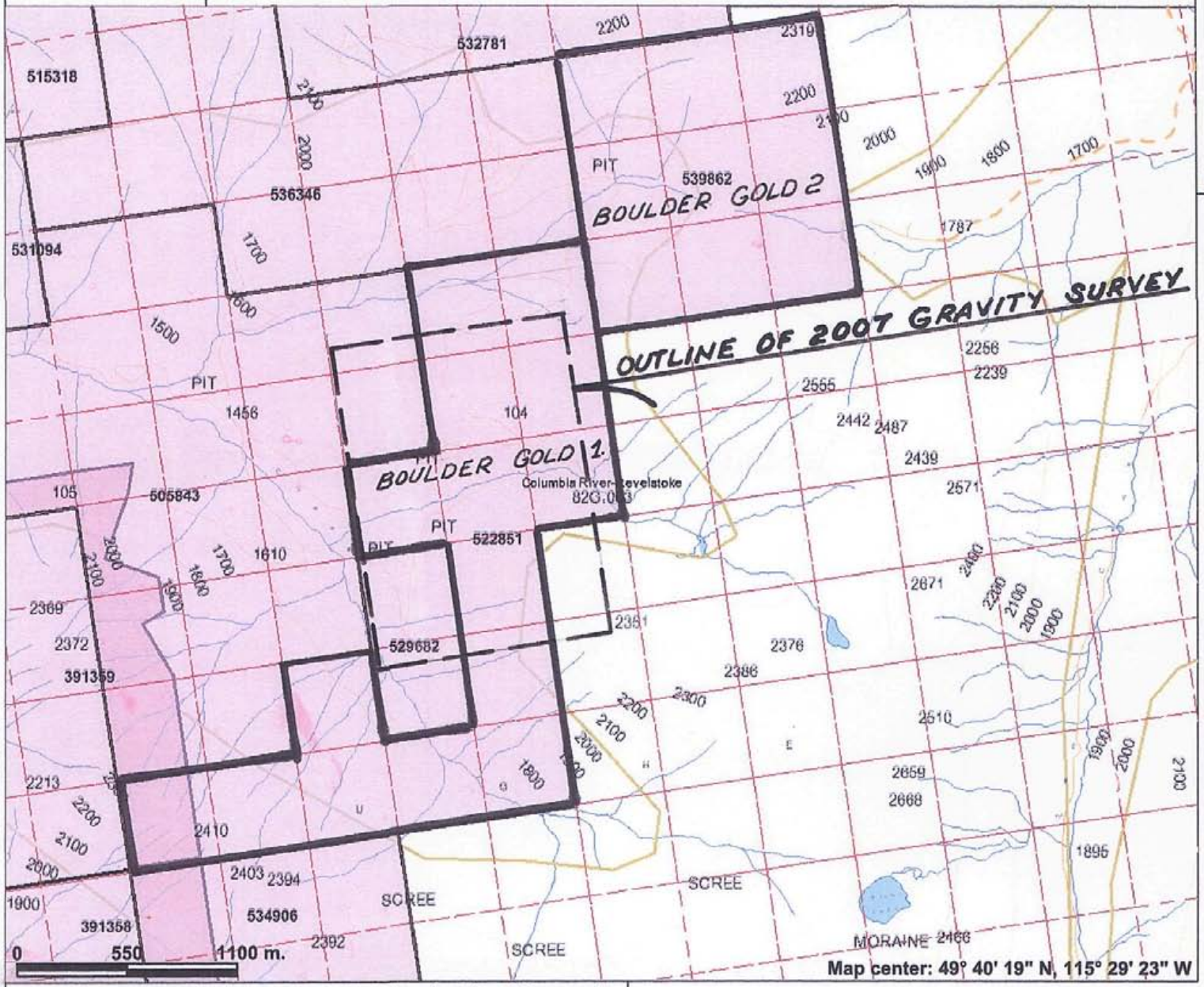
Forest cover on the property consists of mature stands of lodgepole pine, spruce, balsam, fir, and larch. However, on the claims most of this timber has been harvested by clear-cut logging methods.

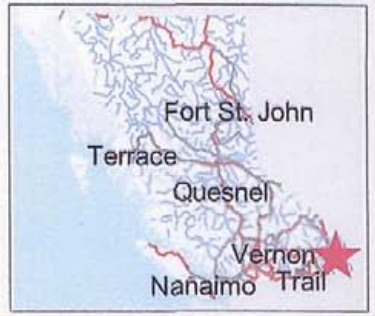
1.40 History

The Boulder Gold property covers a new gold occurrence. There is no evidence of any previous exploration work on the ground covered by the Boulder claims, and there is no record of any work filed with the government.

