Gravity, Magnetic, and Physical Property Data in the Smoke Creek Desert Area, Northwest Nevada

By Janet E. Tilden, David A. Ponce, Jonathan M.G. Glen, Bruce A. Chuchel, Kira Tushman, and
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Contents

Abstract.....	1
Introduction	1
Acknowledgments.....	2
Gravity and Magnetic Data.....	2
Gravity Methods.....	3
Magnetic Methods	4
Physical Property Data.....	4
General Discussion	5
References Cited	7
Appendix	18

Figures

Figure 1. Shaded relief index map.....	9
Figure 2. Simplified geologic map	10
Figure 3. Gravity data locations.	11
Figure 4. Truck-towed magnetometer survey lines	12
Figure 5. Truck-towed magnetometer system.	13
Figure 6. Flight line map for the detailed aeromagnetic survey.....	14
Figure 7. Isostatic gravity map	15
Figure 8. Truck-towed magnetometer ground magnetic map	16
Figure 9. Detailed and regional aeromagnetic map.....	17

Tables

Table A1a. Physical property measurements of rock samples in the Smoke Creek Desert area.....	18
Table A1b. Mean physical property data by rock type.....	21
Table A2. Principal facts of gravity stations in the Smoke Creek Desert area.	22

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Abstract

The Smoke Creek Desert, located approximately 100 km (60 mi) north of Reno near the California-Nevada border, is a large basin situated along the northernmost parts of the Walker Lane Belt (Stewart, 1988), a physiographic province defined by northwest-striking topographic features and strike-slip faulting. Because geologic framework studies play an important role in understanding the hydrology of the Smoke Creek Desert, a geologic and geophysical effort was begun to help determine basin geometry, infer structural features, and estimate depth to Pre-Cenozoic rocks, or basement.

In May and June of 2004, and June of 2005, the U.S. Geological Survey (USGS) collected 587 new gravity stations, more than 160 line-kilometers (100 line-miles) of truck-towed magnetometer data, and 111 rock property samples in the Smoke Creek Desert and vicinity in northwest Nevada, as part of an effort to characterize its hydrogeologic framework. In the Smoke Creek Desert area, gravity highs occur over rocks of the Skedaddle Mountains, Fox Range, Granite Range, and over portions of Tertiary volcanic rocks in the Buffalo Hills. These gravity highs likely reflect basement rocks, either exposed at the surface or buried at shallow depths. The southern Smoke Creek Desert corresponds to a 25-mGal isostatic gravity low, which corresponds with a basin depth of approximately 2 km.

Magnetic highs are likely due to granitic, andesitic, and metavolcanic rocks, whereas magnetic lows are probably associated with less magnetic gneiss and metasedimentary rocks in the region. Three distinctive patterns of magnetic anomalies occur throughout the Smoke Creek Desert and Squaw Creek Valley, likely reflecting three different geological and structural settings.

Introduction

In May and June of 2004, and June of 2005, the U.S. Geological Survey (USGS) collected 587 new gravity stations, more than 160 line-kilometers (100 line-miles) of truck-towed magnetometer data, and 111 rock property samples in the Smoke Creek Desert and vicinity in northwest Nevada (fig. 1), as part of an effort to characterize its hydrogeologic framework. The Smoke Creek Desert, located approximately 100 km (60 mi) north of Reno near the California-Nevada border (fig. 1), is a large basin situated along the northernmost parts of the Walker Lane Belt (Stewart, 1988), a physiographic province defined by northwest-striking topographic features and strike-slip faulting. Because geologic framework studies play an important role in understanding the hydrology of the Smoke Creek Desert, a geologic and geophysical effort was begun to help determine basin geometry, infer structural features, and estimate depth to Pre-Cenozoic rocks, or basement. The study area is bounded by Mesozoic and Paleozoic metamorphic

rocks and Cretaceous granitic rocks in the Fox and Granite Ranges and along the western margin of the Smoke Creek Desert (fig. 2). Tertiary basalts are mapped to the north, west, and south of the Smoke Creek Desert playa in the Buffalo Hills, Skedaddle Mountains, and Terraced Hills, respectively (fig. 2). Metamorphic, granitic, and volcanic rocks are important because they exhibit densities and magnetic susceptibilities higher than other Tertiary and Quaternary sedimentary rocks of the region, creating a distinguishable pattern of gravity and magnetic anomalies that reflect these properties.

Acknowledgments

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Gravity and Magnetic Data

The gravity data in this report consist of 587 newly collected stations concentrated in the Smoke Creek Desert and the surrounding area (fig. 3). Of these, 108 stations were collected by helicopter in the surrounding mountain ranges and 251 closely-spaced gravity stations were collected along twelve transects that cross the Smoke Creek Desert playa a station spacing of about 400-m (1/4-mi). Additional gravity stations were primarily collected along existing roads within the Smoke Creek Desert area. The 251 closely-spaced gravity station locations correspond to transects along which truck-towed magnetometer data were also collected. All gravity data are tied to the primary base station RENO-A on the University of Nevada, Reno (UNR) campus at 39° 32.30' N and 119° 48.70' W, with an observed gravity value of 979,674.69 milligals (mGal). New gravity stations were located between latitudes 40° 10' and 40° 52' N and longitudes 119° 15' and 120° 0' W and are on the Lovelock 1 x 2 degree (1:250,000-scale) quadrangle. These data were combined with pre-existing gravity data from the surrounding USGS quadrangles (Snyder and others, 1981; Ponce, 1997). Principle facts of these newly collected gravity stations can be found in the Appendix (table A2).

More than 160 line-kilometers (100 line-miles) of truck-towed magnetometer data were collected along nineteen transects located within the Smoke Creek Desert and one transect within Squaw Creek Valley (fig. 4). Magnetic data were collected using a cesium vapor magnetometer attached to an aluminum carriage connected to the vehicle by aluminum tubing and towed about 9 m (30 ft) behind the vehicle (fig. 5). Magnetometer and Geographic Positioning System (GPS) data were collected simultaneously at one-second intervals, which at an average speed of 30 mph, corresponds to approximately one measurement every 13.4 m (44 ft). A centrally located portable proton-precession base station magnetometer was used to record diurnal variation of the Earth's magnetic field during the truck-towed magnetometer surveys.

Aeromagnetic data were collected by Sander Geophysics Ltd., a geophysical service company based in Ottawa, Canada that specializes in high-precision airborne surveys (fig. 6). The airborne survey was flown at a flight-line spacing of 200 m (1/8 mi) over the Smoke Creek Desert and 400 m (1/4-mi) in the Squaw Creek Valley, at a nominal flight elevation above the ground of 150 m, and with an east-west flight-line direction. North-south tie or control lines were flown at a flight-line spacing of 2,400 m (1.5 mi). Both aerial and ground based magnetometers used in the survey were pumped-cesium vapor magnetometers by Geometrics (Model G-822A), with a

sensitivity of about 0.005 nT (nanoteslas). A real-time differential GPS system was used for positional data and on-board navigation, capable of guiding the aircraft along a pre-flight path in three dimensions, with an accuracy of about 0.2 m (0.7 ft).

All gravity, ground magnetic, and aeromagnetic data collected for this survey can be downloaded from this website <http://pubs.usgs.gov/of/2006/1197/>. The files are ascii comma delimited and are formatted for easy insertion into a database. Each data file has an associated readme document with necessary metadata information.

Gravity Methods

All gravity data were reduced using standard gravity methods (Blakely, 1995) and include the following corrections: (a) the earth–tide correction, which corrects for tidal effects of the moon and sun; (b) instrument drift correction, which compensates for drift in the instrument's spring; (c) the latitude correction, which incorporates the variation of the Earth's gravity with latitude; (d) the free–air correction, which accounts for the variation in gravity due to elevation relative to sea level; (e) the Bouguer correction, which corrects for the attraction of material between the station and sea level; (f) the curvature correction, which corrects the Bouguer correction for the effect of the Earth's curvature; (g) the terrain correction, which removes the effect of topography to a radial distance of 167 km (104 mi); and (h) the isostatic correction, which removes long–wavelength variations in the gravity field inversely related to topography.

Conversion of meter readings to gravity units was made using factory calibration constants as well as a secondary calibration factor determined by multiple gravity readings over the Mt. Hamilton calibration loop east of San Jose, California (Barnes and others, 1969). The gravity meters used in this survey, LaCoste and Romberg G614 and G17C, have secondary calibration factors of 1.00036 and 1.00078 respectively. Observed gravity values were based on a time–dependent linear drift between successive base readings and were referenced to the International Gravity Standardization Net 1971 gravity datum (Morelli, 1974, p. 18). Free–air gravity anomalies were calculated using the Geodetic Reference System 1967 formula for theoretical gravity on the ellipsoid (International Union of Geodesy and Geophysics, 1971, p. 60) and Swick's formula (Swick, 1942, p. 65) for the free–air correction. Bouguer, curvature, and terrain corrections were added to the free–air anomaly to determine the complete Bouguer anomaly at a standard reduction density of 2.67 g/cm³. Finally, a regional isostatic gravity field was removed from the Bouguer field assuming an Airy–Heiskanen model for isostatic compensation of topographic loads (Jachens and Roberts, 1981) with an assumed crustal thickness of 25 km (16 mi), a crustal density of 2.67 g/cm³, and a density contrast across the base of the model of 0.4 g/cm³. Gravity values are expressed in mGal, a unit of acceleration or gravitational force per mass equal to 10^{−5} m/s². Gravity data were gridded at an interval of 400 m (1/4 mi) using a computer program (Webring, 1981) based on a minimum curvature algorithm by Briggs (1974) and displayed as a color-contoured map (fig. 7).

Station locations and elevations were obtained using Trimble® differential Global Positioning Systems (DGPS); 1) GeoExplorer CE handheld receiver and 2) Ag132 pole-mounted receiver. The GeoExplorer CE receiver uses Wide Area Augmentation System (WAAS) correction messages, which combined with base station post-processing results in sub-meter vertical accuracy. The Ag132 receiver has real-time differential correction capabilities using an Omnistar satellite system, resulting in sub-meter horizontal accuracy and approximately 1-2 m (3-6 ft) vertical accuracy.

Terrain corrections, which account for the variation of topography near a gravity station, were computed using a combination of manual and digital methods. Terrain corrections consist of a

three-part process: the innermost or field terrain correction, inner-zone terrain correction, and outer-zone terrain correction. Field terrain corrections were estimated in the field and extend from the station to a radial distance of 68 m (223 ft), equivalent to Hayford and Bowie (1912) zone B. Inner-zone terrain corrections were estimated from Digital Elevation Models (DEMs) with 10-m or 30-m resolutions derived from USGS 7.5' topographic maps and extend from 68 m (223 ft) to a radial distance of 2 km (1.25 mi) (D. Plouff, USGS, unpublished software, 2005). Outer-zone terrain corrections, to a radial distance of 167 km (104 mi), were computed using a DEM derived from USGS 1:250,000-scale topographic maps and an automated procedure (Plouff, 1966; Plouff, 1977; Godson and Plouff, 1988). Digital terrain corrections are calculated by computing the gravity effect of each grid cell using the distance and difference in elevation of each grid cell from the gravity station.

Magnetic Methods

During field operations, towed-magnetic data were recorded and viewed in real-time using Geometrics® MagLog software. Raw magnetic data were downloaded and processed using MagMap2000 software, where magnetometer and GPS data were merged. The location of the magnetometer was recorded using the Trimble® non-magnetic Ag132 GPS receiver (described above) mounted on an aluminum frame attached to the magnetometer. Diurnal variations recorded by the centrally-located base station magnetometer were removed from the dataset and the magnetic data were filtered to remove cultural “noise” such as passing cars, culverts, fences, and power lines. Magnetic data were gridded and displayed as a color-contoured map (fig. 8).

Aeromagnetic data were reduced to total intensity magnetic field and include corrections for the diurnal variations of the Earth’s magnetic field, despiking, leveling, and removal of a regional magnetic field of the Earth (IGRF) using the IGRF 2000 model (Langel, 1992). Aeromagnetic data were gridded at an interval of 50 m (165 ft) using a computer program (Webring, 1981) based on a minimum curvature algorithm by Briggs (1974) and displayed as a color-contoured map (fig. 9).

Physical Property Data

Density and magnetic properties of rock samples are used for gravity and magnetic modeling, as well as gravity inversion calculations. The 109 rock samples were collected in the mountains surrounding the Smoke Creek Desert (figure 6) for rock property analyses. Densities were determined using a precision Sartorius electronic balance. All rocks were weighed dry in air (Wa), saturated in water (Ww), and saturated with water in air (Ws). From these measurements, grain density, dry bulk density, and saturated bulk density were calculated using the following formulas:

$$\text{Grain density} = W_a / (W_a - W_s)$$

$$\text{Dry bulk density} = W_a / (W_s - W_w)$$

$$\text{Saturated bulk density} = W_s / (W_s - W_w)$$

Magnetic susceptibilities were measured using a Geophysica KT-5 susceptibility meter and are reported to 0.01×10^{-3} cgs units. The Geophysica KT-5 calculates volume susceptibility by assuming the sample shape is an infinite half-space. The instrument’s ability to measure magnetic susceptibility is affected by surface roughness, weathering, and sample size, all of which can result in an underestimation of a sample’s true susceptibility. The magnetic susceptibility values reported

represent an average of multiple (4-8) readings on the sample. Magnetic susceptibility, along with density and rock identification are shown in tables A1a and A1b.

