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PRINCIPAL FACTS FOR GRAVITY STATIONS IN THE HILLSBORO AND SAN LORENZO QUADRANGLES, GRANT AND SIERRA COUNTIES, NEW MEXICO

by

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Introduction

A gravity survey was made in parts of Grant and Sierra Counties, New Mexico, as part of a larger effort by the U.S. Geological Survey to assess the mineral potential of the Hillsboro and San Lorenzo quadrangles. The gravity data were used to delineate the southern margin of the Emory Pass caldera, as well as to identify buried tracts of rock that might be mineralized.

Data Collection

During January and August 1975, 138 gravity stations were established with LaCoste-Romberg gravimeters G-131 and G-159.[1/] The gravity stations were referenced to base station ACIC 3968-1 (979006.48 mGals, 1971 datum) in Silver City, New Mexico. The area covered by the survey is shown in figure 1.

Station elevations were obtained from benchmarks and spots elevations on 1:62,500-scale topographic maps. Elevations for about 30 stations were obtained by using a theodolite from a known elevation, or by turning on nearby peaks with known elevations, and by using only those data for which three or more elevation determinations closed to within 3 m. The resulting elevation imprecision gives a maximum error in the Bouguer anomaly of less than 0.6 mGals. An additonal 15 stations

[1/] Use of brand names in this report is for descriptive purposes only and does not constitute endorsement by the U.S. Geological Survey.

were obtained from the Defense Mapping Agency, DMA Aerospace Center, South Annex, St. Louis AFS, Missouri 63125, and were combined with the USGS stations.

Data Reduction

The gravity data obtained by the USGS were reduced by means of a digital computer program written by G. I. Evenden and R. R. Wahl. Gravity meter readings were converted to observed gravity values using the 1971 base values of the International Gravity Standardization Net. The Geodetic Reference System, 1967 formula (International Association of Geodesy, 1967), was used to compute the theoretical gravity. The data from both sources were reduced to simple Bouguer anomaly values using an assumed average rock density of 2.67 cm^3. Terrain corrections were made for both sets of data by hand template through zone H of Hammer (1939). The corrections ranged from 0.01 mGals in the southeast corner of the map area to 9.11 mGals atop Hillsboro Peak in the north-central part of the map area. Corrections were made in the USGS data for tidal effects and linear instrument drift. The principal facts for the gravity stations are listed in table 1, preceded by an explanation of the table headings.

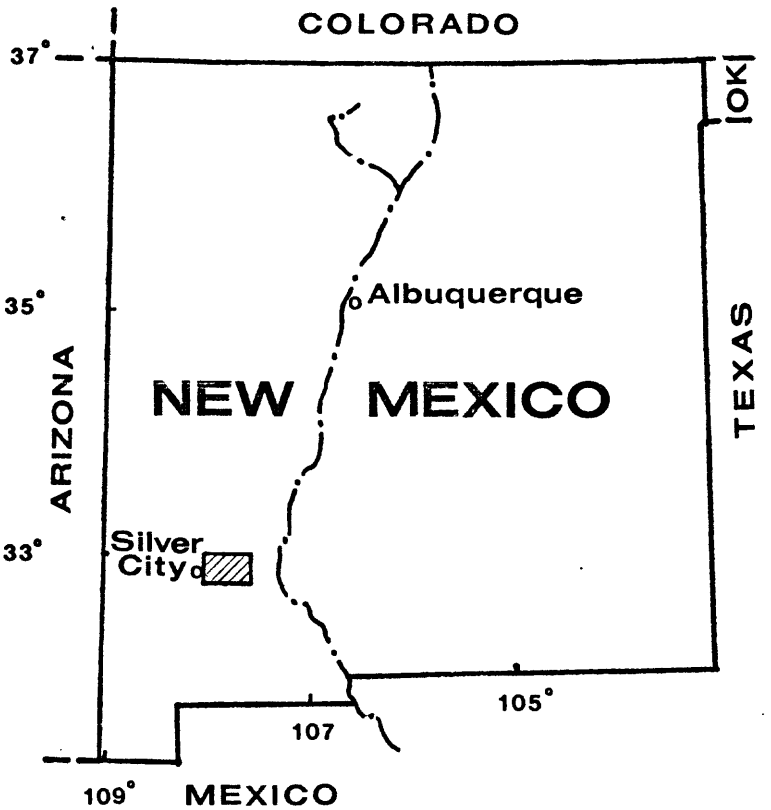

figure 1. Location of survey.