FIGURE 2

Boulder Gold





Legend

- Indian Reserves
- National Parks
- Parks
- Mineral Titles Grid (LRDW)
- Mineral Tenures (Mineral - LRDW)
- Mineral Claim
- Mineral Lease
- Reserves (Mineral - LRDW Sites)
- Placer Claim Designation
- Placer Lease Designation
- No Staking Reserve
- Conditional Reserve
- Release Required Reserve
- Surface Restriction
- Recreation Area
- Others
- Mining Division (Mineral - LRDW)
- Integrated Cadastral Fabric
- BCGS Grid
- Contours (1:250K)
- Contour - Index
- Contour - Intermediate
- Areaof Exclusion
- Areaof Indefinite Contours
- Annotation (1:20K)
- Transportation - Points (TRIM)
- Helipad
- Transportation - Lines (TRIM)
- Airfield
- Airport
- Airstrip
- Airport.Abandoned

Scale: 1:30,000

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

FIG. 2

1.50 Objective

To test gravity surveys as a possible tool to aid mapping and interpretation of sub-cropping geology.

2.00 GEOLOGY

2.10 Stratigraphy

The property is underlain by Cambrian and Proterozoic sediments. Cambrian sediments range in age from the Lower Cambrian, Cranbrook, and Eager formations, to the Middle Cambrian, Jubilee, and Tanglefoot formations. The Cambrian sediments underlie approximately 75 degrees of the property.

On the claims, the Cranbrook formation consists of mainly dolomitic and limy medium to coarse-grained, thick to very thick-bedded quartzite with scattered irregular lenses of intraformational conglomerate consisting mainly of black limestone clasts.

The Eager formation on the property consists of dark grey and light grey, finely-laminated slate.

The Tanglefoot formation consists mainly of shaley limestone, intraformational breccia, sandy shale, and conglomerate.

The Jubilee formation on the claims consists mainly of massive to thin-bedded, grey and white dolomite and limestone.

The Late Proterozoic, Creston, and Kitchener formations underlie the S.E. corner of the property. The Creston formation consists of thin-bedded, grey and green argillite and siltstone, grey siltstone, purple, white and grey medium to thick-bedded quartzite.

The Kitchener formation consists of grey and green argillite, buff to orange weathering dolomitic argillite, upper part grey, green and purple argillite.

2.20 Structure

Structure on the property is complex. The property is cut by northwest normal faults, and northeast reverse faults. These faults are cut by the late Boulder creek thrust fault.

2.30 Intrusive Rocks

Abundant, large, angular boulders of syenite occur through the center of the northern claim. The syenite boulders appear to form a float train which follows the trace of the Boulder creek fault. No bona fide outcrops of syenite have been located on the property

3.00 MINERALIZATION

Fine, angular grains of gold ranging in size from 0.02 mm to 0.5 mm have been found in the 'C' soil horizon on the property. The gold occurs in the 'C' soil horizon with hematite, feldspar, quartz, epidote, pyrite, green and black tourmaline, and fluorite.

4.00 GEOPHYSICAL SURVEY "GRAVITY"

See **Appendix I** – Geophysical Survey.
Titled: Boulder Creek Survey.
Authored by MEG Systems Ltd., February, 2008.

5.00 CONCLUSIONS

No large anomalies were found. However, a proper grid layout may help to interpret sub-cropping geology.

6.00 RECOMMENDATIONS

No further gravity surveys are proposed for the Boulder Gold Property.

7.00 REFERENCES

Pighin, D.L., Inhouse geological mapping East Wild Horse and Boulder Creeks, 1977.

Hoy, T. Geology of the Purcell Supergroup in the Fernie West-half Map Area. Bulletin 84.

8.00 STATEMENT OF EXPENDITURES

GRAVITY SURVEY

MEG Systems Ltd.

2-man crew – 3 days.	$ 4,500.00
Mob & Demob +3/4 day.	2,050.00
Truck Rental	600.00
Gas.	300.00
Food.	$ 600.00
	8,050.00
Tax 6%	483.00
TOTAL	$ 8,533.00
Assessment Report.	($1,500.00)

9.00 AUTHOR'S QUALIFICATIONS

As author of this report I, David L. Pighin, certify that:

(1) I am a self-employed consulting geologist whose office is at Hidden Valley Road, Cranbrook, B.C. Mailing address: 301 – 8th Street S., Cranbrook,, B.C. V1C 1P2.

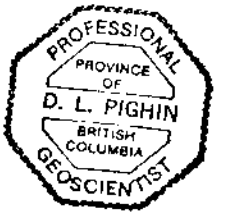
(2) I am a member in good standing of the Association of Professional Engineers and Geoscientists of the Province of British Columbia.

(3) I have been actively involved in mining and exploration geology, primarily in the Province of British Columbia, for the past 41 years.

(4) I was employed by Cominco Ltd. as a prospector, exploration technician and geologist for 24 years, and later by numerous junior exploration companies.

Dated at Cranbrook, British Columbia, this 7th day of March, 2008.