General Discussion

In general, isostatic gravity anomalies reflect lateral (horizontal) density variations in the middle to upper crust. Thus, gravity anomalies can be used to infer the subsurface structure of known or unknown geologic features. Gravity anomalies often reveal features such as granitic intrusions, calderas, deep sedimentary basins, and faults that may guide groundwater flow or play an important role as aquifers or confining units. Tertiary basaltic rocks are thought to underlie most of the northern and western Smoke Creek Desert region (Dixon and others, 2005), and their subsurface distribution, as highlighted in the magnetic data, is especially important in evaluating the hydrogeology of this area. Cretaceous granitic rocks of the Fox Range, Triassic and Jurassic metasedimentary rocks of the Fox Range, and Quaternary and Tertiary sedimentary deposits that occur throughout the study area also may play a role in the region's hydrology.

In the Smoke Creek Desert area, gravity highs occur over rocks of the Skeddaddle Mountains, Fox Range, Granite Range, and over portions of Tertiary volcanic rocks in the Buffalo Hills (fig. 7). These gravity highs likely reflect basement rocks, either exposed at the surface or buried at shallow depths. Average saturated bulk density (SBD) for basement rocks is 2.65, 2.51, and 2.60 g/cm³ for granitic rocks, andesite, and basalt, respectively (table A1b). The average SBD for metamorphic rocks is 2.66, 2.52, and 2.84 g/cm³ for gneiss, metasedimentary, and metavolcanic rocks, correspondingly. Gravity lows occur over Smoke Creek Desert, Buffalo and Squaw Creek Valleys, the San Emidio Desert, and to the northwest of the Smoke Creek Desert playa. These lows reflect sedimentary basins filled with lower density alluvial and volcanic deposits. The southern Smoke Creek Desert corresponds to a 25-mGal isostatic gravity low, and assuming a density contrast of 0.4 g/cm³, an infinite slab approximation yields a basin depth of approximately 2 km (1.2 mi).

Magnetic anomalies represent lateral variations in the magnetization of rocks. These anomalies can be explained by the variations in rock type across the region. Magnetic highs are likely due to granitic, andesitic, and metavolcanic rocks that have average magnetic susceptibilities of 0.88×10^{-3} , 0.75×10^{-3} , and 0.77×10^{-3} cgs units, respectively, whereas magnetic lows are probably associated with less magnetic gneiss and metasedimentary rocks (table A1b). Three distinctive patterns of magnetic anomalies occur throughout the Smoke Creek Desert and Squaw Creek Valley (M1-M3, fig. 9). The pattern of magnetic highs and weak magnetic lows in Squaw Creek Valley (fig. 8) likely corresponds to the juxtaposition of magnetic rocks of the Granite Range with weakly-magnetic Tertiary volcanic rocks in the Buffalo Hills along a zone of intense faulting and fracturing in Squaw Creek Valley (M1, fig. 9)). The magnetic anomalies in the northeastern Smoke Creek Desert generally parallel the trend of the Fox Range and the Buffalo Hills (M2, fig. 9). The magnetic highs in the northeastern Smoke Creek Desert likely represent buried granitic rocks. The central and southern Smoke Creek Desert is characterized by a series of east-west trending magnetic anomalies (M3, fig. 9). Magnetic highs in the central and southern Smoke Creek Desert appear to form narrow (2-3 km) E-W trending bands across the desert playa (fig. 9) and probably represent buried volcanic rocks. The northern band correlates with an E-W trending gravity high (fig. 7) and likely represents a buried ridge composed of volcanic or granitic rocks that separates the southern Smoke Creek Desert basin into at least two sub-basins. The southern magnetic band corresponds with the southern limit of a gravity low likely representing the southernmost sub-basin within the Smoke Creek Desert. Areas where the magnetic field is lower include the central Smoke Creek Desert, the southern Smoke Creek Desert, and an area just

southwest of Gerlach along latitude 40° 40'. Contrasting patterns of magnetic anomalies in the Squaw Creek Valley, northeastern Smoke Creek Desert, and the central and southern Smoke Creek Desert reflect the distinctive structural character of those areas.

The diverse physical properties of rock types that outcrop within and likely underlie this region are well suited to geophysical investigations. The contrast in density and magnetic properties between Mesozoic and Paleozoic crystalline basement and overlying Tertiary volcanic rocks and unconsolidated alluvium, for example, produces a distinctive pattern of gravity and magnetic anomalies that can be used to infer geologic structure and determine the depth of pre-Cenozoic basement in three dimensions. Basement topography, which may correspond to the top of buried granitic or metavolcanic rocks, could play an important role in the hydrogeologic framework of the area.

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Figure 1. Shaded relief topographic map of the Smoke Creek Basin (outlined in black) and surrounding areas. The index map in the upper left corner shows the study area outlined in red.

Figure 2. Simplified geologic map of the Smoke Creek Desert area, Nevada (modified after Bonham, 1969; Jennings, 1977; Stewart and Carlson, 1978; G.L. Dixon and others, written commun., 2005; and Faulds and Ramelli, in press)

Figure 3. Index map of the Smoke Creek Desert area showing new gravity station locations (magenta), previously collected gravity stations (black), and locations of geologic cross-sections A through G.

Figure 4. Topographic map showing the truck-towed magnetometer transects (red) within the Snake Creek Desert and Squaw Creek Valley.

Figure 5. Truck-towed magnetometer system used in this study. The G-858 cesium magnetometer and GPS unit (A) being towed along a transect in the Smoke Creek Desert (B).

Figure 6. Topographic map showing the flight lines (black) for the detailed aeromagnetic survey in the Smoke Creek Desert and Squaw Creek Valley.

Figure 7. Isostatic gravity map of the Smoke Creek Desert area showing new gravity station locations (magenta) and previously collected gravity stations (black).

Figure 8. Contour map of towed-magnetometer data from the Smoke Creek Desert and Squaw Creek Valley.

Figure 9. Aeromagnetic map of the Smoke Creek Desert area showing the detailed aeromagnetic survey (outlined in white) superimposed on the regional aeromagnetic map of Nevada and California (Hildenbrand and Kucks, 1988).

Appendix

Table A1a. Physical property measurements of rock samples in the Smoke Creek Desert area. [Latitudes (north) and longitudes (west) are on the North American Datum 1927 (NAD27). DBD, dry bulk density; GD, grain density; SBD, saturated bulk density. All samples correspond with gravity station locations. Precision for location, density, and susceptibility is 0.01.]

Station ID	Latitude		Longitude		Density (g/cm ³)			Susceptibility
	deg	min	deg	min	GD	SBD	DBD	(10 ⁻³ cgs units)
Tertiary Andesite								
04LOV018	40	15.01	119	51.99	2.61	2.47	2.38	1.05
04LOV025	40	20.14	119	54.69	2.63	2.53	2.47	0.90
04LOV031	40	24.57	119	53.07	2.77	2.74	2.73	1.46
04LOV221	40	25.10	119	39.51	2.69	2.66	2.64	0.64
04LOV320	40	40.21	119	42.21	2.65	2.59	2.55	0.48
04LOV325	40	42.83	119	37.31	2.80	2.74	2.71	1.21
04LOV337	40	21.17	119	50.82	2.56	2.50	2.46	0.81
04LOV506	40	30.40	119	32.66	2.37	2.29	2.22	0.32
05DAP101	40	43.67	119	33.88	2.57	2.48	2.43	1.24
05LOV002	40	12.89	119	42.62	2.30	2.11	1.97	1.20
05LOV017	40	32.85	119	30.93	2.49	2.47	2.46	0.40
Tertiary Basalt								
04LOV033	40	25.73	119	53.31	2.88	2.85	2.84	0.82
04LOV035	40	18.29	119	54.90	2.62	2.52	2.46	0.38
04LOV218	40	22.00	119	39.29	2.73	2.71	2.69	0.56
04LOV223	40	17.60	119	42.05	2.71	2.69	2.68	0.09
04LOV234	40	41.67	119	29.06	2.52	2.41	2.33	0.55
04LOV315	40	27.58	119	53.32	2.73	2.64	2.59	0.93
04LOV 319	40	27.67	119	45.47	2.25	2.20	2.17	0.36
04LOV321	40	41.73	119	42.74	1.62	1.50	1.32	0.04
04LOV322	40	44.52	119	42.45	2.45	2.38	2.34	0.55
04LOV324	40	43.85	119	41.19	2.77	2.67	2.61	0.65
04LOV336	40	22.27	119	55.84	2.72	2.66	2.62	0.54
04LOV338	40	19.19	119	50.50	2.58	2.52	2.47	0.66
04LOV339	40	16.83	119	50.90	2.54	2.48	2.44	0.05
04LOV340	40	16.57	119	54.31	2.79	2.74	2.70	0.51
04LOV341	40	15.22	119	53.36	2.36	2.32	2.30	0.21
04LOV342	40	13.02	119	51.75	2.26	2.08	1.95	0.23
04LOV413	40	52.32	119	36.08	2.53	2.41	2.34	0.68
04LOV414	40	51.66	119	36.34	2.77	2.75	2.74	0.40

04LOV415	40 51.22	119 34.28	2.64	2.61	2.60	0.56
04LOV500	40 14.67	119 41.64	2.56	2.52	2.49	0.53
04LOV501	40 16.51	119 40.31	2.68	2.63	2.60	0.42
04LOV502	40 18.48	119 41.81	2.76	2.74	2.73	0.09
04LOV503	40 21.82	119 36.61	2.76	2.70	2.67	0.66
04LOV504	40 23.36	119 36.28	2.36	2.29	2.24	0.91
04LOV505	40 26.03	119 34.18	2.72	2.71	2.70	0.01
04LOV507	40 30.03	119 34.86	2.74	2.71	2.69	0.02
05LOV001	40 13.84	119 44.99	2.77	2.74	2.72	0.65
05LOV003	40 14.17	119 43.27	2.67	2.65	2.63	0.51
05LOV006	40 23.02	119 37.94	2.47	2.40	2.36	0.66
05LOV007	40 22.34	119 33.56	2.86	2.85	2.85	0.59
05LOV008	40 25.29	119 35.18	2.63	2.61	2.61	0.71
05LOV009B	40 24.71	119 37.84	2.37	2.31	2.26	0.42
05LOV011	40 27.21	119 34.55	2.80	2.79	2.78	1.70
05LOV028	40 49.47	119 34.65	2.68	2.65	2.63	0.26
05LOV030	40 48.02	119 37.81	2.75	2.69	2.65	1.16
05LOV031	40 47.40	119 35.76	2.25	2.18	2.12	0.30
05LOV032	40 48.30	119 33.61	2.75	2.71	2.69	0.41
05LOV033	40 47.22	119 31.90	2.37	2.30	2.25	0.52
05LOV034	40 45.59	119 31.02	2.75	2.72	2.71	0.48
05LOV035	40 45.55	119 33.12	2.77	2.74	2.72	1.23
05LOV037	40 44.84	119 37.25	2.64	2.56	2.52	0.84
05LOV038	40 43.86	119 35.63	1.85	1.82	1.77	0.19
05LOV039	40 43.58	119 38.69	2.84	2.81	2.80	0.98
05LOV040	40 41.73	119 37.73	2.62	2.56	2.52	1.58
05LOV041	40 42.15	119 39.92	2.61	2.58	2.55	0.69
05LOV042	40 42.89	119 45.41	2.68	2.62	2.58	1.11
05LOV047	40 37.43	119 55.08	2.72	2.70	2.68	1.24
05LOV048	40 36.51	119 52.45	2.65	2.61	2.59	1.01
05LOV070A	40 20.65	119 39.41	2.87	2.85	2.85	0.10
05LOV070B	40 20.65	119 39.41	2.86	2.86	2.85	0.12
05LOV070C	40 20.65	119 39.41	2.88	2.88	2.87	0.52
05LOV5A	40 43.41	119 33.01	2.81	2.80	2.80	0.58
05LOV5B	40 43.41	119 33.01	2.80	2.79	2.79	0.54
05LOV5C	40 43.41	119 33.01	2.84	2.83	2.83	0.49
05SCD002	40 27.67	119 45.47	2.89	2.89	2.88	0.12
05SCD003	40 27.67	119 45.47	2.90	2.89	2.88	0.12
05SCD004	40 27.67	119 45.47	2.89	2.89	2.88	0.12

