Los Alamos
NATIONAL LABORATORY
EST. 1943

Associate Directorate for Environmental Management
P.O. Box 1663, MS M992
Los Alamos, New Mexico 87545
(505) 606-2337

Environmental Management
1900 Diamond Drive, MS M984
Los Alamos, New Mexico 87544
(505) 665-5658/FAX (505) 606-2132

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John Kieling, Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

Subject: Completion Report for Groundwater Extraction Well CrEX-3

Dear Mr. Kieling:

Enclosed please find two hard copies with electronic files of the Completion Report for Groundwater Extraction Well CrEX-3 in accordance with the guidance in Appendix F, Section II, of the June 2016 Compliance Order on Consent Order.

If you have any questions, please contact Stephani Swickley at (505) 606-1628 (sfuller@lanl.gov) or Cheryl Rodriguez at (505) 665-5330 (cheryl.rodriguez@em.doe.gov).

Sincerely,

Bruce Robinson, Program Director
Environmental Remediation Program
Los Alamos National Laboratory

Sincerely,

David S. Rhodes, Director
Office of Quality and Regulatory Compliance
Environmental Management
Los Alamos Field Office

37685

BR/DR/SS:sm

Enclosures: Two hard copies with electronic files – Completion Report for Groundwater Extraction Well CrEX-3 (EP2016-0077)

Cy: (w/enc.)
Cheryl Rodriguez, DOE-EM-LA
Stephani Swickley, ADEM ER Program

Cy: (w/electronic enc.)
Laurie King, EPA Region 6, Dallas, TX
Raymond Martinez, San Ildefonso Pueblo
Dino Chavarria, Santa Clara Pueblo
Steve Yanicak, NMED-DOE-OB, MS M894
emla.docs@em.doe.gov
Steve White, ADEP ER Program
Ted Ball, ADEP ER Program
Danny Katzman, ADEP ER Program
Public Reading Room (EPRR)
ADESH Records
PRS Database

Cy: (w/o enc./date-stamped letter emailed)
lasomailbox@nnsa.doe.gov
Peter Maggiore, DOE-NA-LA
Kimberly Davis Lebak, DOE-NA-LA
David Rhodes, DOE-EM-LA
Bruce Robinson, ADEM ER Program
Randy Erickson, ADEM
Jocelyn Buckley, ADESH-EPC-CP
Mike Saladen, ADESH-EPC-CP
John Bretzke, ADESH-EPC-DO
Michael Brandt, ADESH
William Mairson, PADOPS
Craig Leasure, PADOPS

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Completion Report for Groundwater Extraction Well CrEX-3

Los Alamos
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Prepared by the Associate Directorate for Environmental Management

Los Alamos National Laboratory, operated by Los Alamos National Security, LLC, for the U.S. Department of Energy (DOE) under Contract No. DE-AC52-06NA253 and under DOE Office of Environmental Management Contract No. DE-EM0003528, has prepared this document pursuant to the Compliance Order on Consent, signed June 24, 2016. The Compliance Order on Consent contains requirements for the investigation and cleanup, including corrective action, of contamination at Los Alamos National Laboratory.
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EP2016-0077

Completion Report for Groundwater Extraction Well CrEX-3

September 2016

Responsible project manager:

Printed Name	Signature	Title	Organization	Date
Stephani Swickley		Project Manager	Environmental Remediation Program	8/24/16

Responsible LANS representative:

Printed Name	Signature	Title	Organization	Date
Randall Erickson		Associate Director	Associate Directorate for Environmental Management	8/29/16

Responsible DOE-EM-LA representative:

Printed Name	Signature	Title	Organization	Date
David S. Rhodes		Office Director	Quality and Regulatory Compliance	9-6-2016

EXECUTIVE SUMMARY

This well completion report describes the drilling, well construction, development, aquifer testing, and dedicated pumping system installation for groundwater extraction well CrEX-3, located within Los Alamos National Laboratory (LANL or the Laboratory), New Mexico. The CrEX-3 extraction well is intended to remove hexavalent chromium–contaminated groundwater from within the regional aquifer in Mortandad Canyon at the Laboratory. The well was drilled and constructed in accordance with the New Mexico Environment Department's (NMED's) approval of the "Drilling Work Plan for Groundwater Extraction Well CrEX-3."

The CrEX-3 borehole was drilled using dual-rotary air-drilling methods to a total depth of 1004.5 ft below ground surface (bgs). Fluid additives used included potable water and foam. Foam-assisted drilling was used to total depth.