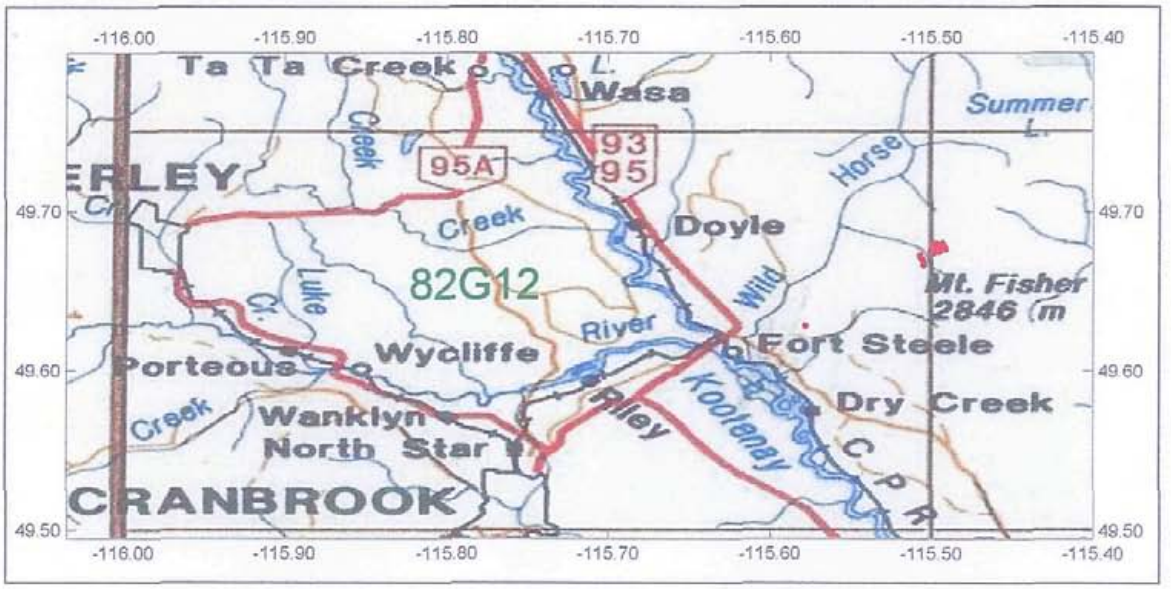
David L. Pighin, P. Geo.



APPENDIX I

BOULDER CREEK GRAVITY SURVEY

Prepared by:
MEG Systems Ltd.



Boulder Creek Survey

Aug 29, 2007
prepared for
BK98 Exploration Fund
Cranbrook, British Columbia

MEG SYSTEMS LTD
CALGARY, ALBERTA, CANADA

prepared by
MEG Systems Ltd.
February, 2008

Table of Contents

Introduction

MEG Systems Ltd. was contracted in August 2007 by Brian Kostiuk to conduct a gravity survey over his mineral claim at Boulder Creek, near Cranbrook, BC. Brian Kostiuk is a business consultant living in Cranbrook, B.C. and MEG Systems Ltd. has performed several surveys for him in the past.

Production Summary

The survey was conducted over 1 day on August 29, 2007. A crew of two field operators traveled from Calgary to the site outside of Cranbrook BC. In that time they were able to collect a total of 31 gravity stations over four separate zones. Table 1 shows the distribution of stations over these zones.

Table 1: Gravity Stations Collected on August 29, 2007

Zone	Station Count	Location, direction
300	6	NE corner, azimuth 330°
400	5	NE corner, azimuth 300°
500	12	V-shaped lines, central and north central
600	8	SW corner
Total	31	
Survey Days	1	
Daily Average	31	

Area, Access and Logistics

Area

The project is located east of the Kootenay River and Fort Steele along Highway 93. The area is mountainous and heavily treed.

Access

With the gravity crew staying in Cranbrook access was easy. They drove to Fort Steele and then along the public access mining and logging roads east for approximately 1 hour. Brian Kostiuk was with the crew and showed them the exact location to survey.

Logistics

The crew drove from Calgary to Cranbrook on the day prior to the survey. They were ready to proceed in the morning of the next day. They met Brian Kostiuk at the first base previously established and he went with them up the mountain to show the crew the survey location. The survey was planned to cover only the available access roads within the property boundary over a one day period. All stations would be spaced roughly 100 meters apart. A good location for the main GPS base was located in an open area close to the access road. All data was processed in the evening in Cranbrook. All required equipment was brought from Calgary and no additional supplies were required for the duration of the survey.

Mobilization and Personnel

Pre-mobilization Period

All necessary contracts were finalized between MEG Systems and Brian Kostiuk. The necessary GPS survey control points from Geodetic Survey of Canada and previous surveys, and gravity network bases were collected from the Natural Resources Canada website and previous surveys. All equipment was collected and checked for proper operation and condition after arrival at the motel in Cranbrook.

Personnel

MEG personnel forming the on-site crew were Richard McCombe (senior GPS Operator), Laurie Patriquin (junior Gravity Meter Operator), Lunn Johnston (Field Manager and Client Liaison).

MEG personnel forming the Calgary office was Mike McCombe (President of MEG Systems)

Mobilization and Demobilization Sequence

Aug 28 – Travel to Cranbrook and checked into the motel.

Aug 29 – Survey Day

Aug 30 to Sep 3 - Continued with Mause Creek Survey days.

Sep 4 – Travel back to Calgary.