Tertiary Conglomerate						
05SCD001	40 27.67	119 45.47	2.78	2.77	2.77	0.02
Cretaceous Diorite						
05LOV019	40 35.13	119 30.36	2.78	2.73	2.70	1.23
05LOV021B	40 36.75	119 29.13	2.87	2.84	2.82	0.15
05LOV022	40 37.12	119 27.91	2.59	2.55	2.52	0.03
05LOV023B	40 35.96	119 28.35	2.78	2.71	2.68	0.73
05LOV075	40 41.90	119 35.95	2.70	2.67	2.65	0.70
05LOV5D	40 43.41	119 33.01	2.81	2.80	2.80	0.42
Mesozoic and Paleozoic Gneiss						
05LOV018	40 34.07	119 31.16	2.70	2.62	2.57	0.01
05LOV024	40 33.88	119 29.46	2.74	2.70	2.67	0.01
Cretaceous Granitic						
04LOV224	40 50.48	119 26.34	2.69	2.67	2.66	0.09
04LOV225	40 47.04	119 24.75	2.69	2.65	2.62	1.01
04LOV226	40 44.89	119 22.28	2.79	2.72	2.69	0.88
04LOV227	40 43.51	119 22.46	2.70	2.67	2.66	0.68
04LOV407	40 47.75	119 30.38	2.67	2.64	2.62	1.01
04LOV501	40 16.51	119 40.31	2.68	2.63	2.60	0.42
05LOV503A	40 37.74	119 38.57	2.69	2.65	2.63	3.75
05LOV521A	40 37.33	119 38.94	2.68	2.63	2.61	0.72
05LOV521B	40 37.33	119 38.94	2.70	2.67	2.65	0.64
05LOV015	40 31.56	119 34.23	2.60	2.60	2.59	0.00
05LOV021A	40 36.75	119 29.13	2.63	2.61	2.60	0.00
05LOV010	40 26.76	119 36.66	2.74	2.70	2.67	0.52
05LOV016A	40 32.93	119 32.99	2.61	2.60	2.59	0.00
Mesozoic and Paleozoic Marble						
05LOV072	40 21.73	119 38.13	2.68	2.67	2.66	0.00
Mesozoic and Paleozoic Metasedimentary						
05LOV005	40 20.52	119 37.66	2.65	2.62	2.60	0.01
05LOV9A1	40 24.71	119 37.84	2.35	1.96	1.67	0.06
05LOV9A2	40 24.71	119 37.84	2.36	1.98	1.69	0.12
05LOV014	40 29.86	119 36.06	2.76	2.74	2.73	0.02
05LOV016B	40 32.93	119 32.99	2.56	2.50	2.46	0.00
05LOV023A	40 35.96	119 28.35	2.83	2.82	2.82	0.02
05LOV076	40 40.32	119 37.45	3.05	3.04	3.03	0.60
Mesozoic and Paleozoic Metavolcanic						
05LOV500	40 39.39	119 37.81	2.76	2.75	2.75	1.42
05LOV500B	40 39.39	119 37.81	2.84	2.83	2.82	1.81

05LOV502A	40 37.86	119 38.22	2.95	2.94	2.93	2.07
05LOV502B	40 37.86	119 38.22	2.95	2.95	2.94	1.77
05LOV503B	40 37.74	119 38.57	2.78	2.75	2.74	0.02
05LOV504A	40 43.41	119 33.01	2.81	2.76	2.74	0.38
05LOV516A	40 39.40	119 37.96	2.86	2.85	2.84	0.02
05LOV516B	40 39.40	119 37.96	2.81	2.80	2.80	0.03
05LOV519	40 38.86	119 38.33	3.03	3.02	3.02	0.03
05DAP102	40 39.47	119 37.93	2.69	2.67	2.66	0.92
05DAP103	40 38.42	119 38.42	2.96	2.95	2.94	0.04

Table A1b. Mean physical property data by rock type.

Rock Type	No. of samples	Density (g/cm ³)			Susceptibility (10 ⁻³ cgs units)
		Grain	Saturated bulk	Dry bulk	
Andesite	11	2.59	2.51	2.46	0.88
Basalt	56	2.64	2.59	2.56	0.55
Diorite	6	2.76	2.72	2.70	0.54
Granitic	13	2.68	2.65	2.63	0.75
Metamorphic Gneiss	2	2.72	2.66	2.62	0.01
Metasedimentary	7	2.65	2.52	2.43	0.12
Metavolcanic	11	2.86	2.84	2.83	0.77

Table A2. Principal facts of gravity stations in the Smoke Creek Desert area. [Latitudes (north) and longitudes (west) are on the North American Datum 1927 (NAD27). Elevations are on the North American Vertical Datum 1929 (NAVD29). CBA, complete Bouguer anomaly; FAA, free-air anomaly; ISO, isostatic anomaly; ITC, inner terrain correction; OG, observed gravity; SBA, simple Bouguer anomaly; TTC, total terrain correction.]

Station	Latitude		Longitude		Elevation	OG	FAA	SBA	ITC	TTC	CBA	ISO
	deg	min	deg	min	ft	mGal	mGal	mGal	mGal	mGal	mGal	mGal
04LOV001	40	12.62	119	49.27	4043	979796.0	-11.6	-149.5	0.0	0.5	-150.3	1.0
04LOV002	40	22.93	119	49.71	3886	979816.7	-21.0	-153.5	0.2	1.5	-153.3	-1.7
04LOV003	40	22.92	119	49.42	3847	979814.2	-27.2	-158.3	0.0	0.9	-158.7	-7.0
04LOV004	40	22.93	119	48.86	3869	979809.9	-29.4	-161.3	0.0	0.4	-162.1	-10.6
04LOV005	40	22.94	119	48.30	3865	979808.6	-31.0	-162.9	0.0	0.3	-163.8	-12.3
04LOV006	40	22.93	119	47.71	3850	979805.5	-35.5	-166.8	0.0	0.2	-167.8	-16.3
04LOV007	40	22.94	119	47.15	3844	979801.5	-40.0	-171.2	0.0	0.2	-172.2	-20.7
04LOV008	40	22.94	119	46.58	3845	979799.5	-42.0	-173.2	0.0	0.2	-174.2	-22.8
04LOV009	40	22.94	119	46.01	3844	979798.8	-42.8	-173.9	0.0	0.2	-175.0	-23.6
04LOV010	40	22.94	119	45.42	3845	979798.9	-42.7	-173.8	0.0	0.2	-174.9	-23.5
04LOV011	40	22.94	119	44.87	3846	979800.0	-41.5	-172.6	0.0	0.2	-173.7	-22.3
04LOV012	40	22.93	119	44.30	3850	979800.9	-40.1	-171.4	0.0	0.2	-172.4	-21.1
04LOV013	40	22.93	119	43.73	3851	979801.8	-39.2	-170.5	0.0	0.3	-171.5	-20.1
04LOV014	40	22.93	119	43.15	3854	979803.3	-37.4	-168.8	0.0	0.4	-169.7	-18.4
04LOV015	40	22.94	119	46.29	3834	979799.0	-43.5	-174.3	0.0	0.2	-175.3	-23.9
04LOV016	40	13.61	119	50.33	4202	979801.4	7.3	-136.0	0.1	0.6	-136.7	14.4
04LOV017	40	14.33	119	51.22	4251	979790.8	0.3	-144.7	0.0	0.8	-145.2	6.0
04LOV018	40	15.01	119	51.99	4438	979783.1	9.1	-142.3	0.1	0.9	-142.7	8.4
04LOV019	40	15.85	119	52.22	4302	979793.7	5.7	-141.0	0.1	1.1	-141.2	9.9
04LOV020	40	16.70	119	52.22	4274	979796.8	5.0	-140.8	0.1	0.9	-141.2	9.9
04LOV021	40	17.21	119	52.26	4299	979794.8	4.5	-142.1	0.1	0.7	-142.7	8.4
04LOV022	40	18.27	119	52.41	4249	979798.7	2.0	-142.9	0.0	0.5	-143.7	7.5
04LOV023	40	18.82	119	53.06	4215	979801.0	0.5	-143.3	0.0	0.6	-144.0	7.2
04LOV024	40	19.54	119	54.11	4226	979800.7	0.1	-144.1	0.3	1.8	-143.6	7.8
04LOV025	40	20.14	119	54.69	4515	979785.0	10.6	-143.4	1.5	3.7	-141.0	10.4
04LOV026	40	21.36	119	53.40	4215	979803.9	-0.5	-144.2	0.0	1.7	-143.8	7.7
04LOV027	40	22.10	119	52.72	4216	979804.7	-0.6	-144.4	0.1	1.5	-144.2	7.4
04LOV028	40	23.15	119	51.72	4214	979809.1	1.9	-141.8	0.0	1.0	-142.1	9.6
04LOV029	40	23.56	119	52.40	4326	979804.7	7.5	-140.1	0.2	1.5	-139.9	11.9
04LOV030	40	23.97	119	52.97	4474	979796.9	12.9	-139.7	0.2	2.0	-139.0	12.9
04LOV031	40	24.57	119	53.07	4414	979800.9	10.5	-140.1	0.2	2.3	-139.2	12.9
04LOV032	40	25.27	119	53.17	4406	979799.7	7.5	-142.8	0.4	2.5	-141.6	10.6
04LOV033	40	25.73	119	53.31	4552	979789.9	10.6	-144.6	0.8	2.6	-143.4	8.8
04LOV034	40	19.06	119	54.63	4578	979781.4	14.6	-141.6	0.5	1.8	-141.1	10.2
04LOV035	40	18.29	119	54.90	4776	979769.2	22.1	-140.8	0.4	1.5	-140.7	10.5
04LOV036	40	17.40	119	55.14	4850	979763.6	24.8	-140.6	0.8	1.8	-140.3	10.8
04LOV037	40	16.69	119	55.78	4687	979771.8	18.8	-141.1	2.0	3.2	-139.3	11.8
04LOV038	40	15.53	119	56.64	4316	979794.2	8.0	-139.2	0.1	1.0	-139.5	11.8
04LOV039	40	14.97	119	57.52	4142	979802.0	0.3	-141.0	0.1	0.7	-141.6	9.8
04LOV040	40	22.93	119	42.58	3860	979806.5	-33.5	-165.2	0.0	0.5	-165.9	-14.7
04LOV041	40	22.93	119	42.02	3872	979812.5	-26.5	-158.5	0.0	0.7	-159.1	-7.8
04LOV042	40	22.93	119	41.44	3891	979814.9	-22.2	-155.0	0.0	1.0	-155.2	-4.0

04LOV043	40	22.95	119	40.53	4034	979809.5	-14.3	-151.9	0.6	2.5	-150.7	0.6
04LOV044	40	22.93	119	40.96	3939	979814.9	-17.7	-152.0	0.0	1.4	-151.9	-0.7
04LOV045	40	19.86	119	40.73	3928	979809.2	-20.0	-153.9	0.1	1.2	-153.9	-2.9
04LOV046	40	19.04	119	41.05	3937	979809.1	-18.0	-152.2	0.3	1.4	-152.1	-1.1
04LOV047	40	18.18	119	40.86	3975	979806.2	-16.1	-151.7	0.0	1.0	-151.9	-1.0
04LOV048	40	16.44	119	41.56	3956	979806.7	-14.7	-149.6	0.1	0.9	-150.0	0.8
04LOV049	40	15.86	119	42.43	3957	979805.4	-15.1	-150.0	0.0	0.8	-150.5	0.4
04LOV050	40	15.43	119	42.68	4015	979801.6	-12.8	-149.7	0.1	1.4	-149.6	1.3
04LOV051	40	16.03	119	43.32	3894	979805.4	-21.2	-154.0	0.0	0.8	-154.5	-3.6
04LOV052	40	16.35	119	44.66	3878	979806.0	-22.6	-154.9	0.0	0.5	-155.6	-4.7
04LOV053	40	16.02	119	45.76	3976	979800.9	-18.1	-153.7	0.0	0.4	-154.5	-3.6
04LOV054	40	14.92	119	47.20	4121	979796.0	-7.6	-148.1	0.0	0.4	-149.1	2.0
04LOV055	40	12.87	119	48.71	4215	979784.4	-7.3	-151.1	0.4	0.8	-151.6	-0.4
04LOV056	40	12.64	119	48.12	4327	979777.7	-3.2	-150.8	0.2	0.7	-151.4	-0.2
04LOV057	40	13.20	119	47.80	4630	979759.3	6.0	-151.9	0.2	1.2	-152.1	-1.1
04LOV058	40	13.12	119	47.46	4802	979746.4	9.5	-154.3	0.3	1.9	-153.8	-2.8
04LOV059	40	13.39	119	46.66	4703	979755.4	8.7	-151.7	0.2	1.2	-151.9	-1.0
04LOV060	40	13.02	119	46.31	4628	979760.1	6.9	-150.9	0.2	0.8	-151.5	-0.6
04LOV061	40	16.82	119	46.77	3889	979809.4	-18.9	-151.5	0.0	0.4	-152.4	-1.4
04LOV062	40	16.75	119	45.99	3878	979808.1	-21.1	-153.4	0.0	0.3	-154.3	-3.3
04LOV063	40	16.70	119	45.36	3867	979807.5	-22.6	-154.5	0.0	0.3	-155.4	-4.5
04LOV064	40	17.07	119	45.67	3854	979808.0	-24.0	-155.4	0.0	0.3	-156.3	-5.3
04LOV065	40	23.15	119	49.89	3964	979816.4	-14.3	-149.5	1.8	3.0	-147.8	3.9
04LOV066	40	23.16	119	49.72	3901	979816.1	-20.5	-153.5	0.3	1.5	-153.3	-1.7
04LOV067	40	23.22	119	49.44	3854	979814.5	-26.6	-158.1	0.0	0.9	-158.4	-6.7
04LOV068	40	23.28	119	49.16	3852	979812.8	-28.6	-159.9	0.0	0.6	-160.6	-8.9
04LOV069	40	23.22	119	48.97	3868	979810.2	-29.5	-161.4	0.0	0.5	-162.2	-10.6
04LOV070	40	23.22	119	48.64	3864	979808.9	-31.2	-163.0	0.0	0.4	-163.9	-12.3
04LOV071	40	23.22	119	48.34	3866	979807.4	-32.6	-164.4	0.0	0.3	-165.4	-13.8
04LOV072	40	23.25	119	48.04	3854	979806.1	-35.0	-166.5	0.0	0.3	-167.4	-15.9
04LOV073	40	23.23	119	47.81	3852	979804.2	-37.1	-168.5	0.0	0.2	-169.5	-17.9
04LOV074	40	23.18	119	47.55	3841	979803.5	-38.7	-169.7	0.0	0.2	-170.7	-19.2
04LOV075	40	23.22	119	47.25	3835	979800.9	-42.0	-172.8	0.0	0.2	-173.8	-22.3
04LOV076	40	23.22	119	46.98	3846	979799.4	-42.4	-173.6	0.0	0.2	-174.7	-23.1
04LOV077	40	23.21	119	46.69	3845	979798.7	-43.2	-174.4	0.0	0.2	-175.4	-23.9
04LOV078	40	23.21	119	46.42	3838	979798.2	-44.4	-175.3	0.0	0.2	-176.4	-24.9
04LOV079	40	23.22	119	46.07	3847	979798.0	-43.7	-174.9	0.0	0.2	-176.0	-24.5
04LOV080	40	23.22	119	45.69	3852	979798.2	-43.1	-174.5	0.0	0.2	-175.5	-24.1
04LOV081	40	23.22	119	45.39	3849	979798.5	-43.1	-174.3	0.0	0.2	-175.4	-24.0
04LOV082	40	23.23	119	45.10	3851	979799.0	-42.4	-173.7	0.0	0.2	-174.8	-23.3
04LOV083	40	23.22	119	44.81	3852	979800.0	-41.3	-172.7	0.0	0.2	-173.7	-22.3
04LOV084	40	23.22	119	44.53	3853	979801.0	-40.2	-171.6	0.0	0.2	-172.7	-21.3
04LOV085	40	23.22	119	44.24	3855	979801.3	-39.7	-171.2	0.0	0.2	-172.2	-20.8
04LOV086	40	23.22	119	43.94	3859	979801.5	-39.1	-170.7	0.0	0.3	-171.7	-20.3
04LOV087	40	23.22	119	43.66	3856	979801.9	-39.0	-170.5	0.0	0.3	-171.4	-20.0
04LOV088	40	23.21	119	43.37	3861	979802.5	-37.9	-169.6	0.0	0.3	-170.5	-19.2
04LOV089	40	23.22	119	43.10	3858	979803.4	-37.2	-168.8	0.0	0.4	-169.7	-18.3
04LOV090	40	23.22	119	42.81	3857	979804.9	-35.9	-167.4	0.0	0.4	-168.2	-16.9
04LOV091	40	23.22	119	42.50	3864	979807.2	-32.9	-164.7	0.0	0.5	-165.4	-14.1
04LOV092	40	23.22	119	42.22	3867	979810.2	-29.7	-161.6	0.0	0.6	-162.2	-10.9