The following geologic formations were encountered at CrEX-3: Quaternary alluvium, Otowi Member of the Bandelier Tuff, Guaje Pumice Bed of the Otowi Member, the Cerros del Rio volcanics, the Puye Formation, and Miocene Pumiceous Sediments.

Well CrEX-3 was completed as a single-screen well within the regional aquifer. The screened interval is set between 909.6 and 948.8 ft bgs within Puye Formation sediments. The static depth to water after well installation was measured at 898.5 ft bgs.

The well was completed in accordance with an NMED-approved well design. The well was developed and the regional aquifer groundwater met target water-quality parameters. Aquifer testing indicates regional groundwater extraction well CrEX-3 will perform effectively in meeting the planned objectives. A pumping system and transducer were installed in the screened interval.

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Acronyms and Abbreviations

amsl	above mean sea level
ASTM	American Society for Testing and Materials
bgs	below ground surface
btoc	below top of casing
Consent Order	Compliance Order on Consent
DTW	depth to water
EES	Earth and Environmental Sciences (Laboratory group)
EM	Environmental Management
ENV-CP	Environmental Protection Division–Environmental Compliance Programs
ESH	Environment, Safety, and Health (Laboratory directorate)
gpm	gallons per minute
hp	horsepower
I.D.	inside diameter
LANL	Los Alamos National Laboratory
NAD	North American Datum
NC	not collected
NMED	New Mexico Environment Department
NTU	nephelometric turbidity unit

O.D.	outside diameter
PVC	polyvinyl chloride
TA	technical area
TD	total depth
WCSF	waste characterization strategy form

1.0 INTRODUCTION

This completion report summarizes borehole drilling, well construction, well development, aquifer testing, and dedicated pumping system installation for groundwater extraction well CrEX-3. The report is prepared in accordance with the guidance in Appendix F, Section II, of the June 2016 Compliance Order on Consent (the Consent Order). The CrEX-3 groundwater extraction borehole was drilled between February 17 and March 19, 2016, and was completed between April 3 and April 11, 2016, at Los Alamos National Laboratory (LANL or the Laboratory) for the Environmental Management (EM) Directorate.

Well CrEX-3 is located in Mortandad Canyon (Figure 1.0-1), just east of the centroid of the hexavalent chromium contamination in the groundwater beneath the canyon. The objective of the extraction well is to remove chromium-contaminated groundwater at the top of the regional aquifer for treatment.

The CrEX-3 borehole was drilled to a total depth (TD) of 1004.5 ft below ground surface (bgs). During drilling, cuttings samples were collected at 10-ft intervals from ground surface to TD. An extraction well was installed with a screened interval between 909.6 ft and 948.8 ft bgs within Puye Formation volcaniclastic sediments. The depth to water (DTW) of 898.5 ft bgs was recorded on April 19, 2016, after well installation.

Post-installation activities included well development, aquifer testing, surface completion, geodetic surveying, and pumping system installation. Future activities will include site restoration and waste management.

The information presented in this report was compiled from field reports and daily activity summaries. Records, including field reports, field logs, and survey information are on file at the EM Records Processing Facility. This report contains brief descriptions of activities and supporting figures, tables, and appendixes associated with the CrEX-3 project.

2.0 ADMINISTRATIVE PLANNING

The following documents were prepared to guide activities associated with the drilling, installation, and development of extraction well CrEX-3:

- “Drilling Work Plan for Groundwater Extraction Well CrEX-3” (LANL 2015, 601001);
- “Storm Water Pollution Prevention Plan CrEX-3 Well Pad and Construction Support Activities” (LANL 2015, 601729);
- “[Integrated Work Document for] Implementation of the Drilling Work Plan for Groundwater Extraction Well CrEX-1” (Yellow Jacket Drilling 2014, 600131);
- “Spill Prevention Control and Countermeasures Plan for the ADEP Groundwater Monitoring Well Drilling Operations, Los Alamos National Laboratory, Revision 6” (North Wind Inc. 2011, 213292); and
- “Waste Characterization Strategy Form for Chromium Well CrEX-1” (LANL 2014, 254859).

3.0 DRILLING ACTIVITIES

This section describes the drilling approach and provides a chronological summary of field activities conducted at extraction well CrEX-3.

3.1 Drilling Approach

The drilling method, equipment, and drill-casing were selected to drill CrEX-3 to the required depth. Further, the drilling approach ensured that a sufficiently sized drill casing was used to meet the required 3-in.-minimum annular thickness of the filter pack around an 8.62-in.–outside-diameter (-O.D.) well screen.