Field Operations

The crew left for the field in the morning and met Brian Kostiuk who was with the crew most of the day. They drove to Fort Steele and along the road for one hour to the property. They used a previously established GPS base on the way and set it up to transmit. The gravity base used was also a previously established point at the motel

The survey involved collecting gravity stations mostly on roads and one intersecting line through the trees at a 100 meter nominal spacing.

Most of the gravity survey was done out of the truck by Laurie, while Rick walked ahead to collect the GPS due to weak satellite signals

Data Acquisition and Processing

Gravity

Gravity Meter

A single LaCoste & Romberg (sn G-239) gravity meter was used for the survey. The instrument is equipped with a galvanometer (similar to an analog voltage meter) and standard optics for correct positioning of the Reading Line. The gravity meter has a reading resolution of 0.01 mGal. With the soft ground and changing weather conditions, the accuracy would be slightly less, perhaps 0.03 mGal. The L&R gravity meter has a thermostatically controlled and hermetically sealed inner chamber containing a finely crafted steel spring supporting a beam and weight. The mechanical nature of the device produces a small drift in the readings over time due to microscopic stress cracks and strain creep in the metal of the spring. The macroscopic effect is a drift in the readings over time but the drift is linear and predictable.

Gravity Control

The gravity base was located at the motel and was established from previous surveys in the area. Table 2 describes the gravity specifications used for the data analysis.

Table 2: Gravity Specifications for Data Analysis

Meter Scale Factor	Calibration Table Method, Meter Specific, G-239
Latitude Correction	IGF 1967
GMT Offset	6 hours (MST and daylight saving in effect)
Bouguer Density	2.55 - 2.85 g/cc in increments of 0.05 g/cc
Terrain Correction	Modified Hammer Method, B, and C zones only
Gravity Value	g = 980697.60 mGal

Loop Closure

All gravity loops have been summarized in Table 3. The Lacoste and Romberg gravity meter is temperature controlled and G-239, in particular, has a low daily drift rate. In addition, the non-linear tidal effects are computed as part of the gravity data processing. Short duration loops under 4 hours, as recommended in older literature, are obsolete and no longer an issue. Acceptable daily drifts are possible in loops of up to 12 and 16 hours.

Table 3: Summary of Gravity Loop Closures

Date	Duration	Station Count	Drift	Comment
	(hh:mm)		(mGal)	
29-Aug	11:40	31	0.002	
Average Absolute Drift			**0.002**	

Table 3 shows that the daily loop drift was well within a typical maximum allowable value of 0.05 mGals.

Gravity Data Processing

The data reduction to Bouguer values followed standard methods and formulae; the definitions of such are listed under Gravity Terms at the end of the Appendices.

Inner terrain corrections included the standard B and C zone from the Modified Hammer Chart Method and reach out to 53 meters. A diagram of the Modified Hammer Zones to the D zone is shown in the Appendices. Small variations of 1 to 2 meters in one section of the B and C zones will change the station's Bouguer value by less than 0.02 mGals - well within the accuracy of the survey.

Positional Survey

GPS Instrumentation

MEG Systems provided two Leica System 500 GPS packs capable of real-time layout and positioning. During the survey two packs were used: one as a base and one as a rover. Under normal survey conditions, one unit would record and broadcast base corrections while the other was used as a rover to collect the station coordinates. A radio transmitter was used at the main control base to broadcast corrections. This allows the rover pack to collect the coordinates in real-time which reduced post-processing later, and ensured that a good quality solution was achieved while still in the field. When accurate station stake out is required the real-time method is a requirement.

GPS Control

A GPS base was set up in an open field next to the access road into the prospect. A single point process was done on 15 minutes of data to compute a coordinate. The resulting position (Station 999) is accurate to

one to two meters horizontally and 5 meters vertically. No other benchmarks were used to tie the survey to a network. A gravity reading was also taken at this point as a local base. A second GPS base was established at a higher elevation and closer to the gravity work (Station 998). A steel spike driven flush with the ground was used to mark the location. Table 4 lists the coordinates for the control points.

Table 4: GPS Control Points

TBM No	WGS84 Latitude	WGS84 Longitude	WGS84 UTMX	WGS84 UTMY	Orthometric Elevation
	Decimal Degrees	Decimal Degrees	Meters	Meters	Meters ASL
999	49.6283146095	-115.5780266662	602692.536	5498277.210	927.424
998	49.6796137530	-115.4955180113	608535.971	5504029.540	1869.282

GPS Data Processing

GPS data was collected in two different modes, Static, and Real Time. The main field base, 999, was established by setting it up to collect several minute's worth of static data and then processed onboard to produce a stand-alone position. The control point 998, at the prospect, was established based on control point 999. All gravity station coordinate data was collected in Real-Time mode with a base unit at 998.

All post-processing was done using Leica's Ski-Pro processing software. All internal coordinates were in the WGS84 datum. The WGS 84 system represents the best global geodetic reference system for the Earth available at this time for practical applications of mapping, charting, geo-positioning and navigation. Table 6 shows the standard parameters describing the WGS84 datum.