References

Defense Mapping Agency Aerospace Center, 1974, World Relative Gravity Reference Network, North America, part 2: DMAAC Ref. Pub. No. 25, with supplement updating gravity values to the International Gravity Standardization Net 1971, 1635 p.

Hammer, Sigmund, 1939, Terrain corrections for gravimeter stations: Geophysics, v. 4, no. 3, pp. 184-194.

International Association of Geodesy, 1967, Geodetic Reference system, 1967: International Association of Geodesy Spec. Pub. no. 3, 74 p.

Explanation of Table Headings

STATION IDENTIFICATION	Gravity station number.
LATITUDE	North latitude in degrees, minutes, and hundreds of minutes.
LONGITUDE	West longitude in degrees, minutes, and hundreds of minutes.
ELEV	Elevation in meters.
ST	State of station (e.g. Arizona).
OBSERVED GRAVITY	Observed gravity in milligals.
THEORETICAL GRAVITY	Theoretical gravity
TERRAIN CORRECTIONS	Terrain corection in milligals.
FREE-AIR CORRECTIONS	Free-air anomaly in milligals.
BOUGUER CORRECTIONS	Elevation and curvature correction in milligals.
BOUGUER ANOMALY	Bouguer anomaly in milligals for assumed average density of 2.67 gm/cm^3.