04LOV093	40	23.23	119	41.92	3877	979811.7	-27.3	-159.5	0.0	0.7	-160.0	-8.7
04LOV094	40	23.21	119	41.67	3887	979812.7	-25.2	-157.8	0.0	0.8	-158.2	-6.9
04LOV095	40	24.31	119	43.98	3841	979801.9	-42.0	-173.0	0.0	0.3	-174.0	-22.4
04LOV096	40	25.13	119	44.01	3838	979803.5	-42.0	-172.9	0.0	0.3	-173.9	-22.2
04LOV097	40	26.01	119	44.00	3837	979807.3	-39.5	-170.4	0.0	0.2	-171.4	-19.6
04LOV098	40	26.02	119	45.13	3852	979803.6	-41.9	-173.3	0.0	0.1	-174.3	-22.5
04LOV099	40	25.14	119	45.12	3842	979800.7	-44.4	-175.4	0.0	0.2	-176.5	-24.8
04LOV100	40	24.26	119	45.15	3833	979799.5	-45.1	-175.8	0.0	0.2	-176.8	-25.3
04LOV101	40	24.29	119	46.29	3854	979797.6	-45.1	-176.5	0.0	0.2	-177.6	-26.0
04LOV102	40	25.14	119	46.28	3831	979800.2	-46.0	-176.6	0.0	0.2	-177.7	-25.9
04LOV103	40	26.01	119	46.28	3849	979803.2	-42.6	-173.8	0.0	0.1	-174.9	-23.0
04LOV104	40	26.01	119	47.37	3849	979802.6	-43.1	-174.3	0.0	0.2	-175.4	-23.4
04LOV105	40	25.14	119	47.34	3849	979800.0	-44.4	-175.7	0.0	0.2	-176.7	-24.9
04LOV106	40	24.27	119	47.36	3842	979799.3	-44.5	-175.5	0.0	0.2	-176.6	-24.9
04LOV107	40	26.60	119	47.84	3877	979802.9	-41.0	-173.3	0.0	0.2	-174.3	-22.2
04LOV108	40	26.60	119	47.61	3837	979805.6	-42.2	-173.0	0.0	0.2	-174.0	-21.9
04LOV109	40	26.61	119	47.37	3839	979805.7	-41.9	-172.8	0.0	0.2	-173.8	-21.7
04LOV110	40	26.62	119	47.13	3842	979805.8	-41.5	-172.6	0.0	0.2	-173.6	-21.5
04LOV111	40	26.62	119	46.88	3849	979806.0	-40.7	-171.9	0.0	0.1	-173.0	-20.9
04LOV112	40	26.62	119	46.68	3849	979806.5	-40.1	-171.4	0.0	0.1	-172.5	-20.4
04LOV113	40	26.62	119	46.45	3851	979807.4	-39.0	-170.4	0.0	0.1	-171.5	-19.4
04LOV114	40	26.62	119	46.28	3851	979808.2	-38.3	-169.6	0.0	0.1	-170.8	-18.7
04LOV115	40	26.63	119	46.00	3850	979809.5	-37.1	-168.4	0.0	0.1	-169.5	-17.5
04LOV116	40	26.63	119	45.70	3849	979810.5	-36.2	-167.5	0.0	0.1	-168.6	-16.5
04LOV117	40	26.61	119	45.37	3848	979809.2	-37.5	-168.7	0.0	0.1	-169.8	-17.8
04LOV118	40	26.61	119	45.09	3849	979806.3	-40.3	-171.5	0.0	0.1	-172.6	-20.7
04LOV119	40	26.62	119	44.83	3850	979805.8	-40.8	-172.1	0.0	0.1	-173.2	-21.2
04LOV120	40	26.61	119	44.51	3849	979806.6	-40.0	-171.2	0.0	0.1	-172.3	-20.4
04LOV121	40	26.63	119	44.24	3852	979807.6	-38.8	-170.2	0.0	0.2	-171.3	-19.3
04LOV122	40	26.62	119	43.98	3853	979808.7	-37.5	-168.9	0.0	0.2	-170.0	-18.1
04LOV123	40	26.62	119	43.70	3853	979809.6	-36.7	-168.1	0.0	0.2	-169.1	-17.2
04LOV124	40	26.61	119	43.37	3854	979810.5	-35.7	-167.1	0.0	0.2	-168.2	-16.3
04LOV125	40	26.61	119	43.08	3849	979811.1	-35.5	-166.8	0.0	0.2	-167.8	-15.9
04LOV126	40	26.61	119	42.82	3847	979811.0	-35.7	-167.0	0.0	0.3	-167.9	-16.1
04LOV127	40	26.61	119	42.54	3852	979810.2	-36.2	-167.5	0.0	0.3	-168.5	-16.7
04LOV128	40	26.61	119	42.24	3855	979810.3	-35.8	-167.2	0.0	0.3	-168.2	-16.3
04LOV129	40	28.64	119	41.77	3859	979810.8	-38.0	-169.6	0.0	0.2	-170.5	-18.4
04LOV130	40	27.77	119	41.79	3857	979811.3	-36.2	-167.8	0.0	0.3	-168.7	-16.7
04LOV131	40	26.62	119	42.03	3851	979810.5	-35.9	-167.2	0.0	0.4	-168.1	-16.3
04LOV132	40	26.61	119	41.76	3854	979810.9	-35.2	-166.7	0.0	0.4	-167.5	-15.7
04LOV133	40	26.62	119	41.45	3858	979811.4	-34.4	-166.0	0.0	0.5	-166.7	-15.0
04LOV134	40	26.61	119	41.17	3857	979812.0	-33.9	-165.4	0.0	0.5	-166.2	-14.4
04LOV135	40	26.61	119	40.90	3862	979812.9	-32.4	-164.1	0.0	0.6	-164.8	-13.0
04LOV136	40	26.62	119	40.60	3865	979814.1	-31.0	-162.8	0.0	0.7	-163.3	-11.6
04LOV137	40	26.62	119	40.32	3872	979815.0	-29.4	-161.5	0.0	0.8	-161.9	-10.2
04LOV138	40	30.02	119	45.21	3845	979811.4	-40.6	-171.8	0.0	0.1	-172.9	-20.1
04LOV139	40	30.01	119	44.98	3845	979810.5	-41.5	-172.6	0.0	0.1	-173.8	-21.0
04LOV140	40	30.01	119	44.74	3840	979809.7	-42.8	-173.8	0.0	0.1	-174.9	-22.1
04LOV141	40	30.01	119	44.42	3842	979809.0	-43.3	-174.4	0.0	0.1	-175.5	-22.8
04LOV142	40	30.02	119	44.08	3843	979808.9	-43.3	-174.4	0.0	0.1	-175.5	-22.8

04LOV143	40	30.01	119	43.81	3849	979809.0	-42.7	-173.9	0.0	0.1	-175.1	-22.4
04LOV144	40	30.01	119	43.50	3848	979809.0	-42.8	-174.0	0.0	0.1	-175.2	-22.5
04LOV145	40	30.01	119	43.22	3851	979809.5	-42.0	-173.4	0.0	0.1	-174.5	-21.8
04LOV146	40	30.02	119	42.95	3851	979809.7	-41.8	-173.1	0.0	0.1	-174.2	-21.6
04LOV147	40	30.02	119	42.65	3846	979810.1	-41.8	-173.0	0.0	0.2	-174.1	-21.5
04LOV148	40	30.02	119	42.38	3848	979810.7	-41.1	-172.3	0.0	0.2	-173.4	-20.9
04LOV149	40	30.01	119	42.11	3849	979811.3	-40.3	-171.6	0.0	0.2	-172.6	-20.1
04LOV150	40	30.02	119	41.80	3852	979812.2	-39.2	-170.6	0.0	0.2	-171.6	-19.1
04LOV151	40	30.00	119	41.51	3853	979812.2	-39.1	-170.5	0.0	0.2	-171.5	-19.0
04LOV152	40	29.99	119	41.24	3851	979812.4	-39.1	-170.4	0.0	0.2	-171.4	-18.9
04LOV153	40	30.01	119	40.95	3853	979812.9	-38.4	-169.8	0.0	0.3	-170.7	-18.3
04LOV154	40	30.01	119	40.65	3851	979813.6	-37.9	-169.2	0.0	0.3	-170.1	-17.7
04LOV155	40	30.01	119	40.36	3852	979814.0	-37.4	-168.8	0.0	0.3	-169.6	-17.2
04LOV156	40	30.01	119	40.05	3858	979814.3	-36.5	-168.1	0.0	0.4	-168.9	-16.5
04LOV157	40	30.02	119	39.75	3857	979814.8	-36.1	-167.7	0.0	0.5	-168.5	-16.1
04LOV158	40	30.01	119	39.46	3857	979815.5	-35.4	-167.0	0.0	0.5	-167.7	-15.3
04LOV159	40	30.01	119	39.00	3862	979817.4	-33.1	-164.8	0.0	0.7	-165.3	-13.0
04LOV160	40	30.16	119	39.18	3849	979816.3	-35.5	-166.8	0.0	0.6	-167.4	-15.0
04LOV161	40	30.33	119	39.37	3838	979815.4	-37.8	-168.7	0.0	0.6	-169.3	-16.9
04LOV162	40	30.51	119	39.60	3837	979814.5	-39.1	-169.9	0.0	0.5	-170.6	-18.1
04LOV163	40	30.68	119	39.79	3855	979813.9	-38.2	-169.6	0.0	0.4	-170.5	-17.9
04LOV164	40	30.85	119	39.96	3838	979813.3	-40.6	-171.5	0.0	0.4	-172.3	-19.8
04LOV165	40	31.01	119	40.17	3845	979813.0	-40.5	-171.6	0.0	0.3	-172.5	-19.9
04LOV166	40	31.21	119	40.37	3849	979813.0	-40.4	-171.7	0.0	0.3	-172.6	-19.9
04LOV167	40	31.38	119	40.61	3848	979813.4	-40.4	-171.6	0.0	0.2	-172.6	-19.9
04LOV168	40	31.56	119	40.79	3836	979814.2	-41.0	-171.9	0.0	0.2	-172.8	-20.0
04LOV169	40	31.72	119	41.00	3858	979815.1	-38.3	-169.9	0.0	0.2	-170.9	-18.0
04LOV170	40	31.87	119	41.18	3823	979815.7	-41.1	-171.5	0.0	0.3	-172.5	-19.5
04LOV171	40	32.01	119	41.42	3827	979815.3	-41.5	-172.0	0.0	0.2	-173.0	-20.0
04LOV172	40	32.21	119	41.60	3833	979814.7	-41.7	-172.5	0.0	0.2	-173.5	-20.4
04LOV173	40	32.38	119	41.80	3838	979814.2	-42.0	-172.9	0.0	0.2	-174.0	-20.8
04LOV174	40	32.50	119	42.01	3840	979814.1	-42.1	-173.1	0.0	0.2	-174.2	-21.0
04LOV175	40	32.66	119	42.16	3838	979815.2	-41.5	-172.4	0.0	0.2	-173.4	-20.2
04LOV176	40	32.85	119	42.31	3838	979815.2	-41.7	-172.6	0.0	0.2	-173.6	-20.3
04LOV177	40	32.99	119	42.52	3843	979816.5	-40.1	-171.2	0.0	0.1	-172.3	-18.9
04LOV178	40	33.13	119	42.74	3848	979818.1	-38.3	-169.5	0.0	0.1	-170.6	-17.2
04LOV179	40	33.00	119	43.03	3846	979817.8	-38.6	-169.8	0.0	0.1	-170.9	-17.4
04LOV180	40	33.01	119	42.22	3845	979815.9	-40.6	-171.8	0.0	0.2	-172.8	-19.5
04LOV181	40	33.00	119	41.89	3843	979815.7	-40.9	-172.0	0.0	0.2	-173.1	-19.7
04LOV182	40	33.02	119	41.58	3844	979816.3	-40.3	-171.4	0.0	0.2	-172.4	-19.1
04LOV183	40	33.01	119	41.30	3843	979817.0	-39.7	-170.8	0.0	0.2	-171.8	-18.5
04LOV184	40	33.02	119	41.01	3842	979817.8	-39.0	-170.0	0.0	0.2	-171.0	-17.7
04LOV185	40	33.00	119	40.71	3845	979818.3	-38.1	-169.3	0.0	0.2	-170.3	-17.1
04LOV186	40	33.01	119	40.41	3848	979819.0	-37.2	-168.5	0.0	0.2	-169.5	-16.3
04LOV187	40	33.01	119	40.14	3848	979819.6	-36.6	-167.9	0.0	0.2	-168.9	-15.7
04LOV188	40	33.01	119	39.84	3851	979819.6	-36.4	-167.7	0.0	0.2	-168.7	-15.5
04LOV189	40	33.01	119	39.53	3852	979819.0	-36.8	-168.2	0.0	0.2	-169.2	-16.1
04LOV190	40	33.01	119	39.22	3853	979818.9	-36.9	-168.3	0.0	0.3	-169.2	-16.1
04LOV191	40	33.01	119	38.91	3853	979819.1	-36.7	-168.1	0.0	0.3	-169.0	-15.9
04LOV192	40	33.02	119	38.60	3850	979818.7	-37.3	-168.6	0.0	0.3	-169.5	-16.5