Table 6: WGS84 Defining Parameters

Ellipsoid Name	WGS84
Semi-major Axis	a = 6378137.0 meters
Inverse Flattening	1/f = 298.257223563
Gravitational Const.	$GM = 3986004.418 \pm 0.008 \times 10^{8}\ m^{3}\ s^{-2}$
Angular Velocity	$\omega = 7292115 \times 10^{-11}$ radians/second

The output generated by the Leica Ski-Pro software is in a specific format ready to be inserted into the gravity processing stream.

Conclusions

The summer is a good time to survey this area. Most of the trees are evergreens so they do not lose their leaves which would benefit GPS surveys. Also, evergreens do not seem to affect the GPS signals as bad as broad leaf trees and those with hard, smooth bark like birch. The winter brings heavy snowfall to this area, making ground travel difficult by vehicle as well as on foot in the forest.

We found it very convenient to stay at the motel in Cranbrook, and after several field trips to this area, everything is quite recognizable.

No difficulties were encountered with the survey equipment or the data. The gravity loop tie was excellent.

Minimal sightings of wildlife were made either traveling to or within the project area. Wildlife included varieties of birds, and squirrels, but no larger animals.

All data processing was done on site as well as Calgary, and digital files have been delivered separate to this report. Qualitative colour maps of the Bouguer Gravity and Residual Anomaly appear in the Appendices. Each grid is treated using a density of 2.55 g/cm for quick reference.

After review of the survey results, no large anomalies were evident from this sparse coverage; the roads provided a quick look at the surrounding gravity field, but a grid layout at the proper spacing may be able to uncover a more complete view of the underlying geology.

This report does not include a technical analysis of the gravity data with respect to the underlying geology, known formations, or structures. Further analysis is required to overlay this work with other data and to model possible locations of faults which may be crossing these lines.

We look forward to working further in this area for Brian Kostiuk.

Appendices

Equipment Supplied by MEG Systems

- Lacoste & Romberg G-239 Gravity Meter
- Leica System 530 GPS, 3 packs with real time radios
- Misc. including 2-way radios, hand-held GPS

Resources Provided by Brian Kostiuk (BK98)

- Accommodation in Cranbrook
- All Meals
- All fuel

Inner Terrain Correction Diagram

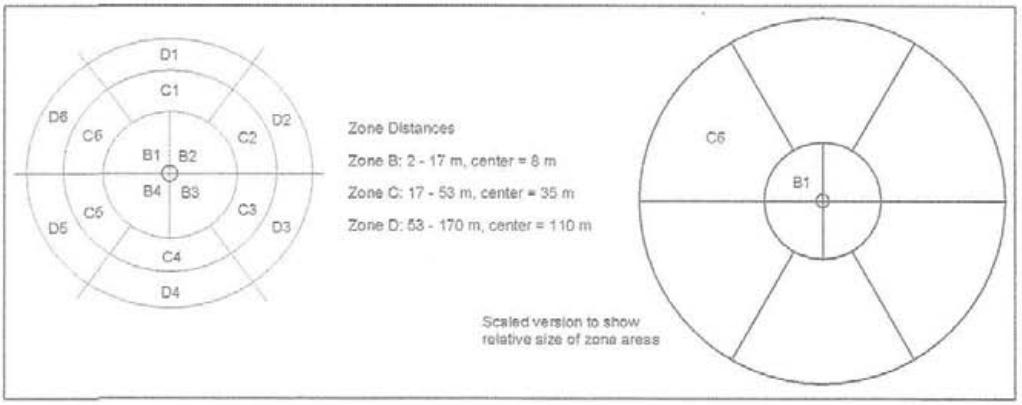


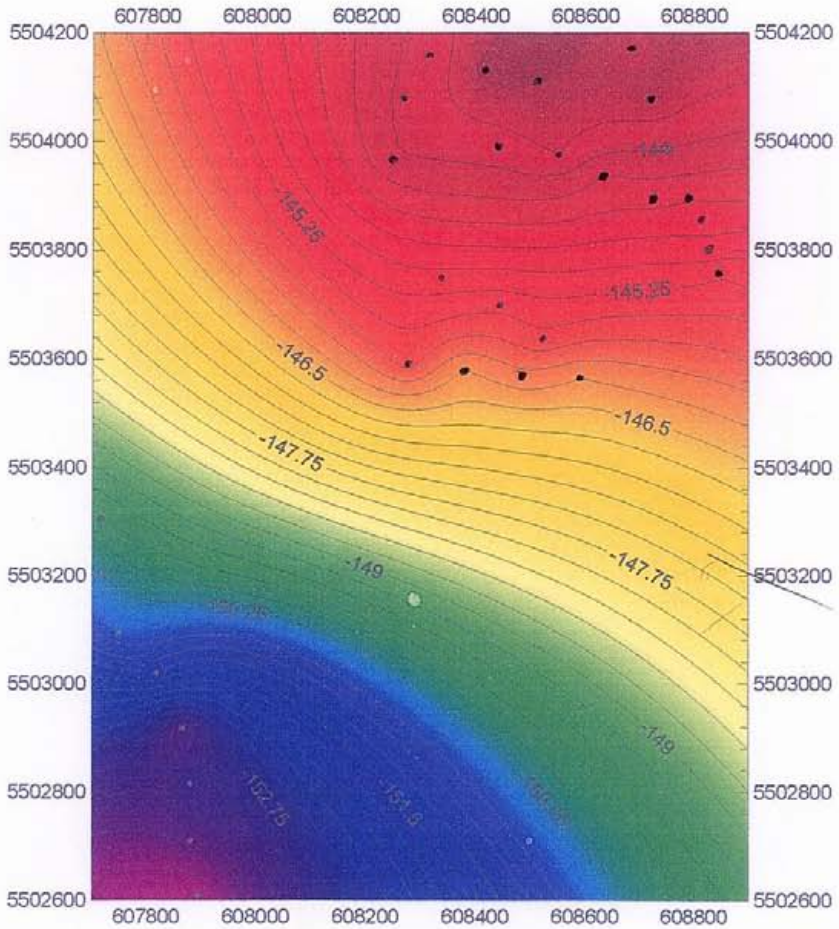
Table of Gravity Station Data Acquired During the Survey

