

All Oceana drill holes located during survey, some old holes do not have ID

Hole	East_66	North_66	Elvn
ZT82_13	362081.94	5357387.17	212.65
ZZE17	362195.19	5357475.62	197.83
DHOLE	362198.74	5357514.83	196.13
DHOLE	362202.60	5357518.68	196.13
DHOLE	362212.15	5357371.94	197.80
ZZE10	362221.67	5357429.35	196.85
ZZE10	362221.67	5357429.34	196.84
ZZE13	362222.30	5357478.34	195.13
ZZE15	362231.93	5357405.58	193.90
ZZEAB	362233.12	5357404.04	193.91
ZZEAA	362234.02	5357405.06	193.94
ZZE18	362243.05	5357343.64	190.84
ZZE02	362244.00	5357521.30	192.90
ZZE05	362247.19	5357386.14	193.97
ZZE06	362247.47	5357392.39	194.22
ZZE12	362248.01	5357531.35	193.13
ZZE04	362252.13	5357472.99	192.86
ZT80_07	362255.96	5357187.71	189.27
ZZE08	362260.49	5357492.45	192.08
ZZE14	362260.87	5357429.01	192.07
ZZE07	362270.61	5357444.34	191.65
ZZE11A	362280.21	5357351.73	190.61
ZZE11	362281.27	5357353.11	190.61
ZZE01	362292.08	5357432.95	191.13
ZZE03	362309.66	5357387.06	188.51
ZZEC4B	362309.66	5357392.02	188.82
ZT80-08	362317.70	5357615.70	196.78
ZT83-14	362331.34	5357588.07	190.24
ZZEC2	362408.29	5357740.62	208.33
ZT82_10	362496.57	5357394.56	182.97
OP2	362508.71	5357286.03	176.53

- **COMSTOCK MINES AREAS (ALLISON PIT)**



The excavated pit section looking north west in the central survey area.

THE SURVEY:

Control Data:

- All raw GPS survey controls are acquired in GDA94 datum (WGS84) and transformed in real time to survey grid references in AGD66 and AMG66 Zone 55 using the Tasmanian AGD66 transformation.
- All map presentation is AMG66 zone 55 datum.
- All time references for gravity are EST daylight saving UTM plus 11 hours.
- All height references are AHD

GPS Base station:

- See base locations

Gravity sub base:

- A gravity sub base #222222 was located on a separate concrete pad next to GPS base and adjacent to mine office. This was used as a local control to monitor drifts in this area.
- Location: 333333 357535.97E 5360402.65N 294.61m
- Observed gravity: 980288.39 milligals

Survey Lines:

- Lines were surveyed at 20m and 10m station intervals east / west and north / south when access permitted around the mine workings.
- The area consisted of two open pits, the Comstock and the Allison. Pit walls between benches were steep and not negotiated

- All benches and lower pit floor were surveyed at 10m X 10m stations where practical.
- The pit was marked out by GPS for terrain corrections by taking additional close spaced measurements.
- Rain and gales on some days made it unsafe to work on narrow benches and work moved to surrounding areas.
- A grid map shows extent of the proposed survey.

Gravity Survey:

- Gravity stations were located by RTK GPS in real time in the appropriate datum 25m station intervals along lines.
- All stations were given a unique six figure ID
- Comstock Pit Grid had prefix of 35, eg 350001 as starting number
- Allison Pit Grid had prefix of 36, eg 360001 as starting number
- Additional survey points were taken to map significant terrain and not used by gravity readings.
- Readings were taken in loops from a control station, the loop duration dependent on access.
- Steep slopes in pit areas were avoided.

GPS Data Processing:

- RTK GPS positioning at each gravity station was recorded in the GPS memory in GDA94 datum as raw data in addition to real time display in AMG66 zone55.
- This data was then transformed again to the required datum and transferred to a memory card for computer access.
- Format was Easting Northing Elevation and satellite elevation position error 0.00 to 0.05m
- No post processing was required with this data set.