04LOV193	40	33.01	119	38.34	3851	979818.6	-37.3	-168.7	0.0	0.4	-169.5	-16.5
04LOV194	40	33.01	119	38.05	3850	979818.8	-37.2	-168.6	0.0	0.4	-169.4	-16.4
04LOV195	40	33.01	119	37.75	3853	979818.9	-36.9	-168.3	0.0	0.5	-169.1	-16.1
04LOV196	40	33.01	119	37.43	3852	979818.8	-37.0	-168.4	0.0	0.5	-169.1	-16.1
04LOV197	40	33.01	119	37.17	3853	979819.1	-36.7	-168.1	0.0	0.6	-168.8	-15.8
04LOV198	40	33.02	119	36.86	3857	979819.4	-36.0	-167.5	0.0	0.6	-168.1	-15.2
04LOV199	40	33.00	119	36.56	3862	979820.2	-34.7	-166.4	0.0	0.7	-167.0	-14.1
04LOV200	40	33.02	119	36.32	3855	979821.1	-34.5	-165.9	0.0	0.8	-166.3	-13.5
04LOV201	40	17.67	119	45.16	3857	979806.4	-26.2	-157.7	0.0	0.2	-158.7	-7.7
04LOV202	40	18.18	119	45.17	3852	979806.8	-27.0	-158.4	0.0	0.2	-159.4	-8.4
04LOV203	40	19.04	119	45.15	3851	979807.5	-27.6	-159.0	0.0	0.2	-160.0	-9.0
04LOV204	40	19.94	119	45.14	3849	979806.1	-30.6	-161.9	0.0	0.2	-162.9	-11.8
04LOV205	40	20.80	119	45.14	3852	979805.3	-32.4	-163.8	0.0	0.2	-164.8	-13.7
04LOV206	40	21.65	119	45.13	3848	979802.4	-36.9	-168.1	0.0	0.2	-169.2	-17.9
04LOV207	40	38.20	119	27.47	3894	979832.4	-27.2	-160.0	0.0	0.3	-161.0	-7.4
04LOV208	40	39.11	119	29.01	3903	979835.7	-24.5	-157.6	0.0	0.3	-158.5	-4.6
04LOV209	40	39.34	119	29.05	3882	979835.5	-26.9	-159.4	0.0	0.3	-160.3	-6.2
04LOV210	40	39.56	119	29.06	3874	979834.4	-29.2	-161.3	0.0	0.3	-162.3	-8.1
04LOV211	40	39.80	119	29.04	3854	979832.0	-33.8	-165.3	0.0	0.4	-166.1	-11.9
04LOV212	40	40.04	119	29.05	3862	979831.0	-34.3	-166.1	0.0	0.4	-166.9	-12.6
04LOV213	40	40.29	119	29.06	3867	979830.5	-34.8	-166.7	0.0	0.4	-167.5	-13.2
04LOV214	40	40.53	119	29.05	3842	979829.7	-38.3	-169.4	0.0	0.5	-170.1	-15.7
04LOV215	40	40.77	119	29.06	3854	979829.1	-38.2	-169.6	0.0	0.5	-170.4	-15.9
04LOV216	40	41.00	119	29.05	3853	979829.0	-38.6	-170.1	0.0	0.6	-170.7	-16.1
04LOV217	40	21.22	119	40.47	4319	979789.1	-5.3	-152.6	0.4	1.6	-152.3	-1.3
04LOV218	40	22.00	119	39.29	4810	979767.1	17.7	-146.4	0.9	3.9	-143.9	7.0
04LOV219	40	22.88	119	39.86	4452	979786.8	2.5	-149.4	0.1	2.7	-148.0	3.1
04LOV220	40	23.76	119	39.46	4618	979777.4	7.3	-150.2	0.7	4.1	-147.5	3.6
04LOV221	40	25.10	119	39.51	4239	979801.4	-6.3	-150.9	1.0	3.4	-148.8	2.5
04LOV222	40	14.02	119	40.26	5175	979722.7	19.5	-157.0	0.3	3.1	-155.3	-4.7
04LOV223	40	17.60	119	42.05	4790	979752.2	7.4	-156.0	1.3	5.0	-152.4	-1.6
04LOV224	40	50.48	119	26.34	7555	979627.8	93.9	-163.8	0.3	10.7	-154.6	2.0
04LOV225	40	47.04	119	24.75	8214	979569.0	102.2	-178.0	0.2	19.3	-160.1	-5.4
04LOV226	40	44.89	119	22.28	5247	979764.5	22.1	-156.8	0.1	5.8	-152.5	1.9
04LOV227	40	43.51	119	22.46	5248	979761.2	20.8	-158.1	0.2	5.0	-154.6	-0.5
04LOV228	40	20.06	119	41.77	4641	979760.0	-2.4	-160.7	2.6	5.5	-156.6	-5.7
04LOV229	40	11.55	119	45.10	4035	979794.4	-12.3	-149.9	0.1	1.1	-150.1	1.1
04LOV230	40	12.03	119	45.07	4166	979787.3	-7.8	-149.9	0.7	1.6	-149.6	1.5
04LOV231	40	12.57	119	45.15	4352	979776.8	-1.6	-150.1	0.7	1.6	-149.8	1.2
04LOV232	40	12.89	119	45.32	4452	979772.2	2.6	-149.2	0.6	1.5	-149.1	1.9
04LOV233	40	41.46	119	29.05	3875	979829.2	-37.1	-169.2	0.0	0.6	-169.8	-15.1
04LOV234	40	41.67	119	29.06	3876	979828.4	-38.2	-170.4	0.0	0.7	-170.9	-16.1
04LOV235	40	41.23	119	29.06	3856	979829.5	-38.2	-169.8	0.0	0.6	-170.4	-15.7
04LOV236	40	40.62	119	35.69	3843	979843.8	-24.2	-155.3	0.0	1.8	-154.7	0.7
04LOV237	40	40.63	119	35.34	3847	979842.9	-24.7	-155.9	0.0	1.5	-155.7	-0.4
04LOV238	40	40.62	119	35.00	3852	979841.4	-25.9	-157.2	0.0	1.3	-157.2	-1.9
04LOV239	40	40.63	119	34.64	3852	979839.5	-27.7	-159.1	0.0	1.1	-159.2	-4.0
04LOV240	40	40.63	119	34.25	3846	979837.5	-30.3	-161.5	0.0	1.0	-161.8	-6.6
04LOV241	40	40.63	119	33.98	3846	979835.8	-31.9	-163.1	0.0	0.9	-163.4	-8.3
04LOV242	40	40.62	119	33.65	3847	979833.8	-33.8	-165.0	0.0	0.8	-165.5	-10.4

04LOV243	40	40.62	119	33.38	3849	979832.7	-34.8	-166.1	0.0	0.7	-166.6	-11.6
04LOV244	40	40.63	119	33.07	3849	979831.9	-35.6	-166.9	0.0	0.7	-167.5	-12.5
04LOV245	40	40.62	119	32.81	3849	979831.4	-36.1	-167.4	0.0	0.6	-168.0	-13.1
04LOV246	40	40.63	119	32.51	3856	979831.1	-35.7	-167.2	0.0	0.6	-167.9	-13.0
04LOV247	40	40.63	119	32.22	3854	979831.2	-35.8	-167.2	0.0	0.6	-167.9	-13.0
04LOV248	40	40.62	119	31.90	3851	979830.8	-36.5	-167.8	0.0	0.5	-168.5	-13.7
04LOV249	40	40.63	119	31.60	3854	979830.1	-36.9	-168.4	0.0	0.5	-169.1	-14.3
04LOV250	40	40.63	119	31.28	3857	979830.9	-35.9	-167.4	0.0	0.5	-168.2	-13.4
04LOV251	40	40.63	119	30.96	3859	979833.3	-33.2	-164.8	0.0	0.5	-165.6	-10.9
04LOV252	40	40.63	119	30.61	3860	979833.4	-33.1	-164.7	0.0	0.5	-165.5	-10.9
04LOV253	40	40.62	119	30.31	3860	979831.9	-34.6	-166.2	0.0	0.5	-167.0	-12.4
04LOV254	40	40.62	119	29.94	3855	979830.8	-36.2	-167.6	0.0	0.5	-168.4	-13.9
04LOV255	40	40.63	119	29.60	3853	979830.5	-36.6	-168.0	0.0	0.5	-168.8	-14.3
04LOV256	40	40.63	119	29.22	3862	979829.8	-36.5	-168.2	0.0	0.5	-168.9	-14.5
04LOV257	40	40.66	119	28.76	3864	979828.6	-37.5	-169.3	0.0	0.5	-170.0	-15.6
04LOV258	40	40.61	119	28.39	3863	979828.9	-37.2	-169.0	0.0	0.5	-169.7	-15.4
04LOV259	40	40.62	119	27.94	3860	979833.1	-33.4	-165.0	0.0	0.5	-165.7	-11.5
04LOV260	40	40.62	119	27.68	3861	979833.2	-33.1	-164.8	0.0	0.6	-165.5	-11.2
04LOV261	40	40.63	119	27.29	3860	979830.3	-36.1	-167.8	0.0	0.6	-168.4	-14.3
04LOV262	40	40.62	119	26.93	3862	979827.6	-38.7	-170.4	0.0	0.6	-171.0	-16.9
04LOV263	40	40.62	119	26.46	3863	979824.8	-41.4	-173.1	0.0	0.6	-173.7	-19.6
04LOV264	40	40.62	119	26.10	3874	979822.8	-42.4	-174.5	0.0	0.7	-175.0	-21.0
04LOV265	40	40.62	119	25.53	3892	979819.7	-43.7	-176.4	0.0	0.7	-176.9	-23.0
04LOV266	40	40.63	119	25.22	3896	979819.0	-44.1	-176.9	0.0	0.8	-177.4	-23.4
04LOV267	40	35.74	119	33.07	3847	979825.5	-34.9	-166.1	0.0	0.5	-166.9	-13.5
04LOV268	40	35.73	119	33.34	3846	979825.3	-35.2	-166.4	0.0	0.5	-167.1	-13.8
04LOV269	40	35.75	119	33.64	3844	979824.7	-36.0	-167.1	0.0	0.4	-167.9	-14.5
04LOV270	40	35.74	119	33.95	3843	979824.6	-36.1	-167.2	0.0	0.4	-168.0	-14.6
04LOV271	40	35.74	119	34.27	3844	979824.9	-35.8	-166.9	0.0	0.4	-167.8	-14.3
04LOV272	40	35.75	119	34.58	3842	979825.4	-35.5	-166.5	0.0	0.4	-167.4	-13.9
04LOV273	40	35.74	119	34.92	3842	979825.8	-35.1	-166.2	0.0	0.4	-167.0	-13.5
04LOV274	40	35.74	119	35.24	3841	979826.0	-34.9	-165.9	0.0	0.3	-166.8	-13.3
04LOV275	40	35.75	119	35.57	3840	979826.1	-34.9	-165.9	0.0	0.3	-166.8	-13.2
04LOV276	40	35.74	119	35.91	3843	979826.6	-34.1	-165.2	0.0	0.3	-166.1	-12.5
04LOV277	40	35.75	119	36.24	3843	979827.6	-33.2	-164.3	0.0	0.3	-165.2	-11.5
04LOV278	40	35.74	119	36.59	3843	979829.1	-31.7	-162.7	0.0	0.3	-163.7	-10.0
04LOV279	40	35.75	119	36.91	3848	979830.0	-30.3	-161.6	0.0	0.3	-162.5	-8.8
04LOV280	40	35.74	119	37.27	3845	979828.7	-31.8	-163.0	0.0	0.3	-163.9	-10.1
04LOV281	40	35.74	119	37.58	3849	979827.9	-32.4	-163.6	0.0	0.3	-164.5	-10.8
04LOV282	40	35.74	119	37.93	3850	979828.2	-31.9	-163.2	0.0	0.3	-164.1	-10.3
04LOV283	40	35.73	119	38.23	3851	979829.6	-30.4	-161.7	0.0	0.3	-162.6	-8.8
04LOV284	40	35.72	119	38.56	3847	979828.7	-31.6	-162.8	0.0	0.3	-163.7	-9.8
04LOV285	40	35.73	119	38.89	3849	979828.2	-32.0	-163.3	0.0	0.3	-164.2	-10.3
04LOV286	40	35.71	119	39.19	3849	979827.4	-32.8	-164.1	0.0	0.3	-165.0	-11.0
04LOV287	40	35.71	119	39.52	3851	979827.7	-32.2	-163.6	0.0	0.3	-164.5	-10.5
04LOV288	40	35.73	119	39.86	3849	979828.8	-31.4	-162.7	0.0	0.3	-163.6	-9.5
04LOV289	40	35.55	119	39.63	3846	979827.5	-32.7	-163.9	0.0	0.3	-164.8	-10.9
04LOV290	40	35.37	119	39.43	3846	979826.3	-33.6	-164.8	0.0	0.3	-165.7	-11.9
04LOV291	40	35.22	119	39.21	3845	979824.9	-34.8	-166.0	0.0	0.3	-166.9	-13.2
04LOV292	40	35.04	119	39.00	3842	979824.0	-35.8	-166.8	0.0	0.3	-167.8	-14.1