Line	Station	Latitude	Longitude	UTMX	UTMY	Elevation	ObsGrav	LatCor	FreeAir	BougCor	ITC	Boug_2.55	Boug_2.60	Boug_2.67
300	0	49.6802613	115.4934047	608685.643	5504171.287	1831.909	980527.55	981040.96	565.33	153.59	0.18	-143.68	-147.52	-152.89
300	100	49.6794285	115.4929589	608719.658	5504079.350	1861.181	980521.72	981040.88	574.36	156.05	0.14	-143.58	-147.48	-152.94
300	200	49.6785806	115.4924704	608756.795	5503985.791	1890.320	980515.34	981040.81	583.35	158.49	0.14	-144.01	-147.97	-153.51
300	300	49.6777435	115.4920508	608788.930	5503893.336	1910.641	980510.78	981040.73	589.62	160.19	0.07	-144.49	-148.49	-154.09
300	400	49.6769023	115.4915902	608824.034	5503800.481	1907.634	980510.93	981040.66	588.70	159.94	0.09	-144.84	-148.84	-154.43
300	500	49.6765023	115.4912751	608847.659	5503756.473	1906.009	980510.85	981040.62	588.19	159.81	0.09	-145.22	-149.21	-154.80
400	0	49.6774149	115.4917379	608812.239	5503857.264	1912.507	980510.29	981040.7	590.20	160.35	0.01	-144.65	-148.66	-154.27
400	100	49.6777508	115.4929493	608724.093	5503892.850	1897.342	980513.49	981040.73	585.52	159.08	0.10	-144.42	-148.40	-153.96
400	200	49.6781805	115.4942024	608632.736	5503938.809	1883.241	980516.6	981040.77	581.17	157.90	0.06	-144.25	-148.19	-153.72
400	300	49.6785343	115.4953159	608551.622	5503976.534	1867.717	980520.25	981040.8	576.38	156.59	0.07	-143.75	-147.66	-153.14
400	400	49.6787257	115.4968416	608441.130	5503995.610	1858.322	980522.09	981040.82	573.48	155.81	0.04	-143.86	-147.75	-153.20
500	0	49.6797663	115.4958440	608510.786	5504112.732	1832.902	980527.64	981040.91	565.63	153.68	0.00	-143.58	-147.42	-152.80
500	100	49.6799404	115.4971491	608416.246	5504130.202	1831.370	980527.84	981040.93	565.16	153.55	0.13	-143.54	-147.37	-152.74
500	200	49.6802238	115.4985544	608314.242	5504159.681	1830.123	980527.6	981040.96	564.78	153.44	0.25	-143.90	-147.73	-153.09
500	300	49.6795291	115.4992361	608266.610	5504081.467	1827.520	980527.83	981040.89	563.97	153.22	0.40	-143.94	-147.76	-153.11
500	400	49.6785068	115.4995357	608247.266	5503967.386	1817.354	980530.07	981040.8	560.84	152.37	0.10	-144.04	-147.85	-153.18
500	500	49.6765436	115.4983286	608338.712	5503750.875	1789.865	980534.34	981040.63	552.35	150.07	0.14	-145.09	-148.84	-154.09
500	600	49.6760562	115.4968602	608445.727	5503698.799	1778.610	980535.91	981040.58	548.88	149.12	0.38	-145.44	-149.16	-154.37
500	700	49.6754935	115.4957902	608524.174	5503637.796	1770.301	980537.56	981040.53	546.31	148.43	0.26	-145.57	-149.27	-154.46
500	800	49.6748334	115.4948865	608590.840	5503565.717	1763.486	980538.26	981040.47	544.21	147.86	0.21	-146.25	-149.94	-155.11
500	900	49.6748766	115.4963327	608486.406	5503568.431	1746.848	980542.02	981040.48	539.08	146.46	0.04	-146.07	-149.73	-154.85
500	1000	49.6749918	115.4978424	608377.233	5503579.051	1733.922	980544.42	981040.49	535.09	145.38	0.05	-146.27	-149.90	-154.99
500	1100	49.6750965	115.4992383	608276.298	5503588.686	1726.083	980546.61	981040.5	532.67	144.72	0.04	-145.68	-149.30	-154.37
600	0	49.6663522	115.5048357	607891.812	5502608.506	1616.800	980559.47	981039.72	498.94	135.56	0.16	-153.93	-157.32	-162.06
600	100	49.6672638	115.5049714	607880.004	5502709.663	1611.771	980560.95	981039.8	497.39	135.14	0.22	-153.47	-156.84	-161.57
600	200	49.6682126	115.5049544	607879.135	5502815.162	1604.643	980562.95	981039.88	495.19	134.54	0.20	-153.02	-156.38	-161.08
600	300	49.6691328	115.5051272	607864.634	5502917.220	1591.451	980565.26	981039.96	491.12	133.43	0.23	-153.41	-156.74	-161.41
600	400	49.6700614	115.5057366	607818.605	5503019.581	1576.438	980570.64	981040.05	486.49	132.17	0.17	-151.22	-154.52	-159.14
600	500	49.6707497	115.5066942	607747.990	5503094.720	1566.130	980573.55	981040.11	483.31	131.31	0.10	-150.54	-153.82	-158.41
600	600	49.6716762	115.5070286	607721.821	5503197.244	1556.555	980575.8	981040.19	480.35	130.51	0.14	-150.26	-153.51	-158.08
600	700	49.6726331	115.5070988	607714.644	5503303.529	1548.941	980577.9	981040.28	478.00	129.87	0.12	-149.80	-153.05	-157.59