Dual-rotary drilling methods using a Foremost DR-24HD drill rig were employed to drill the CrEX-3 borehole. The drill rig was equipped with dual-tube reverse-circulation drilling rods, tricone bits, downhole hammer bits, deck-mounted air compressor, auxiliary compressors, and general drilling equipment. Three sizes of A53 grade B flush-welded mild carbon-steel casing (20-in.-O.D., 18-in.-O.D., 14-in. and 10-in.–inside-diameter [I.D.]) were used for drilling CrEX-3.

The dual-rotary drilling technique at CrEX-3 used filtered compressed air and fluid-assisted air to evacuate cuttings from the borehole during drilling. Drilling fluids, other than air, used in the borehole included potable water and a mixture of potable water with Baroid Quik Foam foaming agent. The fluids were used to cool the bit and help lift cuttings from the borehole. Foaming agents were used during the entire drilling effort to assist in lifting cuttings to the surface.

3.2 Chronological Drilling Activities for the CrEX-3 Well

The Foremost DR-24HD drill rig, drilling equipment, and supplies were mobilized to the CrEX-3 drill site from February 11 to 17, 2016. The equipment and tooling were decontaminated before mobilization to the site. On February 17, at 0630, following on-site equipment inspections, drilling of the extraction well borehole began when the boring was begun for the 24.0-in. surface conductor casing. At 60.0 ft bgs, the 24.0-in. casing was removed and 60.0 ft of 20.0-in. surface conductor casing was set and cemented in place.

From February 19 to 21, the 18.0-in. casing was advanced from 60.0 ft to 328.5 ft bgs, at the top of the Cerros del Rio basalt. From February 24 to March 1, the borehole was drilled open-hole through the basalt using a 17¼-in. hammer bit. Drilling continued open hole through the Cerros del Rio basalt to 695 ft bgs.

Beginning on March 4, a 15.0-in. borehole was advanced to 810.0 ft bgs. The 14.0-in. casing began to bind in the borehole and became stuck at 748.0 ft bgs. While trying to free the casing, it parted at 182.0 ft bgs. The New Mexico Office of the State Engineer gave approval to leave the 14-in. casing in place from 182.0 ft to 748.0 ft bgs and to continue drilling to TD.

Beginning on March 13, the 15.0-in. borehole was advanced with 10.0-in. casing and a 15.0-in. underreaming bit from 810.0 ft bgs, and TD was reached at 1004.5 ft bgs on March 19.

4.0 SAMPLING ACTIVITIES

This section describes the cuttings and groundwater sampling activities for extraction well CrEX-3. No groundwater samples were collected during drilling. All sampling activities were conducted in accordance with applicable quality procedures.

4.1 Cuttings Sampling

Cuttings samples were collected from the CrEX-3 extraction well borehole at 10.0-ft intervals from ground surface to the TD of 1004.5 ft bgs. At each interval, the drillers collected approximately 500 mL of bulk cuttings from the discharge cyclone, placed them in canvas or plastic bags, labeled them, and stored them on-site. Radiological control technicians screened the cuttings before they were removed from the site. All screening measurements were within the range of background values. The cuttings samples were delivered to the Laboratory's archive facility at the conclusion of drilling activities.

Section 5.1 of this report summarizes the stratigraphy encountered at well CrEX-3.

5.0 GEOLOGY AND HYDROGEOLOGY

A brief description of the geologic and hydrogeologic features encountered at CrEX-3 is presented below. The Laboratory's geology task leader and geologists examined the cuttings to determine the geologic contacts and hydrogeologic conditions. Drilling observations, video logging, geophysics, and water-level measurements were used to characterize groundwater occurrences.

5.1 Stratigraphy

Rock units for the CrEX-3 borehole are presented below in order of youngest to oldest in stratigraphic occurrence. Lithologic descriptions are based on binocular microscope analysis of drill cuttings collected from the discharge hose. Figure 5.1-1 illustrates the stratigraphy at CrEX-3.

Alluvium, Qal (0–90 ft bgs)

The poorly consolidated and moderately sorted alluvium consists of abundant minerals and minor rock fragments mixed with fine-grained matrix and coated with light grayish brown silt and clay. The bulk of the weathered sediments consist of abundant quartz and feldspar grains and minor amounts of dark minerals. Minor amounts of dacite, pumice, and altered tuff fragments were also noted. The sediments become lighter in color with depth and are dominated by quartz sand with minor feldspars and rock fragments. Partially rusted iron filings form orange aggregates of minerals throughout this section.