Gravity Data Processing:

- All gravity stations were given a unique six digit ID
- Gravity data was recorded in loops from a control station, the field measurement being a relative gravity measurement referenced to the base station control.
- Gravity data was recorded at each station in instrument divisions.
- The time of measurement was recorded in EST daylight saving or UTM plus 11 hours.
- A Solo program combined the common GPS point ID to the gravity station point ID as these were stored in two separate instruments.
- This data set was then processed to produce a tidal corrected data set of instrument readings to check repeatability of stations before further processing.
- Longmans' formulae was used for the calculation of tidal changes at the local time and location.

Comstock Pit Grid at 10m x 10m (prefix 35)

CLIENT: Zeehan Zinc
 AREA: Zeehan Tasmania
 GRID: Comstock Pit area
 ROTATION= 0.0000 MERCZONE=55 CALIB.FACTOR = 1.01390
 BASE # 01;GRAVITY:9803101.400;EAST=xxxxxxx ;NORTH=xxxxxxx :motel
 BASE # 02;GRAVITY:9802980.000;EAST=xxxxxxx ;NORTH=xxxxxxx :highway
 LAST BASE
 LOOP:22;METER:556;DATE:150406;OPERATOR:B.RAU

LINE Line

LINE Line

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000000.00 000000001. 3825.12 856 000.00 105 -.087 01 3825.03
357535.97 5360402.65 3803.68 915 294.61 105 -.085 333333 3803.59
357376.34 5360275.70 3806.52 952 284.27 105 -.079 350001 3806.44
357408.75 5360267.12 3806.43 957 284.38 105 -.075 350078 3806.35
357418.65 5360270.63 3806.40 1000 284.65 105 -.075 350079 3806.32
```

Format:

east, north, meter value, time, elevation, julian date, tidal correction, station ID, tidal corrected meter value.

- This final data set was processed to produce the following example result.
- This includes instrument drift at base, daily drift, latitude and Bouguer calculation.
- The Observed 65 value is a drift corrected tie to a base station with a recorded AGSO Isogal65 value.