Maps

The gravity results for Boulder Creek will be presented as two maps: the Bouguer Anomaly and the Residual Gravity with the regional removed. All of the following parameters were used for both of the maps. The gravity grid was computed using a linear Kriging method using all points for each grid value. The grid spacing is 10 meters. The regional is computed from simple sloping plane, however, the lack of points along the diagonal from the NW corner to the SE corner causing a poor fit. The residual map was created by subtracting the regional grid from the Bouguer grid. The residual map is meant to show relative lows and highs but the data coverage is too sparse to interpret the large gaps between the data. Rock density used is 2.55 g/cc. Inner terrain corrections have been applied from B and C inner zones acquired as field data.

Bouguer Gravity



BK98 : BOULDER CREEK PROPERTY
Bouguer Gravity at 2.55 g/cc

GRAVITY SURVEY 2007
by
MEG Systems Ltd.

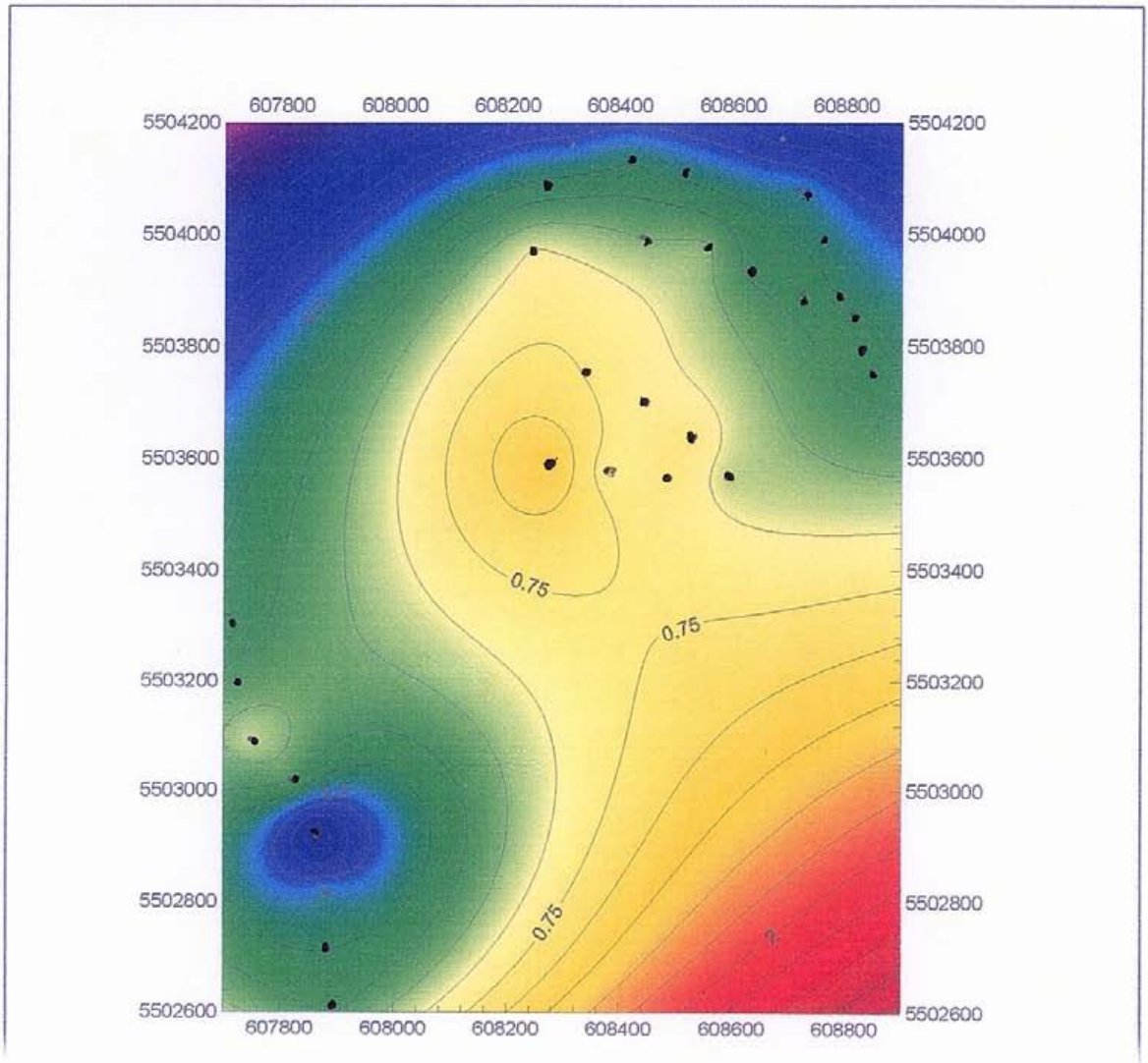
Ellipsoid: WGS84
Datum: NAD83
Grid: UTM Zone 11