BOUGUER GRAVITY DATA

STATION IDENTIFICATION	LOCATION LATITUDE	LONGITUDE	ELEV	ST	GRAVITY OBSERVED	THEORETICAL	CORRECTIONS TERRAIN	FREE-AIR	BOUGUER	BOUGUER ANOMALY
SLH. dod-5	32 48.53	108 0.00	1914.1	NM	979004.05	-979549.60	0.16	590.51	-215.70	-170.58
SLH. dod-15	32 49.35	107 46.20	2281.7	NM	978898.48	-979550.73	2.10	703.85	-256.82	-203.12
SLH. dod-20	32 49.63	107 32.37	1595.6	NM	979066.73	-979551.11	0.15	492.28	-179.98	-171.93
SLH. dod-19	32 47.05	107 32.55	1550.8	NM	979079.41	-979547.57	0.10	478.47	-174.96	-164.54
SLH. dod-16	32 47.50	107 50.78	1949.8	NM	978962.55	-979548.19	1.61	601.51	-219.69	-202.21
SLH. dod-14	32 49.70	107 49.20	2069.0	NM	978938.51	-979551.21	1.70	638.27	-233.04	-205.77
SLH. dod-9	32 50.10	107 53.70	1884.3	NM	978974.82	-979551.76	0.92	581.52	-212.36	-207.06
SLH. dod-4	32 50.19	107 57.38	1788.8	NM	979005.95	-979551.88	0.42	551.47	-201.66	-195.31
SLH. dod-2	32 52.46	107 59.09	1820.2	NM	979001.34	-979554.99	0.91	561.55	[illegible]	[illegible]
SLH. dod-21	32 52.62	107 32.57	1599.0	NM	979065.52	-979555.21	0.05	493.33	-180.37	-176.87
SLH. dod-11	32 53.85	107 49.45	2106.8	NM	978928.09	-979556.91	2.30	649.92	-237.27	-213.86
SLH. dod-18	32 54.47	107 42.50	1987.0	NM	978968.02	-979557.76	1.80	612.98	-223.86	-198.82
SLH. dod-13	32 54.81	107 46.55	2363.4	NM	978882.55	-979558.22	3.26	729.04	-265.95	-209.33
SLH. dod-22	32 55.22	107 37.55	1694.4	NM	979043.36	-979558.79	2.66	522.75	-191.07	-181.09
SLH. dod-23	32 55.40	107 33.00	1595.9	NM	979067.73	-979559.03	0.76	492.38	-180.02	-178.19
SLH. dod-17	32 56.67	107 40.95	1894.6	NM	978992.19	-979560.78	2.52	584.49	-213.51	-195.29
SLH. dod-1	32 58.46	107 58.68	2158.6	NM	978927.95	-979563.24	1.20	665.89	-243.06	-211.26
SLH. dod-26	32 59.00	107 43.25	1955.3	NM	978974.52	-979563.98	3.40	603.21	-220.31	-203.16
SLH. E-1	32 44.60	107 47.90	1805.5	NM	978986.54	-979544.22	0.83	557.01	-203.53	-205.36
SLH. E-4	32 53.92	107 51.66	2067.1	NM	978938.59	-979557.00	1.60	637.67	-232.82	-211.96
SLH. R-1	32 52.75	107 35.42	1653.1	NM	979052.11	-979555.59	0.35	510.00	-186.43	-179.36
SLH. D-1	32 48.60	107 51.51	1713.7	NM	979006.98	-979544.22	0.16	528.71	-193.24	-201.61
SLH. Z-18	32 57.41	107 33.42	1965.5	NM	978988.29	-979561.80	5.05	606.37	-221.46	-183.55
SLH. Y-9	32 57.25	107 32.30	1892.7	NM	979014.16	-979561.58	2.57	583.90	-213.30	-174.25
SLH. A-01	32 48.24	107 56.12	1782.2	NM	979011.11	-979549.20	0.63	549.82	-200.91	-188.55
SLH. A-02	32 48.85	107 55.98	1797.1	NM	979008.34	-979550.04	1.19	554.43	-202.59	-188.67
SLH. A-03	32 51.35	107 58.77	1819.7	NM	978998.22	-979553.47	0.86	561.38	-205.11	-198.12
SLH. A-04	32 48.41	107 59.55	1917.5	NM	979002.37	-979549.44	1.68	591.55	-216.08	-169.91
SLH. A-05	32 52.54	107 52.28	2131.5	NM	978925.68	-979555.10	1.35	657.53	-240.03	-210.57
SLH. A-06	32 54.60	107 45.91	2507.9	NM	978856.80	-979557.94	3.17	773.58	-282.08	-206.46
SLH. A-07	32 55.16	107 40.68	1817.5	NM	979008.83	-979558.70	2.81	560.72	-204.87	-191.22
SLH. A-08	32 56.98	107 52.51	1673.1	NM	979059.87	-979559.97	0.49	516.17	-188.67	-172.12
SLH. A-09	32 50.12	107 56.88	1677.0	NM	979047.19	-979551.78	1.17	517.39	-189.12	-175.15
SLH. A-10	32 45.54	107 32.84	1557.8	NM	979076.05	-979545.50	0.07	480.64	-175.74	-164.49
SLH. A-11	32 45.79	107 54.79	1794.4	NM	978990.72	-979545.84	1.60	553.58	-202.28	-202.22
SLH. B-01	32 46.77	107 36.84	1698.6	NM	979039.23	-979547.19	0.90	524.07	-191.55	-174.53
SLH. B-02	32 46.16	107 40.66	1786.4	NM	979000.27	-979546.35	1.66	551.14	-201.39	-194.67
SLH. B-03	32 47.56	107 40.51	1851.1	NM	978994.44	-979546.27	1.50	571.06	-208.63	-189.90
SLH. B-04	32 47.00	107 42.33	1865.7	NM	978980.38	-979547.51	1.69	575.57	-210.27	-200.14
SLH. B-05	32 45.14	107 34.65	1627.6	NM	979055.62	-979544.95	0.10	502.16	-183.58	-170.65