- The final calculations are derived by the standard AGSO Isogal65 formulae.
- Only a single Bouguer density of 2.67 gms/cc was required to be calculated and terrain corrections for this survey are by consultant Dr. David Leahman.

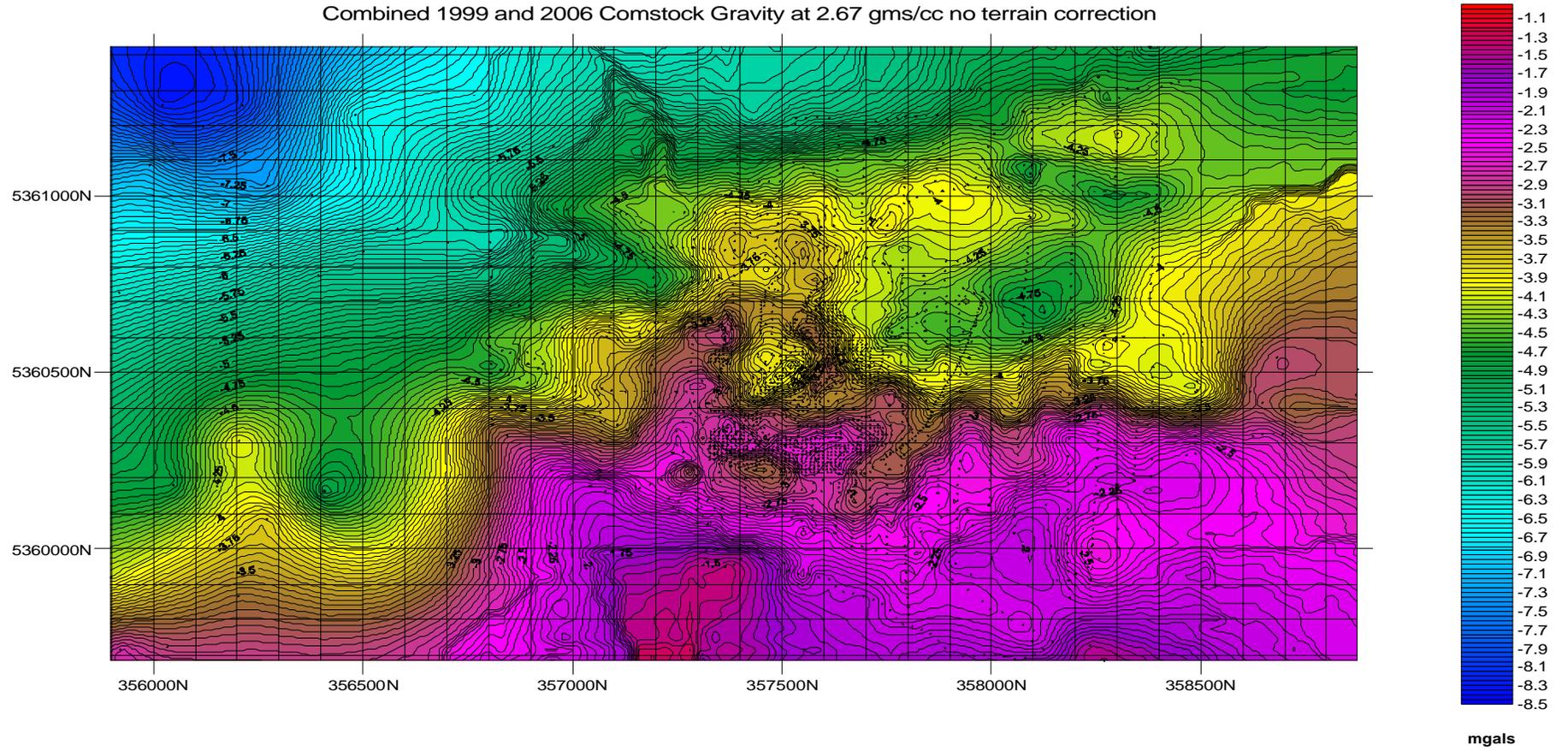
pegID	Observed65	Elevn	Lat66	Long66	AMG_Est66	AMG-Nth66	F/air	2.67	Zone
333333	980288.40	294.61	-41.895333	145.282632	357535.97	5360402.65	29.59	-3.38	55
350001	980291.29	284.27	-41.896447	145.280678	357376.34	5360275.70	29.18	-2.63	55
350078	980291.20	284.38	-41.896530	145.281066	357408.75	5360267.12	29.12	-2.70	55
350079	980291.17	284.65	-41.896500	145.281187	357418.65	5360270.63	29.17	-2.68	55
350080	980291.06	283.37	-41.895790	145.281366	357431.92	5360349.73	28.73	-2.98	55
350081	980291.07	283.49	-41.895877	145.281345	357430.40	5360340.02	28.77	-2.95	55

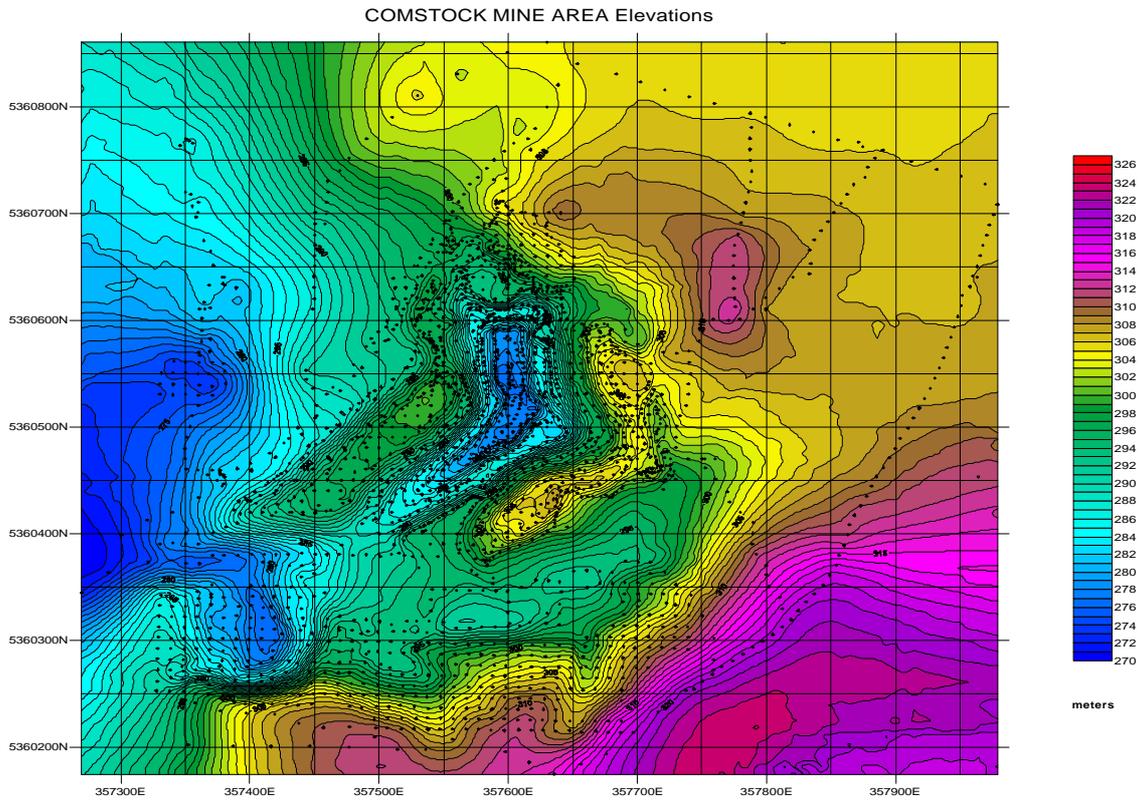
- Final archive data format is then

pegID	AMG_Est66	AMG-Nth66	Elevn	Observed65	Terr	D2.67	D2.67T	AGD66East	AGD66North	F/Air	Zone