Legend
• Gravity Stations

N

Station Spacing : ~100 meters
Grid Cell Spacing : 10 meters
Contour Line Spacing : 0.25 mGal

Residual Gravity Anomaly



Gravity Data Processing Terms

The data was reduced to Bouguer Gravity Anomaly values in milligals, mGal. All grids are tied to a common gravity base at TBM1, and also to the National Grid using the base station located in Burtt's Corner. Several densities were used and reported in the digital files but this report shows only results for a density of 2.60 g/cc. Other terms, as used in the processing, are defined below:

Observed Gravity, Go

Field observations corrected for Scale Factor (calibration table adjustment), tides due to the Sun and Moon, instrument drift during the time between base readings, and instrument height.

Theoretical Gravity (Latitude Correction), Gt

A correction applied to account for the effect of latitude, due to the Earths rotation and change in radius from the center of mass. This survey used the IGF1967 formula

$$Gt = 9.78031846 * \left(1 + 0.0053024 \sin^2 \varphi - 0.0000058 \sin^2 2\varphi\right)$$

Free Air Correction, Gfa

A correction applied to account for station readings taken at various elevations above a common datum, in this case, Sea Level. All GPS heights above the ellipsoid have been converted to Mean Sea Level by applying the Geoidal Separation.

Gfa = -0.3086 mGal / m * elevation (ASL)

Bouguer Slab Correction, Gbs

A correction applied to the rock layer between the station and datum, Mean Sea Level. The equation can handle water and ice layers as well.

Gbs = 2 * pi * .006672 * den * (elev-wdepth-icedepth)

Gbs(water) = 2 * pi * .006672 * wdepth * wden

Gbs(ice) = 2 * pi * .006672 * icedepth * iceden

Inner Terrain Correction, Gtc

A correction applied to the variable ground elevation in the near vicinity of the station. The outer radius of the C-zone is 53.3 meters. Terrain effects beyond this distance are insignificant for this region and this survey. The method used follows the Modified Hammer Zones B and C formulae.

Bouguer Anomaly, Gba

After all corrections are applied the remaining anomaly is understood to be the gravity effect of subsurface density variations of geologic origin. This formula will handle different rock densities using Density(i). (den = 2.0)

Gba = Go - Gt + Gfa – Gbc (water) – Gbc (ice) + Density (i)/den * (-Gbs – Gitc + Gotc) + offset

Description of Data Channels in Bouguer Data Spreadsheet

Column A: Line – 6 digit version of UTM, could be oriented N-S or E-W.

Column B: Station – 6 digit version of UTM, similar to Line.

Column C: Date – YYYY-MM-DD format

Column D: Time – 4 digit version of 24-hour clock, no colon

Column E: Meter – Meter Serial Number, integer

Column F: Operator Name – String

Column G: ComCode: Not used, zero default

Column H: Latitude in decimal degrees, NAD27 datum, Northern Hem.

Column I: Longitude in decimal degrees, NAD27 datum, positive West

Column J: Grid Easting in meters, UTM Zone 11

Column K: Grid Northing in meters, UTM Zone 11

Column L: Elevation in meters Above Mean Sea Level (Orthometric)

Column M: Leica GPS 3-D Quality (zero means Chainlevel), meters

Column N: Water Depth – not used.

Column O: Observed Gravity in milligals

Column P: Latitude Correction (Theoretical Gravity, IGF 1967), mGal

Column Q: Free Air Correction, mGal

Column R: Bouguer Slab Correction for rock, mGal

Column S: Bouguer Slab Correction for Water – not used

Column T: Bouguer Slab Correction for Ice – not used.

Column U: Inner Terrain Correction – B and C zones, mGal

Column V: Outer Terrain Correction – not used

Column W – AF: Final Bouguer Gravity using 10 different rock densities from 2.00 g/cc to 2.90 g/cc in increments of 0.10 g/cc, mGal