BOUGUER GRAVITY DATA

STATION IDENTIFICATION		LOCATION LATITUDE	LONGITUDE	ELEV	ST	GRAVITY OBSERVED	THEORETICAL	CORRECTIONS TERRAIN	FREE-AIR	BOUGUER	BOUGUER ANOMALY
SLH.	B-06	32 48.55	107 30.33	1549.9	NM	979079.52	-979549.63	0.01	478.19	-174.86	-166.76
SLH.	C-01	32 54.27	107 56.96	2162.9	NM	978916.59	-979557.48	1.08	667.21	-245.54	-216.13
SLH.	C-02	32 52.73	107 56.45	2031.2	NM	978943.05	-979555.37	1.28	626.61	-228.81	-215.24
SLH.	C-03	32 55.53	107 56.51	2201.9	NM	978907.48	-979559.21	1.80	679.24	-247.90	-218.59
SLH.	C-05	32 56.24	107 59.53	2090.6	NM	978934.80	-979560.19	1.10	644.93	-235.46	-214.81
SLH.	C-06	32 59.85	107 55.60	2315.6	NM	978888.62	-979565.15	2.19	714.29	-260.61	-220.66
SLH.	D-02	32 45.90	107 51.36	1840.7	NM	979083.83	-979546.00	1.69	567.87	-207.47	-200.08
SLH.	D-03	32 48.67	107 49.94	2010.5	NM	978952.62	-979549.48	1.58	[illegible]	[illegible]	[illegible]
SLH.	D-04	32 50.63	107 49.19	2051.6	NM	978940.18	-979552.48	1.91	[illegible]	[illegible]	[illegible]
SLH.	D-05	32 52.11	107 48.37	2360.1	NM	978877.13	-979554.52	2.69	728.01	-265.58	-216.17
SLH.	D-06	32 45.50	107 56.79	1917.2	NM	978990.30	-979545.45	1.69	591.46	-216.04	-178.04
SLH.	E-02	32 46.21	107 47.72	2020.2	NM	978940.41	-979546.42	2.04	623.23	-227.58	-208.33
SLH.	E-03	32 50.23	107 45.13	2266.5	NM	978901.20	-979551.94	2.72	699.16	-255.12	-203.98
SLH.	F-01	32 56.30	107 46.37	2797.1	NM	978788.73	-979560.27	3.30	862.75	-314.33	-219.82
SLH.	F-02	32 53.80	107 44.28	2216.8	NM	978913.45	-979556.84	3.00	683.84	-249.57	-206.11
SLH.	F-03	32 56.63	107 42.21	1972.4	NM	978971.23	-979560.73	2.73	608.47	-222.22	-200.51
SLH.	F-04	32 58.11	107 42.49	1915.7	NM	978984.04	-979562.76	3.41	590.99	-215.87	-200.19
SLH.	F-04	32 58.11	107 42.49	1915.7	NM	978984.04	-979562.76	3.41	590.99	-215.87	-200.19
SLH.	G-01	32 57.88	107 40.54	1816.0	NM	979006.34	-979562.44	2.21	560.25	-204.70	-198.34
SLH.	G-02	32 57.23	107 36.39	1702.3	NM	979041.63	-979561.55	0.55	525.19	-191.96	-186.13
SLH.	G-03	32 55.18	107 34.37	1608.4	NM	979059.75	-979558.73	0.14	496.24	-181.42	-184.02
SLH.	G-04	32 57.80	107 34.95	1756.3	NM	979029.84	-979562.33	0.19	541.83	-198.01	-188.48
SLH.	G-05	32 59.40	107 34.66	1730.0	NM	979037.25	-979564.53	0.18	533.74	-195.07	-188.42
SLH.	G-06	32 59.27	107 36.41	1839.8	NM	979007.76	-979564.35	0.55	567.58	-207.37	-195.83
SLH.	G-07	32 50.12	107 34.74	1633.7	NM	979053.19	-979551.78	1.69	504.04	-184.26	-177.12
SLH.	G-08	32 50.64	107 38.96	1739.5	NM	979027.83	-979552.50	1.69	536.66	-196.13	-182.45
SLH.	Y-10	32 58.10	107 30.28	1629.5	NM	979066.57	-979562.74	0.19	502.72	-183.78	-177.04
SLH.	Y-11	32 59.10	107 30.87	1667.3	NM	979060.32	-979564.12	0.41	514.38	-188.03	-177.03
SLH.W-1		32 58.08	107 31.27	1674.0	NM	979059.25	-979562.72	0.90	516.45	-188.78	-174.90
SLH.W-2		32 58.08	107 31.30	1677.9	NM	979058.57	-979562.72	0.79	517.67	-189.22	-174.91
SLH.W-3		32 58.08	107 31.34	1665.7	NM	979060.50	-979562.72	0.70	513.91	-187.85	-175.46
SLH.W-4		32 58.08	107 31.37	1663.6	NM	979060.52	-979562.72	0.65	513.25	-187.61	-175.91
SLH.W-5		32 58.08	107 31.50	1659.6	NM	979061.05	-979562.72	0.62	512.03	-187.17	-176.19
SLH.W-6		32 58.08	107 31.43	1663.6	NM	979059.88	-979562.72	0.61	513.25	-187.61	-176.59
SLH.W-7		32 58.08	107 31.47	1662.1	NM	979060.01	-979562.72	0.60	512.78	-187.44	-176.77
SLH.W-8		32 58.08	107 31.50	1659.3	NM	979060.43	-979562.72	0.60	511.94	-187.14	-176.89
SLH.W-9		32 58.08	107 31.53	1662.7	NM	979058.91	-979562.72	0.59	512.97	-187.51	-177.76
SLH.W-10		32 58.08	107 31.57	1665.7	NM	979059.25	-979562.72	0.59	513.91	-187.85	-176.82
SLH.W-11		32 58.08	107 32.00	1670.3	NM	979058.11	-979562.72	0.59	515.32	-188.37	-177.07
SLH.W-12		32 58.08	107 32.03	1667.3	NM	979058.84	-979562.72	0.61	514.38	-188.03	-176.91