333333	357535.97	5360402.65	294.61	980288.39	0.52	-3.39	-2.87	-41.895333	145.282632	29.58	55
350001	357376.34	5360275.70	284.27	980291.29	0.68	-2.63	-1.95	-41.896447	145.280678	29.18	55
350078	357408.75	5360267.12	284.38	980291.20	0.77	-2.70	-1.93	-41.896530	145.281066	29.12	55
350079	357418.65	5360270.63	284.65	980291.17	0.82	-2.68	-1.86	-41.896500	145.281187	29.17	55
350080	357431.92	5360349.73	283.37	980291.06	0.50	-2.98	-2.48	-41.895790	145.281366	28.73	55
350081	357430.40	5360340.02	283.49	980291.07	0.54	-2.95	-2.41	-41.895877	145.281345	28.77	55

Combined Comstock gravity surveys by Solo in 1999 and 2006

Combined 1999 and 2006 Comstock Gravity at 2.67 gms/cc no terrain correction





This map is compiled from GPS located data during the survey of gravity stations, drill hole locations and infill to define pit shape and benches.

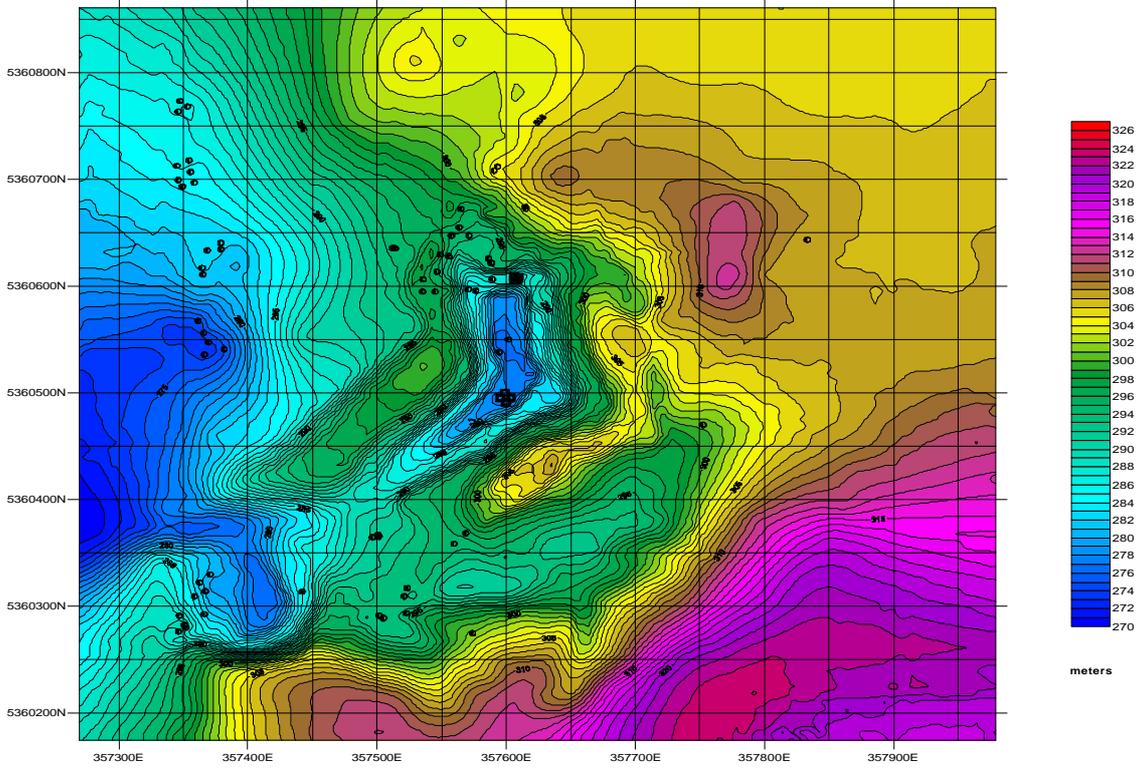
Drill Hole Locations:

All holes located in area were surveyed and azimuth calculated when possible. An Excel spread sheet follows, missing numbers are holes located without identity.

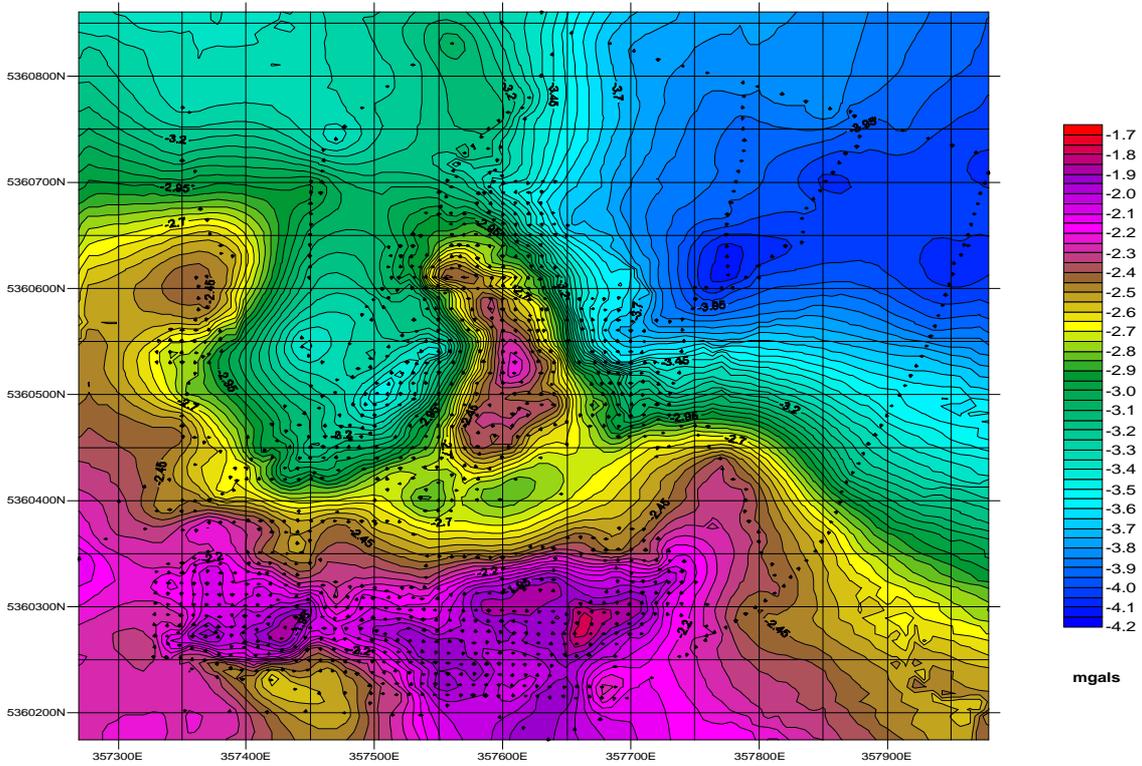
Hole	East66	North66	Elvn	Az
Syo	357588.46	5360621.23	293.81	
syo	357501.33	5360365.03	292.51	66 by site office pad, no numbers
Syo	357500.51	5360366.38	292.39	61 ditto
Syo	357496.42	5360364.43	292.41	66 ditto
Syo	357346.74	5360290.78	288.56	
Syo	357351.70	5360279.57	290.09	
syo	357520.87	5360309.02	293.41	
syo	357349.08	5360692.90	285.03	
syo	357496.47	5360364.43	292.43	
syo	357500.54	5360366.36	292.40	
syo23	357350.68	5360282.02	290.12	
syo24	357358.59	5360309.00	284.24	
syo26	357346.11	5360276.11	289.18	

syo29	357366.07	5360292.24	282.37	
syo30	357366.81	5360313.87	279.95	
syo31	357370.68	5360329.50	280.21	
Syo32	357571.03	5360647.07	294.28	
Syo34	357563.58	5360654.72	295.44	
syo35	357362.49	5360321.88	281.87	
Syo35	357589.26	5360606.11	287.33	
Syo36	357576.36	5360595.25	285.39	
Syo42	357586.16	5360625.52	293.40	
SYO45	357345.76	5360763.26	286.24	