Otowi Member of the Bandelier Tuff, Qbo (90–300 ft bgs)

Poorly sorted, unconsolidated, and light brownish-gray pumice-rich sandy gravel mixed with dacite fragments forms the uppermost ash-flow tuff. The pumice clasts are partially rounded and lightly coated with silt of pulverized glass. In some cases, the amount of dacite is greater than the pumice fraction. Most of the pumice clasts are grayish except for few wood chip–like rusty fragments noted in the middle part of the ash-flow tuff sequence. Quartz and feldspar minerals represent a significant fraction of the ash-flow tuff. In the lowermost part of the ash-flow tuff deposit, the pumice clasts are light gray and are more abundant than the dark gray dacite fragments and the crystal-rich and glassy matrix.

Guaje Pumice Bed of the Otowi Member of the Bandelier Tuff, Qbog (300–310 ft bgs)

The unit consists of white pumice mixed with significant amounts of quartz and feldspar grains and subordinate amount of dacite fragments. The pumice clasts are poorly sorted, subangular to subrounded, and dense compared with the pumices from the overlying ash-low tuff. At least two types of light to

medium and pinkish-gray dacite fragments are commonly present with the white pumice of the Guaje Pumice Bed.

Cerros del Rio Volcanics, Tb4 (310–680 ft bgs)

The upper Puye Formation sediment horizon commonly present within the transition zone between the Guaje Pumice Bed of the Bandelier Tuff and the Cerros del Rio basaltic sequence is absent. Instead, a mixture of partially weathered basalt, white pumice, and a few sandstone fragments was encountered. The typical clay-rich alluvial or fluvial deposit is absent. The Cerros del Rio volcanic sequence consists of several lava flows. The uppermost flow is slightly weathered (oxidized) vesicular basalt that transitions to dark gray microcrystalline and porphyritic flow that contains coarse and fractured olivine, pyroxene, and plagioclase. Vesicle walls are coated with vapor-phase minerals, and white amygdules were also noted in some of the lava fragments. The next flow is medium gray, fine grained, and consists of sparsely vesicular and platy fragments. A partially altered grayish-brown and sparsely vesicular lava with phenocrysts of plagioclase and pyroxene caps a reddish to reddish-brown scoria bed that was intersected in the middle section of the volcanic sequence. The scoria fragments are oxidized and contain plagioclase and pyroxene minerals. More of the grayish-brown lava underlies the scoria bed. It is the thickest flow and it is underlain by another scoria bed. A few rounded fragments of light pinkish-gray silty clay occur with the scoria fragments, and some vesicles are filled with it. Medium brown, sparsely vesicular lava underlies the scoria bed. The flow is fine-grained, sparsely vesicular with phenocrysts of olivine, plagioclase, and pyroxene minerals and forms the basal flow. More silty clay fragments were also noted within the lava fragments.

Puye Formation, Tpf (680–965 ft bgs)

Several types of poorly sorted and clast-supported light to medium-gray dacite fragments mixed with minor basalt clasts define the transition zone from the Cerros del Rio volcanic sequence to the Puye Formation sediments. In most cases, the dacite fragments are lightly coated with silt from pulverized sandstone clasts present as minor fraction within the Puye Formation. Moreover, scoria-like orange glassy fragments were noted in the uppermost part of the deposit. These fragments were noted in the 710 to 720–ft interval. In the deeper section of the Puye Formation, the cuttings contain minor fraction of fine-grained minerals and silt matrix that partially form aggregates of rusty clumps of iron filings. Minor white pumice fragments mixed with sandstone clasts in a sandy matrix occur in the lowermost part of the Puye Formation. The matrix contains rusty aggregates of silt and clay.

Miocene Pumiceous Sediments, Tjfp (965–1004.5 ft bgs)

Reworked, poorly sorted, and subrounded white pumice fragments form the bulk of the Miocene pumiceous deposit. Minor coarse dacite fragments and light brownish-gray silty sand represent a minor fraction of the deposit.

5.2 Groundwater

Drilling at CrEX-3 proceeded without any groundwater indications until 901.0 ft bgs as noted by the drilling crew. The borehole was then advanced to the TD of 1004.5 ft bgs. The water level was 901.0 ft bgs on March 19, 2016, before well installation. The DTW in the completed well was 898.4 ft bgs on April 19.

6.0 BOREHOLE LOGGING

Between March 2 and March 3, 2016, a 14.0-in. casing string was installed to a depth of 330.0 ft bgs and then laboratory video and gamma logs were run (Table 6.0-1). Video was run from the surface to 670.0 ft bgs. A gamma log was conducted from 696.0 ft bgs to the surface.