BOUGUER GRAVITY DATA

STATION IDENTIFICATION	LATITUDE	LOCATION LONGITUDE	ELEV	ST	GRAVITY OBSERVED	GRAVITY THEORETICAL	CORRECTIONS TERRAIN	CORRECTIONS FREE-AIR	CORRECTIONS BOUGUER	BOUGUER ANOMALY
SLH.A-13	32 58.08	107 32.06	1675.8	NM	979057.01	-979562.72	0.60	517.01	-188.98	-177.08
SLH.A-14	32 58.08	107 32.10	1676.4	NM	979054.97	-979562.72	0.61	517.20	-189.05	-178.99
SLH.A-15	32 58.08	107 32.13	1674.0	NM	979057.54	-979562.72	0.62	516.45	-188.78	-176.89
SLH.A-16	32 58.08	107 32.16	1678.8	NM	979057.08	-979562.72	0.64	517.95	-189.32	-176.37
SLH.A-17	32 58.08	107 32.20	1692.6	NM	979055.34	-979562.72	0.69	522.18	-190.86	-175.37
SLH.A-18	32 58.08	107 32.23	1714.5	NM	979051.88	-979562.72	0.73	528.95	-193.32	-174.49
SLH.A-19	32 58.08	107 32.26	1740.4	NM	979047.34	-979562.72	0.81	536.94	-196.23	-173.86
SLH.A-20	32 58.08	107 32.29	1762.4	NM	979042.52	-979562.72	0.93	543.71	-198.69	-174.25
SLH.Y-1	32 57.46	107 32.04	1687.4	NM	979056.68	-979561.87	1.20	520.58	-190.28	-173.88
SLH.Y-2	32 57.54	107 31.54	1691.6	NM	979054.86	-979561.98	1.41	521.90	-190.76	-174.67
SLH.Y-3	32 57.45	107 31.55	1725.2	NM	979048.54	-979561.85	2.73	532.24	-194.52	-172.86
SLH.Y-4	32 58.00	107 31.41	1658.1	NM	979060.94	-979562.61	0.90	511.56	-187.00	-176.21
SLH.Y-5	32 58.02	107 31.30	1672.7	NM	979059.55	-979562.63	0.82	516.07	-188.64	-174.83
SLH.Y-6	32 57.57	107 31.23	1684.3	NM	979057.70	-979562.02	0.95	519.64	-189.94	-173.67
SLH.Y-7	32 57.44	107 31.16	1660.3	NM	979064.97	-979561.84	1.10	512.22	-187.24	-170.79
SLH.Y-8	32 57.45	107 31.42	1758.1	NM	979042.30	-979561.85	2.60	542.39	-198.21	-172.77
SLH.Z-1	32 58.20	107 31.48	1689.8	NM	979055.07	-979562.88	0.72	521.34	-190.55	-176.31
SLH.Z-2	32 58.23	107 31.42	1707.5	NM	979052.90	-979562.92	0.72	526.79	-192.54	-175.05
SLH.Z-3	32 58.20	107 31.37	1722.7	NM	979048.58	-979562.88	0.74	531.49	-194.25	-176.32