SYO46	357353.03	5360767.97	285.72	
syo47	357347.04	5360773.08	287.79	
syo48	357344.82	5360712.44	288.71	
SYO49	357355.36	5360706.64	285.08	
SYO51	357354.19	5360717.60	285.26	
syo52	357345.71	5360699.08	283.32	
SYO53	357358.25	5360696.64	284.65	
Syo54	357378.75	5360640.21	282.60	
Syo55	357378.99	5360634.22	282.39	
Syo56	357366.11	5360535.41	273.55	27
Syo57	357368.37	5360633.00	282.22	
Syo58	357364.39	5360616.83	282.11	
syo59	357365.60	5360555.79	274.04	
Syo60	357361.10	5360566.93	274.55	
Syo61	357381.43	5360540.64	274.35	29
Syo62	357364.89	5360610.63	281.66	
syo63	357369.18	5360547.31	273.79	91
Syo64	357523.34	5360316.78	293.38	220
Syo65	357501.68	5360290.83	293.84	225
Syo66	357568.59	5360368.06	295.96	100
Syo68	357559.51	5360358.20	295.43	161
Syo69	357535.10	5360594.54	296.54	266
Syo70	357544.86	5360594.50	296.54	102
Syo71	357570.69	5360596.69	285.33	262
Syo73	357615.30	5360672.28	303.09	285
Syo75	357614.83	5360674.03	302.93	326
Syo76	357522.46	5360293.26	294.08	