04LOV293	40	34.89	119	38.79	3839	979823.6	-36.2	-167.2	0.0	0.3	-168.1	-14.5
04LOV294	40	34.71	119	38.57	3840	979823.1	-36.4	-167.4	0.0	0.3	-168.3	-14.8
04LOV295	40	34.54	119	38.31	3841	979821.8	-37.4	-168.4	0.0	0.3	-169.3	-15.9
04LOV296	40	34.36	119	38.12	3843	979821.1	-37.7	-168.7	0.0	0.3	-169.7	-16.3
04LOV297	40	34.21	119	37.90	3841	979820.5	-38.1	-169.2	0.0	0.3	-170.1	-16.7
04LOV298	40	34.03	119	37.68	3840	979820.1	-38.4	-169.4	0.0	0.3	-170.3	-17.0
04LOV299	40	33.88	119	37.44	3842	979819.7	-38.4	-169.4	0.0	0.4	-170.3	-17.1
04LOV300	40	33.71	119	37.26	3848	979819.5	-37.8	-169.1	0.0	0.4	-169.9	-16.7
04LOV301	40	33.55	119	37.04	3852	979819.5	-37.2	-168.6	0.0	0.5	-169.4	-16.3
04LOV302	40	33.37	119	36.81	3851	979819.4	-37.0	-168.4	0.0	0.6	-169.0	-16.0
04LOV303	40	33.16	119	36.51	3851	979820.1	-36.0	-167.4	0.0	0.7	-167.9	-15.0
04LOV304	40	32.33	119	37.81	3841	979818.6	-37.4	-168.3	0.0	0.6	-168.9	-16.1
04LOV305	40	27.67	119	50.87	3920	979812.8	-28.8	-162.5	0.0	0.6	-163.1	-10.5
04LOV306	40	28.04	119	50.96	3928	979813.1	-28.2	-162.1	0.0	0.5	-162.8	-10.1
04LOV307	40	24.00	119	49.70	3892	979815.6	-23.0	-155.8	0.0	0.6	-156.4	-4.6
04LOV308	40	29.31	119	50.59	3927	979820.0	-23.4	-157.3	0.0	0.4	-158.1	-5.1
04LOV309	40	30.08	119	52.21	3990	979815.3	-23.2	-159.3	0.0	0.8	-159.8	-6.3
04LOV310	40	29.50	119	52.37	3984	979816.1	-22.1	-158.0	0.4	1.3	-158.0	-4.7
04LOV311	40	28.42	119	53.36	4340	979799.8	-3.4	-151.4	0.1	0.9	-151.8	1.1
04LOV312	40	28.10	119	54.20	4372	979799.9	0.2	-148.9	0.1	1.5	-148.7	4.3
04LOV313	40	27.98	119	54.72	4536	979789.7	5.6	-149.1	0.3	2.1	-148.4	4.6
04LOV314	40	28.00	119	53.48	4259	979807.2	-2.9	-148.1	0.1	1.2	-148.3	4.6
04LOV315	40	27.58	119	53.32	4317	979804.4	0.4	-146.9	0.1	1.1	-147.1	5.7
04LOV316	40	27.12	119	53.29	4320	979804.5	1.4	-145.9	0.1	1.4	-145.8	6.8
04LOV317	40	26.66	119	53.40	4428	979796.2	4.0	-147.1	0.2	1.7	-146.7	5.8
04LOV318	40	26.18	119	53.34	4519	979792.4	9.4	-144.7	0.2	1.8	-144.2	8.1
04LOV319	40	27.67	119	45.47	3992	979809.7	-25.1	-161.2	0.2	0.4	-162.1	-9.9
04LOV320	40	40.21	119	42.21	5607	979734.3	32.8	-158.5	0.4	4.2	-155.8	-0.1
04LOV321	40	41.73	119	42.74	5816	979722.6	38.4	-160.0	0.2	2.6	-158.8	-2.4
04LOV322	40	44.52	119	42.45	6274	979692.2	46.8	-167.2	0.2	2.3	-166.4	-8.9
04LOV323	40	44.96	119	39.88	6333	979689.4	48.9	-167.1	0.2	2.4	-166.2	-8.9
04LOV324	40	43.85	119	41.19	6560	979673.2	55.7	-168.0	0.5	4.2	-165.3	-8.4
04LOV325	40	42.83	119	37.31	5869	979715.2	34.3	-165.9	0.2	3.5	-163.9	-7.8
04LOV326	40	40.45	119	39.51	5759	979724.8	37.1	-159.3	0.2	4.2	-156.6	-1.3
04LOV327	40	11.07	119	41.52	3895	979796.3	-22.9	-155.7	0.4	1.2	-155.7	-4.5
04LOV328	40	12.06	119	40.17	3945	979797.3	-18.7	-153.2	0.2	1.1	-153.4	-2.3
04LOV329	40	12.03	119	38.93	3853	979800.9	-23.6	-155.0	0.1	1.0	-155.3	-4.2
04LOV330	40	12.38	119	37.95	3838	979799.3	-27.2	-158.1	0.1	1.0	-158.3	-7.3
04LOV331	40	13.22	119	37.98	3838	979800.7	-27.0	-157.9	0.2	1.6	-157.5	-6.6
04LOV332	40	13.97	119	37.93	3847	979802.3	-25.7	-156.9	0.0	1.1	-157.1	-6.2
04LOV333	40	29.94	119	57.89	5675	979714.6	34.7	-158.9	0.0	1.8	-158.6	-5.1
04LOV334	40	27.81	119	56.18	5772	979711.1	43.4	-153.4	0.3	3.5	-151.4	1.3
04LOV335	40	25.69	119	55.35	6071	979694.6	58.2	-148.9	0.1	4.3	-146.0	5.9
04LOV336	40	22.27	119	55.84	5644	979722.6	51.1	-141.4	0.0	1.9	-140.9	10.5
04LOV337	40	21.17	119	50.82	4793	979766.2	16.4	-147.1	0.3	2.1	-146.4	4.9
04LOV338	40	19.19	119	50.50	4882	979754.2	15.8	-150.7	0.3	2.0	-150.1	0.9
04LOV339	40	16.83	119	50.90	5438	979713.7	31.0	-154.5	1.4	7.1	-148.8	2.0
04LOV340	40	16.57	119	54.31	5425	979721.5	37.9	-147.1	1.0	4.5	-144.1	6.8
04LOV341	40	15.22	119	53.36	5547	979709.4	39.3	-149.9	1.3	6.4	-144.9	6.0
04LOV342	40	13.02	119	51.75	5347	979711.7	26.1	-156.3	1.3	6.7	-151.0	0.0

04LOV400	40	42.64	119	26.96	3918	979824.2	-39.8	-173.4	0.0	1.8	-172.9	-18.1
04LOV401	40	43.15	119	27.45	3989	979822.8	-35.3	-171.4	0.1	2.0	-170.6	-15.6
04LOV402	40	43.71	119	27.13	4132	979815.2	-30.3	-171.2	0.1	3.0	-169.5	-14.4
04LOV403	40	44.29	119	29.05	3977	979825.2	-35.7	-171.4	0.0	2.0	-170.6	-14.8
04LOV404	40	45.11	119	29.21	4032	979820.8	-36.1	-173.7	0.0	2.4	-172.5	-16.4
04LOV405	40	45.57	119	29.28	4090	979816.4	-35.8	-175.3	0.0	2.5	-174.0	-17.8
04LOV406	40	46.45	119	29.34	4130	979815.2	-34.6	-175.4	0.0	3.1	-173.6	-17.0
04LOV407	40	47.75	119	30.38	4256	979809.6	-30.2	-175.4	0.1	2.7	-174.0	-16.7
04LOV408	40	48.21	119	29.34	4557	979791.5	-20.7	-176.2	0.1	3.9	-173.6	-16.3
04LOV409	40	48.82	119	29.76	4683	979781.0	-20.3	-180.0	0.1	3.5	-177.9	-20.3
04LOV410	40	49.91	119	30.15	4984	979770.6	-4.1	-174.0	0.2	4.2	-171.2	-13.3
04LOV411	40	49.99	119	29.62	5470	979740.9	11.8	-174.7	1.5	6.3	-169.9	-12.1
04LOV412	40	50.38	119	30.78	4941	979775.7	-3.6	-172.1	0.1	3.5	-170.0	-11.6
04LOV413	40	52.32	119	36.08	5707	979731.0	20.8	-173.9	0.2	1.4	-174.0	-14.0
04LOV414	40	51.66	119	36.34	5545	979745.0	20.5	-168.7	0.7	1.9	-168.2	-8.3
04LOV415	40	51.22	119	34.28	4895	979786.9	2.0	-165.0	0.8	2.6	-163.8	-4.4
04LOV416	40	50.64	119	33.65	4585	979800.7	-12.5	-168.9	0.1	2.1	-168.2	-9.0
04LOV417	40	48.35	119	30.97	4282	979809.9	-28.4	-174.4	0.1	2.7	-173.0	-15.3
04LOV418	40	40.91	119	35.13	3849	979841.3	-26.6	-157.9	0.0	1.6	-157.5	-2.0
04LOV419	40	40.79	119	34.93	3847	979840.7	-27.3	-158.5	0.0	1.4	-158.3	-3.0
04LOV420	40	40.65	119	34.70	3849	979839.5	-28.1	-159.3	0.0	1.1	-159.4	-4.2
04LOV421	40	40.51	119	34.49	3848	979838.3	-29.1	-160.4	0.0	1.0	-160.6	-5.4
04LOV422	40	40.37	119	34.27	3851	979836.8	-30.1	-161.4	0.0	0.9	-161.8	-6.8
04LOV423	40	40.24	119	34.06	3849	979834.7	-32.2	-163.4	0.0	0.8	-163.9	-8.9
04LOV424	40	40.10	119	33.84	3849	979832.9	-33.8	-165.1	0.0	0.7	-165.6	-10.7
04LOV425	40	39.97	119	33.63	3849	979831.8	-34.7	-166.0	0.0	0.6	-166.6	-11.8
04LOV426	40	39.83	119	33.41	3851	979831.3	-34.8	-166.2	0.0	0.5	-166.8	-12.1
04LOV427	40	39.68	119	33.21	3850	979831.3	-34.7	-166.0	0.0	0.5	-166.7	-12.1
04LOV428	40	39.54	119	32.98	3850	979831.5	-34.3	-165.6	0.0	0.5	-166.4	-11.8
04LOV429	40	39.41	119	32.77	3850	979831.7	-33.9	-165.2	0.0	0.4	-166.0	-11.5
04LOV430	40	39.29	119	32.53	3851	979831.5	-33.9	-165.2	0.0	0.4	-166.0	-11.6
04LOV431	40	39.14	119	32.33	3852	979830.7	-34.3	-165.7	0.0	0.4	-166.6	-12.2
04LOV432	40	38.99	119	32.11	3850	979829.5	-35.5	-166.8	0.0	0.3	-167.7	-13.4
04LOV433	40	38.87	119	31.90	3850	979828.6	-36.1	-167.4	0.0	0.3	-168.3	-14.1
04LOV434	40	38.73	119	31.67	3848	979828.4	-36.4	-167.6	0.0	0.3	-168.5	-14.4
04LOV435	40	38.60	119	31.46	3848	979828.0	-36.6	-167.9	0.0	0.3	-168.8	-14.7
04LOV436	40	38.45	119	31.24	3849	979827.0	-37.2	-168.5	0.0	0.3	-169.4	-15.4
04LOV437	40	38.31	119	31.05	3851	979826.1	-37.7	-169.1	0.0	0.3	-170.0	-16.1
04LOV438	40	38.19	119	30.82	3858	979825.3	-37.7	-169.3	0.0	0.3	-170.2	-16.4
04LOV439	40	38.03	119	30.53	3860	979825.7	-36.9	-168.6	0.0	0.3	-169.5	-15.7
04LOV440	40	38.01	119	30.78	3855	979825.0	-38.0	-169.5	0.0	0.3	-170.4	-16.6
04LOV441	40	38.01	119	31.04	3852	979825.3	-38.0	-169.4	0.0	0.3	-170.3	-16.4
04LOV442	40	38.00	119	31.32	3850	979826.0	-37.5	-168.8	0.0	0.3	-169.7	-15.9
04LOV443	40	38.01	119	31.61	3850	979826.8	-36.8	-168.0	0.0	0.3	-169.0	-15.1
04LOV444	40	38.01	119	31.89	3850	979827.5	-36.0	-167.3	0.0	0.3	-168.2	-14.3
04LOV445	40	38.01	119	32.17	3851	979828.0	-35.4	-166.8	0.0	0.3	-167.7	-13.7
04LOV446	40	38.01	119	32.44	3851	979828.1	-35.3	-166.7	0.0	0.3	-167.6	-13.6
04LOV447	40	38.01	119	32.73	3851	979827.7	-35.7	-167.1	0.0	0.3	-168.0	-14.0
04LOV448	40	38.01	119	33.01	3851	979827.5	-35.9	-167.2	0.0	0.3	-168.2	-14.2
04LOV449	40	38.01	119	33.37	3849	979827.1	-36.5	-167.8	0.0	0.3	-168.7	-14.6