SLH.Z-4	32 58.31	107 31.37	1732.8	NM	979046.61	-979563.03	0.85	534.59	-195.38	-176.36
SLH.Z-5	32 58.33	107 31.43	1709.6	NM	979051.34	-979563.06	0.78	527.45	-192.78	-176.28
SLH.Z-6	32 58.40	107 31.42	1707.8	NM	979050.69	-979563.16	0.72	526.88	-192.57	-177.44
SLH.Z-7	32 58.28	107 31.53	1716.3	NM	979049.33	-979562.99	0.61	529.52	-193.53	-177.07
SLH.Z-8	32 58.28	107 32.00	1710.2	NM	979050.77	-979562.99	0.49	527.63	-192.85	-176.95
SLH.Z-9	32 58.24	107 32.11	1726.1	NM	979047.25	-979562.94	0.55	532.52	-194.62	-177.24
SLH.Z-10	32 58.42	107 32.26	1778.5	NM	979043.41	-979563.19	0.60	548.69	-200.50	-170.99
SLH.Z-11	32 58.44	107 31.57	1738.3	NM	979045.33	-979563.21	0.56	536.28	-195.99	-177.03
SLH.Z-12	32 58.26	107 32.27	1714.5	NM	979050.15	-979562.96	0.77	528.95	-193.32	-176.42
SLH.Z-13	32 58.26	107 32.38	1793.8	NM	979034.57	-979562.96	0.85	553.39	-202.21	-176.36
SLH.Z-14	32 58.11	107 32.16	1685.2	NM	979055.20	-979562.76	0.72	519.93	-190.04	-176.96
SLH.Z-15	32 57.57	107 32.15	1716.0	NM	979050.05	-979562.02	0.70	529.42	-193.49	-175.34
SLH.Z-16	32 57.46	107 32.34	1745.9	NM	979032.26	-979561.87	1.25	538.63	-196.84	-186.57
SLH.Z-17	32 57.52	107 32.32	1756.3	NM	979031.93	-979561.95	1.10	541.83	-198.01	-185.09
SLH.C-4-8	32 56.40	107 54.69	2394.2	NM	978866.09	-979560.41	2.95	738.53	-269.39	-222.23
SLH.1SL	32 48.48	107 53.28	1924.8	NM	978962.20	-979549.53	1.23	593.81	-216.90	-209.19
SLH.5SL	32 47.56	107 54.40	1738.3	NM	979005.02	-979548.27	0.43	536.28	-195.99	-202.53
SLH.6SL	32 47.55	107 55.40	1756.9	NM	979010.32	-979548.26	0.23	542.02	-198.08	-193.76
SLH.7SL	32 46.69	107 56.46	1907.7	NM	978968.75	-979547.08	0.67	588.54	-214.98	-184.10
SLH.8SL	32 46.13	107 57.14	2028.8	NM	978963.61	-979546.31	2.51	625.86	-226.53	-182.87
SLH.9SL	32 46.70	107 57.50	1915.7	NM	978991.12	-979547.09	0.28	590.99	-215.87	-180.58