Syo77	357593.22	5360711.60	312.17	318
Syo78	357504.97	5360288.56	293.79	158
Syo79	357590.62	5360707.95	305.55	28
syo80	357441.90	5360313.48	284.49	126
syo72	357573.86	5360274.36	300.95	vertical hole
syo82	357535.61	5360606.00	296.11	273
syo84	357546.19	5360613.09	295.42	98
syo85	357513.89	5360635.01	294.58	14
syo86	357511.91	5360635.36	294.58	340
syo87	357548.87	5360629.51	294.14	
syo88	357555.49	5360627.56	294.10	94
syo89	357557.41	5360646.99	294.84	288

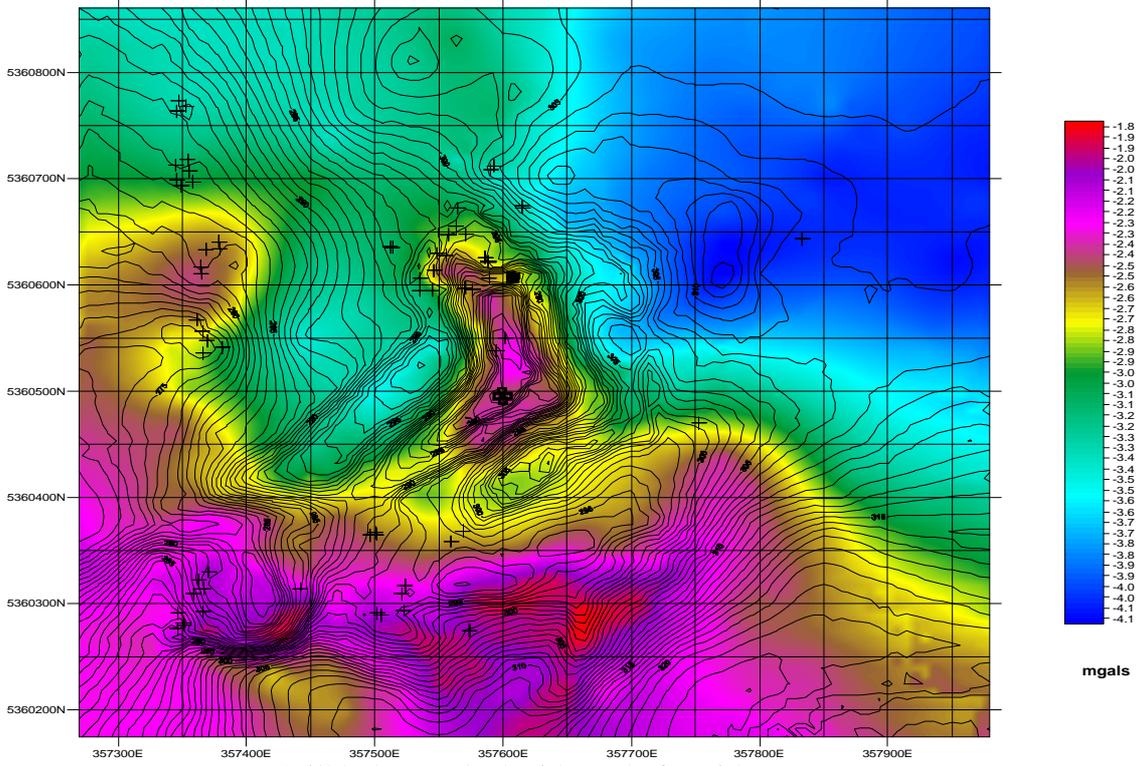
COMSTOCK MINE AREA Drill Holes on Elevations



COMSTOCK MINE AREAS TERRAIN GRAVITY at 2.67 gms/cc

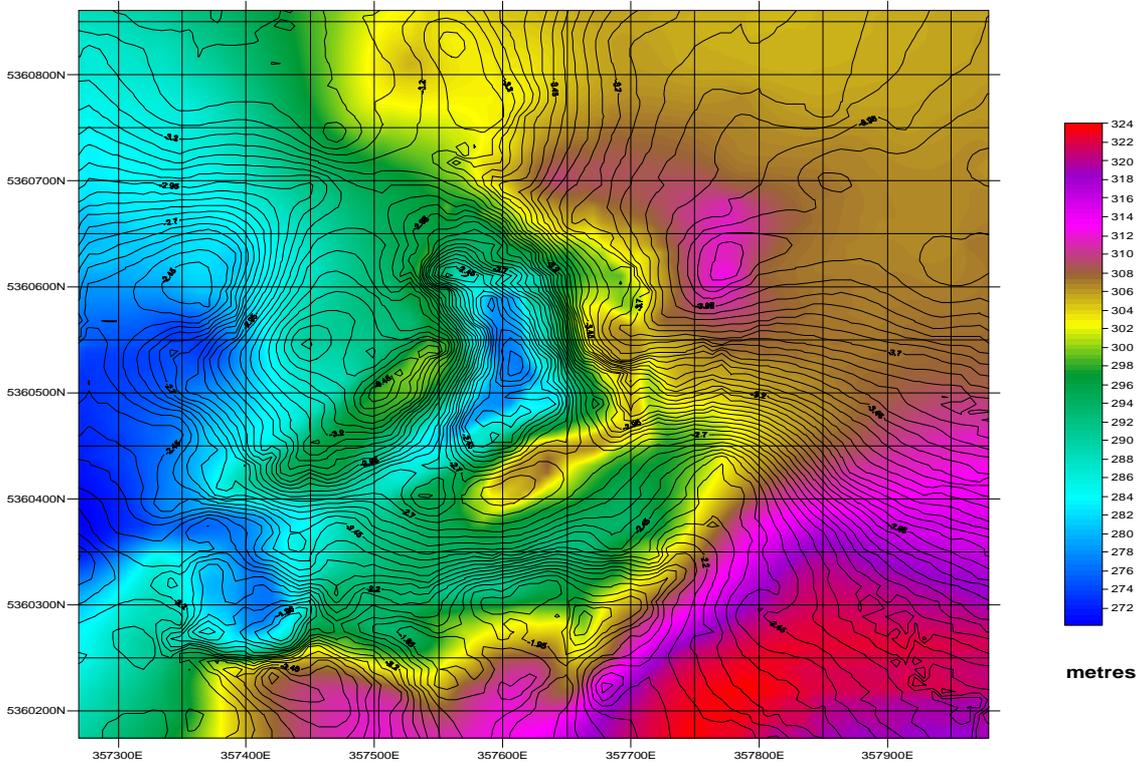


Comstock Mines terrain contours on Gravity at 2.67 gms/cc

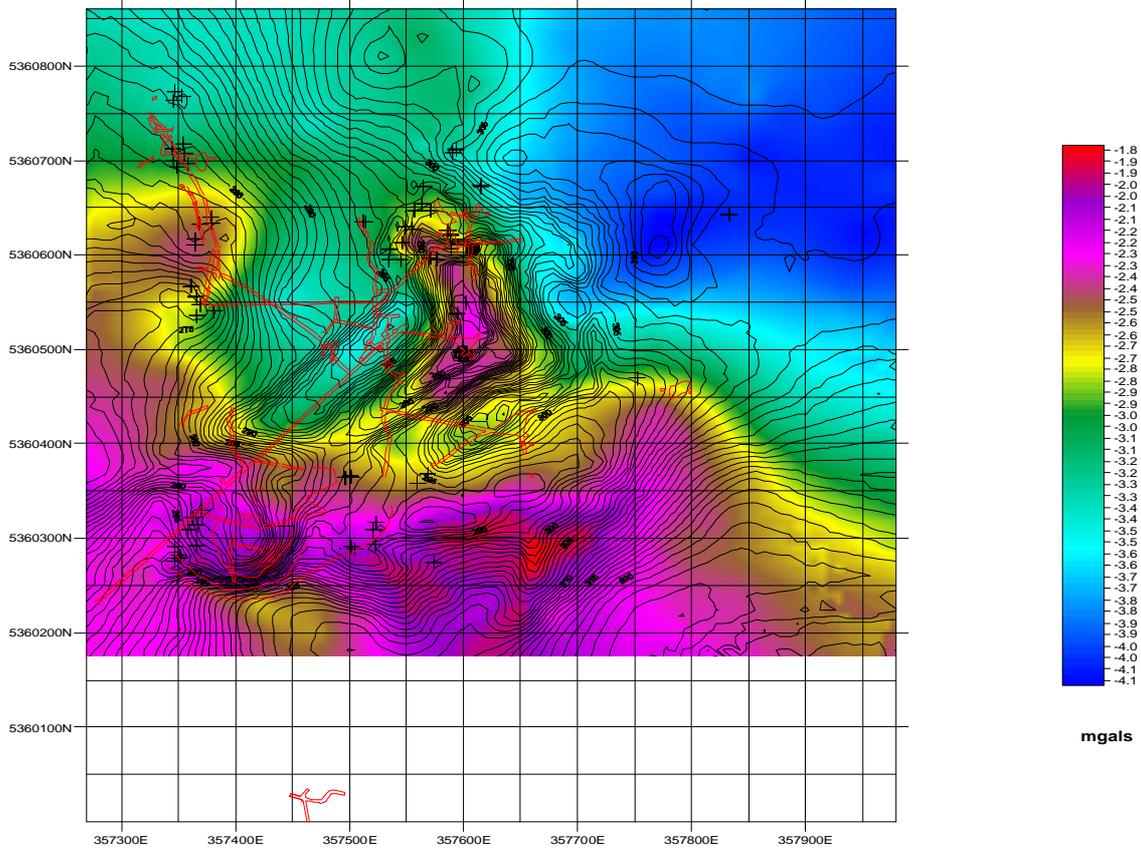


Drill holes marked with +, shafts with a square.

Comstock Mines Gravity 2.67gms/cc contours on elevation



Comstock Mines terrain contours on Gravity at 2.67 gms/cc



Drill holes marked with +, shafts with a square.
Old mine workings in red