04LOV450	40	38.01	119	33.75	3849	979827.2	-36.4	-167.7	0.0	0.3	-168.6	-14.4
04LOV451	40	38.01	119	34.04	3849	979827.2	-36.3	-167.6	0.0	0.3	-168.5	-14.3
04LOV452	40	38.01	119	34.33	3848	979827.5	-36.2	-167.5	0.0	0.4	-168.3	-14.1
04LOV453	40	38.01	119	34.62	3847	979828.1	-35.7	-166.9	0.0	0.4	-167.7	-13.5
04LOV454	40	38.02	119	34.90	3847	979829.2	-34.6	-165.8	0.0	0.4	-166.6	-12.3
04LOV455	40	38.01	119	35.19	3848	979831.1	-32.5	-163.8	0.0	0.4	-164.6	-10.2
04LOV456	40	38.01	119	35.48	3849	979833.1	-30.5	-161.7	0.0	0.5	-162.5	-8.2
04LOV457	40	38.02	119	35.77	3852	979834.9	-28.4	-159.8	0.0	0.5	-160.5	-6.2
04LOV458	40	38.01	119	36.05	3848	979837.0	-26.7	-157.9	0.0	0.5	-158.6	-4.2
04LOV459	40	38.01	119	36.34	3846	979839.4	-24.5	-155.6	0.0	0.6	-156.3	-1.9
04LOV460	40	38.01	119	36.61	3845	979841.6	-22.4	-153.6	0.0	0.6	-154.2	0.3
04LOV461	40	37.85	119	36.24	3845	979837.9	-25.9	-157.0	0.0	0.5	-157.7	-3.4
04LOV462	40	37.71	119	36.04	3847	979835.8	-27.5	-158.8	0.0	0.5	-159.5	-5.3
04LOV463	40	37.56	119	35.82	3849	979833.5	-29.4	-160.7	0.0	0.4	-161.5	-7.3
04LOV464	40	37.42	119	35.60	3848	979831.1	-31.7	-162.9	0.0	0.4	-163.8	-9.7
04LOV465	40	37.28	119	35.39	3848	979829.1	-33.5	-164.8	0.0	0.4	-165.6	-11.6
04LOV466	40	37.13	119	35.18	3849	979827.6	-34.6	-165.9	0.0	0.3	-166.8	-12.8
04LOV467	40	36.99	119	34.96	3849	979826.9	-35.1	-166.4	0.0	0.3	-167.3	-13.4
04LOV468	40	36.84	119	34.75	3847	979826.6	-35.5	-166.7	0.0	0.3	-167.6	-13.7
04LOV469	40	36.70	119	34.55	3846	979826.2	-35.7	-166.9	0.0	0.3	-167.8	-14.0
04LOV470	40	36.57	119	34.34	3847	979825.8	-35.8	-167.0	0.0	0.3	-167.9	-14.2
04LOV471	40	36.42	119	34.10	3846	979825.3	-36.2	-167.4	0.0	0.3	-168.3	-14.6
04LOV472	40	36.28	119	33.89	3846	979825.1	-36.3	-167.4	0.0	0.3	-168.3	-14.7
04LOV473	40	36.14	119	33.67	3846	979825.0	-36.1	-167.3	0.0	0.4	-168.1	-14.6
04LOV474	40	35.98	119	33.45	3845	979825.2	-35.8	-166.9	0.0	0.4	-167.7	-14.3
04LOV475	40	35.85	119	33.22	3844	979825.4	-35.4	-166.5	0.0	0.5	-167.3	-13.9
04LOV476	40	36.46	119	35.10	3844	979826.4	-35.3	-166.4	0.0	0.3	-167.3	-13.5
04LOV477	40	36.51	119	36.30	3848	979831.4	-30.0	-161.3	0.0	0.3	-162.2	-8.3
04LOV478	40	36.50	119	37.43	3841	979834.1	-28.0	-159.0	0.0	0.4	-159.8	-5.8
04LOV500	40	14.67	119	41.64	5005	979735.9	15.8	-154.9	0.4	2.9	-153.5	-2.8
04LOV501	40	16.51	119	40.31	4977	979737.9	12.4	-157.4	1.3	5.3	-153.5	-2.9
04LOV502	40	18.48	119	41.81	4671	979761.8	4.6	-154.7	0.6	2.7	-153.4	-2.7
04LOV503	40	21.82	119	36.61	6456	979667.6	73.2	-147.0	0.5	6.9	-141.7	8.8
04LOV504	40	23.36	119	36.28	7095	979623.9	87.2	-154.8	0.2	10.5	-145.8	4.7
04LOV505	40	26.03	119	34.18	6890	979645.1	85.2	-149.8	1.0	11.7	-139.6	11.2
04LOV506	40	30.40	119	32.66	5971	979703.4	50.6	-153.0	0.5	4.7	-149.8	1.8
04LOV507	40	30.03	119	34.86	6498	979672.9	70.3	-151.4	0.7	10.2	-142.7	8.8
05LOV001	40	13.84	119	44.99	4937	979742.5	17.2	-151.2	0.6	1.7	-151.0	-0.2
05LOV002	40	12.89	119	42.62	5122	979724.0	17.4	-157.2	2.3	4.0	-154.7	-3.9
05LOV003	40	14.17	119	43.27	5293	979715.2	22.9	-157.7	1.5	3.8	-155.3	-4.6
05LOV004	40	15.36	119	40.01	4683	979759.2	7.7	-152.0	0.6	1.3	-152.0	-1.3
05LOV005	40	20.52	119	37.66	6357	979665.1	63.4	-153.5	6.4	13.8	-141.2	9.2
05LOV006	40	23.02	119	37.94	6282	979677.2	64.6	-149.7	3.2	9.1	-142.1	8.5
05LOV007	40	22.34	119	33.56	6305	979679.5	70.1	-145.0	1.6	5.7	-140.8	9.8
05LOV008	40	25.29	119	35.18	6404	979673.5	69.1	-149.4	3.1	8.1	-142.8	8.0
05LOV009	40	24.71	119	37.84	6021	979691.3	51.6	-153.7	4.2	9.5	-145.7	5.2
05LOV010	40	26.76	119	36.66	4824	979774.5	19.3	-145.3	2.6	4.5	-142.1	9.3

05LOV011	40	27.21	119	34.55	6186	979692.3	64.5	-146.5	2.2	6.5	-141.5	9.6
05LOV012	40	27.87	119	35.44	5768	979718.2	50.1	-146.6	1.6	5.1	-143.0	8.3
05LOV013	40	28.99	119	36.78	4319	979803.4	-2.6	-149.9	2.3	4.3	-146.9	5.0
05LOV014	40	29.86	119	36.06	5959	979698.7	45.6	-157.7	8.4	14.4	-144.8	6.8
05LOV015	40	31.56	119	34.23	6000	979699.1	47.3	-157.4	5.8	11.5	-147.4	4.5
05LOV016	40	32.93	119	32.99	5497	979736.2	35.0	-152.5	4.2	7.5	-146.4	5.9
05LOV017	40	32.85	119	30.93	5068	979763.1	21.8	-151.1	1.8	3.1	-149.4	2.9
05LOV018	40	34.07	119	31.16	5434	979742.3	33.6	-151.7	4.0	7.3	-145.9	6.5
05LOV019	40	35.13	119	30.36	4664	979793.0	10.3	-148.8	1.5	2.4	-147.8	5.0
05LOV020	40	36.00	119	30.89	3859	979830.2	-29.5	-161.1	0.2	1.0	-161.3	-8.0
05LOV021	40	36.75	119	29.13	4367	979813.5	0.5	-148.4	2.2	2.6	-147.2	6.0
05LOV022	40	37.12	119	27.91	4394	979810.0	-1.0	-150.9	1.8	2.3	-149.9	3.3
05LOV023	40	35.96	119	28.35	4777	979786.0	12.6	-150.3	4.3	5.6	-146.1	6.8
05LOV024	40	33.88	119	29.46	5083	979764.8	23.4	-150.0	3.5	5.4	-146.1	6.3
05LOV025	40	31.35	119	30.87	5229	979752.1	28.2	-150.2	1.6	3.2	-148.4	3.5
05LOV026	40	31.81	119	32.14	5126	979758.6	24.3	-150.5	0.9	2.3	-149.6	2.4
05LOV027	40	29.13	119	32.87	6173	979693.6	61.7	-148.8	1.8	5.9	-144.5	6.9
05LOV028	40	49.47	119	34.65	5244	979761.2	11.7	-167.2	0.5	1.6	-167.1	-8.4
05LOV029	40	49.92	119	36.98	6045	979711.8	36.9	-169.3	1.6	3.2	-167.6	-8.5
05LOV030	40	48.02	119	37.81	6292	979692.6	43.6	-171.0	0.6	2.6	-169.8	-11.5
05LOV031	40	47.40	119	35.76	5777	979721.6	25.2	-171.8	1.0	2.6	-170.7	-12.9
05LOV032	40	48.30	119	33.61	5278	979748.2	3.6	-176.4	1.8	3.1	-174.8	-16.8
05LOV033	40	47.22	119	31.90	4718	979780.2	-15.4	-176.3	0.9	2.2	-175.5	-18.2
05LOV034	40	45.59	119	31.02	4610	979786.7	-16.6	-173.8	1.1	2.4	-172.8	-16.3
05LOV035	40	45.55	119	33.12	4858	979774.8	-5.1	-170.8	1.0	2.4	-169.8	-13.1
05LOV036	40	45.96	119	36.84	6116	979700.4	38.1	-170.5	0.8	3.0	-169.0	-11.8
05LOV037	40	44.84	119	37.25	5994	979708.1	36.0	-168.5	0.3	2.3	-167.7	-10.8
05LOV038	40	43.86	119	35.63	5558	979731.7	20.0	-169.6	2.0	4.5	-166.5	-10.2
05LOV039	40	43.58	119	38.69	5874	979716.0	34.5	-165.9	0.6	2.4	-165.0	-8.5
05LOV040	40	41.73	119	37.73	5671	979728.1	30.2	-163.2	1.4	4.3	-160.4	-4.7
05LOV041	40	42.15	119	39.92	5983	979711.6	42.4	-161.7	0.8	3.1	-160.1	-4.0
05LOV042	40	42.89	119	45.41	5894	979712.3	33.7	-167.3	1.5	3.7	-165.2	-7.9
05LOV043	40	38.39	119	40.30	4592	979797.0	2.7	-153.9	0.4	1.2	-154.0	0.9
05LOV044	40	39.13	119	43.71	4133	979816.3	-22.2	-163.2	0.4	1.6	-162.9	-7.0
05LOV045	40	40.40	119	44.21	4511	979797.6	-7.3	-161.1	1.4	2.7	-159.8	-3.5
05LOV046	40	39.02	119	48.23	4483	979791.1	-14.5	-167.4	0.8	1.3	-167.4	-11.1
05LOV047	40	37.43	119	55.08	5283	979747.0	19.1	-161.1	1.0	1.9	-160.6	-4.4
05LOV048	40	36.51	119	52.45	5665	979716.6	25.9	-167.3	1.8	4.1	-164.7	-9.2
05LOV049	40	35.43	119	50.58	4795	979769.1	-1.7	-165.2	0.9	1.6	-165.0	-10.0
05LOV050	40	33.51	119	50.70	4737	979772.6	-0.8	-162.3	1.0	1.7	-162.0	-7.8
05LOV051	40	36.04	119	48.10	4137	979808.4	-25.1	-166.2	0.2	0.6	-166.9	-11.8
05LOV052	40	32.35	119	46.22	3864	979813.8	-40.0	-171.7	0.0	0.2	-172.8	-19.2
05LOV053	40	31.07	119	48.08	3881	979813.5	-36.8	-169.1	0.0	0.2	-170.2	-16.8
05LOV054	40	31.03	119	46.13	3854	979812.7	-40.0	-171.5	0.0	0.1	-172.6	-19.4
05LOV055	40	31.10	119	44.44	3878	979812.7	-37.8	-170.1	0.0	0.1	-171.2	-18.2
05LOV056	40	31.06	119	42.68	3849	979812.0	-41.3	-172.6	0.0	0.1	-173.7	-20.8
05LOV057	40	32.38	119	44.18	3892	979815.0	-36.2	-169.0	0.0	0.1	-170.1	-16.7
05LOV058	40	27.34	119	43.94	3845	979809.8	-38.3	-169.4	0.0	0.1	-170.5	-18.5
05LOV059	40	28.29	119	43.95	3838	979810.4	-39.7	-170.6	0.0	0.1	-171.7	-19.5
05LOV060	40	29.16	119	43.95	3842	979809.5	-41.6	-172.6	0.0	0.1	-173.8	-21.3