BOUGUER GRAVITY DATA

STATION	LOCATION				GRAVITY		CORRECTIONS			BOUGUER
IDENTIFICATION	LATITUDE	LONGITUDE	ELEV	ST	OBSERVED	THEORETICAL	TERRAIN	FREE-AIR	BOUGUER	ANOMALY
SLH.10SL	32 47.61	107 57.50	1987.0	NM	978982.87	-979548.34	0.50	612.98	-223.86	-176.05
SLH.11SL	32 48.25	107 58.72	1964.1	NM	978993.55	-979549.22	0.27	605.93	-221.50	-170.77
SLH.12SL	32 45.26	107 59.39	1827.0	NM	979007.80	-979545.12	0.09	563.64	-205.93	-179.53
SLH.13SL	32 58.35	107 56.47	2234.2	NM	978899.75	-979563.09	1.20	689.20	-251.51	-224.45
SLH.C-7-B	32 0.41	107 53.85	2548.4	NM	978842.08	-979565.92	0.60	786.08	-286.61	-223.77
SLH.14SL	33 0.35	107 51.54	2857.2	NM	978768.80	-979565.84	1.05	881.26	-321.92	-235.74
SLH.15SL	33 0.42	107 50.77	2913.9	NM	978761.59	-979565.94	0.91	898.73	-327.33	-232.04
SLH.16SL	32 47.48	107 55.92	1791.3	NM	979013.04	-979548.16	[illegible]	[illegible]	[illegible]	-185.17
SLH.17SL	32 46.81	107 54.92	1723.9	NM	979013.04	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SLH.1HBO	32 56.29	107 31.55	1679.4	NM	979057.23	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SLH.2HBO	32 56.45	107 31.20	1637.7	NM	979066.36	-979560.48	0.38	505.26	-188.71	-175.18
SLH.H-1 REPT	32 56.75	107 30.57	1618.8	NM	979068.54	-979560.89	0.18	499.43	-182.59	-175.32
SLH.3HBO	32 57.12	107 30.09	1595.3	NM	979071.73	-979561.40	0.07	492.20	-179.95	-177.35
SLH.4HBO	32 55.75	107 31.49	1656.6	NM	979059.52	-979559.52	0.78	511.09	-186.83	-174.95
SLH.5HBO	32 55.29	107 34.04	1601.4	NM	979062.30	-979558.88	0.23	494.08	-180.64	-182.91
SLH.6HBO	32 53.85	107 33.76	1648.7	NM	979050.61	-979556.91	0.06	508.65	-185.94	-183.53
SLH.7HBO	32 54.36	107 34.10	1630.1	NM	979054.22	-979557.60	0.13	502.91	-183.85	-184.19
SLH.8HBO	32 58.44	107 25.76	1479.5	NM	979077.73	-979563.21	0.00	456.47	-166.95	-195.96
SLH.9HBO	32 58.08	107 27.18	1514.3	NM	979075.32	-979562.72	0.00	467.19	-170.65	-191.06
SLH.10HBO	32 57.73	107 29.12	1568.5	NM	979073.52	-979562.23	0.00	483.92	-176.94	-181.73
SLH.11HBO	32 56.30	107 29.26	1567.0	NM	979070.50	-979560.27	0.00	483.46	-176.77	-183.08
SLH.12HBO	32 55.40	107 28.25	1527.4	NM	979073.80	-979559.03	0.00	471.23	-172.32	-186.32
SLH.13HBO	32 52.70	107 36.84	1675.2	NM	979048.33	-979555.33	0.70	516.83	-188.91	-178.39
SLH.14HBO	32 53.98	107 32.71	1716.3	NM	979042.76	-979557.09	1.12	529.52	-193.53	-177.22
SLH.15HBO	32 53.63	107 31.31	1607.8	NM	979073.32	-979556.60	0.05	496.05	-181.36	-168.54
SLH.HTP1	32 55.62	107 31.72	1642.6	NM	979068.98	-979559.34	0.37	506.77	-185.26	-168.47
SLH.16HBO	32 55.12	107 31.53	1611.2	NM	979081.45	-979558.65	0.88	497.06	-181.73	-160.97
SLH.17HBO	32 55.39	107 33.03	1595.9	NM	979067.70	-979559.02	0.76	492.38	-180.02	-178.19
SLH.18HBO	32 59.73	107 28.15	1545.9	NM	979072.02	-979564.98	0.00	476.97	-174.41	-190.41
SLH.19HBO	32 0.10	107 29.72	1588.0	NM	979069.04	-979565.49	0.01	489.94	-179.13	-185.63
SLH.20HBO	33 0.66	107 30.02	1477.7	NM	979093.00	-979566.27	0.00	455.91	-166.74	-184.10
SLH.21HBO	32 59.75	107 31.89	1741.6	NM	979043.88	-979565.02	1.39	537.32	-196.37	-178.80
SLH.22HBO	32 59.72	107 33.40	1707.5	NM	979050.43	-979564.97	0.19	526.79	-192.54	-180.10
SLH.23HBO	32 49.92	107 41.91	1915.4	NM	978980.93	-979551.51	0.43	590.89	-215.84	-195.09
SLH.24HBO	32 51.83	107 40.92	1870.9	NM	978987.63	-979554.13	0.39	577.17	-210.85	-199.80
SLH.2SL	32 57.11	107 46.75	3052.1	NM	978721.20	-979561.38	9.11	941.34	-342.71	-232.45
SLH.3SL	32 57.45	107 49.23	2794.5	NM	978783.40	-979561.85	1.82	861.93	-314.04	-228.74
SLH.4SL	32 58.09	107 51.20	2679.3	NM	978810.65	-979562.73	2.47	826.41	-301.20	-224.39