05LOV061	40	29.14	119	45.36	3861	979815.3	-33.9	-165.6	0.0	0.1	-166.7	-14.2
05LOV062	40	28.21	119	45.39	3871	979816.8	-30.1	-162.1	0.0	0.1	-163.2	-10.9
05LOV063	40	27.15	119	45.34	3852	979812.1	-35.0	-166.4	0.0	0.1	-167.5	-15.4
05LOV064	40	29.17	119	46.75	3845	979814.7	-36.1	-167.2	0.0	0.1	-168.3	-15.7
05LOV065	40	28.20	119	46.70	3846	979814.7	-34.5	-165.7	0.0	0.1	-166.8	-14.4
05LOV066	40	27.30	119	46.64	3843	979810.6	-37.7	-168.7	0.0	0.1	-169.9	-17.6
05LOV067	40	27.26	119	48.27	3854	979805.2	-41.9	-173.4	0.0	0.2	-174.4	-22.1
05LOV068	40	28.22	119	48.21	3864	979811.2	-36.4	-168.2	0.0	0.2	-169.3	-16.7
05LOV069	40	29.20	119	48.23	3851	979815.4	-34.8	-166.2	0.0	0.2	-167.2	-14.4
05LOV070	40	28.51	119	45.77	3956	979814.8	-24.6	-159.5	0.2	0.2	-160.6	-8.2
05LOV071	40	20.65	119	39.41	4295	979792.9	-2.9	-149.4	0.4	1.9	-148.8	2.1
05LOV072	40	21.73	119	38.13	5015	979760.7	30.9	-140.1	6.0	8.1	-133.4	17.4
05LOV073	40	21.45	119	38.98	4622	979779.0	12.7	-145.0	1.1	3.0	-143.3	7.6
05LOV074	40	41.37	119	35.72	3950	979835.6	-23.5	-158.2	0.9	3.1	-156.3	-0.7
05LOV075	40	41.90	119	35.95	4350	979810.4	-11.9	-160.2	2.6	4.4	-157.2	-1.4
05LOV076	40	40.32	119	37.45	4049	979834.3	-13.9	-152.0	2.5	4.6	-148.7	6.7
05LOV077	40	42.99	119	25.48	4152	979812.9	-29.7	-171.3	0.7	3.9	-168.7	-14.1
05LOV078	40	44.52	119	26.21	4787	979775.3	-9.8	-173.1	5.0	9.4	-165.0	-9.9
05LOV079	40	37.32	119	44.50	3934	979821.8	-32.8	-167.0	0.0	0.5	-167.7	-12.5
05LOV080	40	38.50	119	46.23	3989	979821.3	-29.9	-166.0	0.2	1.0	-166.2	-10.3
05LOV081	40	37.91	119	46.28	3967	979819.4	-32.9	-168.2	0.1	0.7	-168.7	-13.0
05LOV082	40	35.93	119	43.96	3883	979821.5	-35.8	-168.2	0.0	0.3	-169.1	-14.5
05LOV083	40	35.56	119	43.83	3876	979821.6	-35.8	-168.0	0.0	0.3	-169.0	-14.5
05LOV084	40	35.16	119	43.72	3871	979821.3	-35.9	-167.9	0.0	0.2	-168.9	-14.7
05LOV085	40	34.84	119	43.83	3866	979821.9	-35.4	-167.2	0.0	0.2	-168.3	-14.1
05LOV086	40	34.43	119	43.54	3872	979821.8	-34.4	-166.4	0.0	0.2	-167.5	-13.5
05LOV087	40	34.64	119	42.67	3850	979822.2	-36.2	-167.5	0.0	0.2	-168.6	-14.6
05LOV088	40	35.09	119	42.70	3861	979821.7	-36.4	-168.1	0.0	0.2	-169.1	-15.0
05LOV089	40	35.76	119	42.75	3883	979822.3	-34.7	-167.1	0.0	0.3	-168.1	-13.7
05LOV090	40	17.34	119	48.16	3930	979811.7	-13.5	-147.5	0.1	0.7	-148.1	3.0
05LOV091	40	17.01	119	48.37	4073	979804.0	-7.3	-146.2	0.5	0.9	-146.6	4.4
05LOV092	40	19.03	119	48.20	3898	979806.3	-24.4	-157.4	0.0	0.4	-158.2	-7.1
05LOV093	40	18.97	119	48.73	3935	979809.5	-17.6	-151.9	0.2	0.7	-152.4	-1.3
05LOV094	40	19.14	119	49.33	4185	979798.2	-5.7	-148.4	1.1	1.4	-148.3	2.8
05LOV095	40	24.17	119	50.20	3933	979821.0	-14.0	-148.2	0.2	0.8	-148.7	3.2
05LOV096	40	24.02	119	50.95	4129	979814.5	-1.9	-142.7	0.5	1.0	-143.0	8.9
05LOV097	40	23.90	119	51.61	4274	979807.4	4.8	-141.0	0.2	0.9	-141.4	10.4
05LOV098	40	25.07	119	50.89	3958	979818.8	-15.3	-150.3	0.2	0.9	-150.6	1.4
05LOV099	40	25.63	119	51.03	3938	979816.9	-19.8	-154.1	0.1	0.9	-154.5	-2.4
05LOV100	40	25.64	119	51.74	4155	979811.1	-5.2	-147.0	0.8	1.6	-146.7	5.5
05LOV101	40	30.06	119	50.29	3935	979821.5	-22.2	-156.4	0.0	0.3	-157.3	-4.0
05LOV102	40	30.14	119	49.64	3931	979822.3	-21.9	-156.0	0.0	0.3	-156.9	-3.7
05LOV103	40	30.71	119	49.20	3944	979819.0	-24.7	-159.3	0.0	0.3	-160.2	-6.9
05LOV104	40	31.06	119	49.20	3939	979817.6	-27.2	-161.6	0.1	0.3	-162.5	-9.0
05LOV500	40	39.39	119	37.81	4001	979834.2	-17.1	-153.6	2.2	3.7	-151.2	4.0
05LOV501	40	37.29	119	38.84	4083	979830.2	-10.4	-149.6	0.6	1.0	-149.9	4.5
05LOV502	40	37.86	119	38.22	3971	979841.9	-10.0	-145.4	0.7	1.3	-145.4	9.2
05LOV503	40	37.74	119	38.57	4008	979835.9	-12.4	-149.1	0.9	1.5	-148.8	5.8
05LOV504	40	43.41	119	33.01	3902	979834.7	-31.9	-165.0	0.2	1.9	-164.3	-8.3
05LOV505	40	43.62	119	33.83	3980	979830.3	-29.4	-165.1	0.9	3.3	-163.1	-6.8

05LOV506	40	43.42	119	34.01	3954	979832.9	-28.8	-163.7	0.7	3.2	-161.7	-5.5
05LOV507	40	43.89	119	35.02	4783	979780.3	-4.2	-167.4	3.5	5.3	-163.5	-7.1
05LOV508	40	43.75	119	34.94	4572	979793.9	-10.3	-166.2	3.3	5.2	-162.3	-5.9
05LOV509	40	43.66	119	34.71	4304	979810.7	-18.6	-165.4	2.9	5.2	-161.5	-5.1
05LOV510	40	43.44	119	34.53	4088	979824.4	-24.8	-164.3	1.9	4.5	-161.0	-4.7
05LOV511	40	43.48	119	34.28	4002	979829.7	-27.7	-164.2	1.5	4.3	-161.2	-4.8
05LOV512	40	43.64	119	33.24	3867	979835.7	-34.6	-166.5	0.4	2.6	-165.1	-8.9
05LOV513	40	43.81	119	32.18	3874	979833.1	-36.8	-168.9	0.1	1.7	-168.4	-12.3
05LOV514	40	43.81	119	31.82	3897	979831.9	-35.8	-168.7	0.1	1.6	-168.4	-12.4
05LOV515	40	39.54	119	37.91	4185	979823.7	-10.5	-153.3	2.9	4.2	-150.4	4.8
05LOV516	40	39.40	119	37.96	4289	979817.8	-6.5	-152.8	2.4	3.5	-150.6	4.6
05LOV517	40	39.22	119	37.76	3940	979837.8	-19.0	-153.4	0.9	2.4	-152.3	2.8
05LOV518	40	38.89	119	38.09	3993	979835.7	-15.7	-151.9	0.6	1.9	-151.3	3.7
05LOV519	40	38.86	119	38.33	4118	979830.7	-8.9	-149.3	0.8	1.9	-148.8	6.2
05LOV520	40	38.86	119	38.58	4206	979823.4	-7.9	-151.3	0.9	1.9	-150.7	4.3
05LOV521	40	37.33	119	38.94	4152	979824.6	-9.4	-151.0	0.9	1.3	-151.0	3.4
05LOV522	40	36.97	119	42.91	3944	979823.3	-29.8	-164.4	0.1	0.6	-165.1	-10.2
05LOV523	40	37.31	119	43.13	3973	979822.4	-28.5	-164.0	0.1	0.6	-164.6	-9.6
05LOV524	40	37.60	119	42.84	4028	979819.9	-26.2	-163.6	0.2	0.7	-164.1	-9.1
05LOV525	40	37.94	119	42.54	4150	979814.2	-21.0	-162.5	0.2	0.9	-163.0	-7.8
05LOV526	40	38.37	119	42.24	4385	979805.7	-8.0	-157.6	0.2	0.9	-158.0	-2.7
05LOV527	40	38.82	119	41.80	4503	979801.4	-1.9	-155.5	0.3	1.2	-155.6	-0.3
05LOV528	40	39.10	119	41.52	4564	979798.8	0.9	-154.8	0.6	1.6	-154.6	0.8
05LOV529	40	21.67	119	49.38	3844	979814.9	-24.9	-156.0	0.2	0.8	-156.4	-5.0
05LOV530	40	21.72	119	48.84	3844	979811.3	-28.6	-159.6	0.0	0.5	-160.4	-9.0
05LOV531	40	21.72	119	48.30	3845	979810.6	-29.1	-160.3	0.0	0.3	-161.2	-9.8
05LOV532	40	21.72	119	47.74	3843	979807.9	-32.0	-163.0	0.0	0.2	-164.0	-12.7
05LOV533	40	21.72	119	47.16	3844	979804.2	-35.6	-166.7	0.0	0.2	-167.7	-16.4
05LOV534	40	21.72	119	46.55	3846	979802.7	-36.9	-168.1	0.0	0.2	-169.1	-17.8
05LOV535	40	21.29	119	46.56	3845	979802.6	-36.4	-167.6	0.0	0.2	-168.6	-17.4
05LOV536	40	20.86	119	46.56	3845	979802.0	-36.4	-167.5	0.0	0.2	-168.6	-17.4
05LOV537	40	20.86	119	47.13	3866	979803.0	-33.5	-165.3	0.0	0.2	-166.4	-15.1
05LOV538	40	20.85	119	47.73	3845	979806.2	-32.2	-163.3	0.0	0.3	-164.3	-13.0
05LOV539	40	20.86	119	48.26	3843	979808.1	-30.5	-161.6	0.0	0.3	-162.5	-11.2
05LOV540	40	20.86	119	48.84	3843	979813.2	-25.5	-156.5	0.1	0.5	-157.2	-5.9
05LOV541	40	20.20	119	48.06	3847	979805.3	-31.9	-163.2	0.0	0.3	-164.0	-12.8
05LOV542	40	20.20	119	47.48	3851	979803.3	-33.6	-164.9	0.0	0.2	-165.9	-14.8
05LOV543	40	20.19	119	46.89	3847	979802.1	-35.1	-166.3	0.0	0.2	-167.3	-16.2
05LOV544	40	20.20	119	48.06	3847	979805.1	-32.1	-163.4	0.0	0.3	-164.2	-13.0
05LOV545	40	17.04	119	43.99	3858	979804.2	-27.2	-158.8	0.0	0.3	-159.7	-8.8
05LOV546	40	17.47	119	43.97	3855	979805.1	-27.4	-158.9	0.0	0.3	-159.8	-8.9
05LOV547	40	17.91	119	43.97	3852	979807.0	-26.4	-157.8	0.0	0.3	-158.8	-7.8
05LOV548	40	18.34	119	43.96	3853	979808.7	-25.2	-156.7	0.0	0.3	-157.6	-6.6
05LOV549	40	18.78	119	43.96	3857	979809.9	-24.3	-155.9	0.0	0.3	-156.8	-5.8
GERL	40	39.09	119	21.17	3934	979815.4	-41.8	-176.0	0.0	0.5	-176.8	-23.6
GRAVEL	40	39.73	119	22.16	3978	979827.9	-26.1	-161.7	0.5	1.1	-161.9	-8.5
HERLONG	40	8.67	120	7.90	4094	979757.1	-39.8	-179.4	0.0	0.4	-180.3	-28.1
NVGASPIP	40	23.16	119	49.71	3902	979816.1	-20.4	-153.4	0.3	1.4	-153.3	-1.6
SOSCD	40	12.61	119	49.28	4031	979796.0	-12.7	-150.2	0.0	0.5	-150.9	0.3