On March 8, a video survey was recorded in the cased borehole from ground surface to 740.0 ft bgs to observe the break in the 14.0-in. casing at about 183.0 ft bgs and the condition of the casing to TD.

On March 19, a gamma log was run from TD of 1004.5 ft to ground surface to aid in designing the well.

On May 8, a video and gamma log were run to document the condition of the completed well. The camera failed at 916.0 ft bgs so only the top of the screened interval is visible. This video will be rerun at the next opportunity—when the pump is removed from the well. Logging was conducted with Laboratory logging equipment and staff (Appendixes C and D).

7.0 WELL INSTALLATION CrEX-3 EXTRACTION WELL

The CrEX-3 well was installed between March 22 and April 11, 2016.

7.1 Well Design

The CrEX-3 well was designed in accordance with the objectives outlined in the “Drilling Work Plan for Groundwater Extraction Well CrEX-3” (LANL 2015, 601001). The drill cuttings and driller’s logs as well as the results of the downhole geophysics and DTW were reviewed. The objectives in setting the screen were to

- obtain key information regarding chromium mass removal, including the orientation and size of the capture zone established from an extended period of pumping to support assessments of mass removal;
- explore the operational extraction approach that achieves the greatest rate of chromium mass removal;
- optimize the removal of only chromium-contaminated water; and
- avoid drawing chromium contamination downwards within the aquifer.

A secondary objective of keeping the well screen entirely within the Puye Formation was developed based on analytical results from recently installed core holes in the vicinity as drilling was completed. The contact between the Puye Formation and the underlying Miocene Pumiceous unit was logged at 965.0 ft bgs.

Extraction well CrEX-3 was designed with a screened interval between 910.0 ft and 950.0 ft bgs to test mass-removal strategies that involve characterization of the hydraulic and contaminant response to pumping, particularly in the centroid, and to remove chromium-contaminated groundwater near the top of the regional aquifer within the Puye Formation. The well design was submitted to NMED on March 21, 2016, and approved later that day. The final CrEX-3 design and NMED’s approval are included in Appendix A.

7.2 Well Construction

From March 20 to 22, 2016, the stainless-steel well casing, screens, and tremie pipe were decontaminated, and well construction materials were mobilized to the site.

The CrEX-3 extraction well was constructed of 8.0-in.-I.D./8.63-in.-O.D. type A304 passivated stainless-steel beveled casing fabricated to American Society for Testing and Materials (ASTM) A312 standards. The screened section utilized two 10.0-ft lengths and one 20.0-ft length of 8.0-in.-I.D. 0.040-in. slot, rod-based wire-wrapped screens to make up the 40.0-ft-long screen interval. Stainless-steel centralizers (two sets of four) were welded to the well casing approximately 2.0 ft above and below the screened interval. All individual casing and screen sections were welded together using compatible stainless-steel welding rods. A 2.0-in. steel tremie pipe was used to deliver backfill and annular fill materials downhole during well construction. A 10.0-ft-long stainless-steel sump was placed below the bottom of the well screen.

The well casing was welded together and installed into the borehole from March 23 to 24.

On March 25 as the 10.0-in. drill casing was being extracted from the borehole, the drill crew lost control of the 10.0-in. casing and it fell 90.0 ft back into the borehole. With no way to get ahold of the 10.0-in. casing with the 8.0-in. well steel in the borehole, the 8.0-in. well had to be removed, plasma cut into 20.0-ft sections, and taken off-site to be rebeveled. From March 28 to 30, the 8.0-in. well was removed from the borehole.

On April 1, the 10.0-in. drill casing was removed from the borehole. From April 3 to 5, the 8.0-in. stainless-steel casing and screens were reinstalled in the open borehole. Backfilling began on April 6 and was completed on April 11.

Figure 7.2-1 presents an as-built schematic showing construction details for the completed well. Table 7.2-1 presents the annular fill materials used in CrEX-3.

The lower bentonite backfill was installed between April 6 and 7 from 975.0 ft to 956.3 ft bgs using 20.1 ft^3 of ¼-in. coated bentonite pellets. The filter pack was installed between April 7 and 8 from 956.3 ft to 901.5 ft bgs using 53.5 ft^3 of 10/20 silica sand. The filter pack was surged to promote compaction. The fine sand collar was installed above the filter pack from 901.5 ft to 899.5 ft bgs using 3.0 ft^3 of 20/40 silica sand. From April 8 to 10, the bentonite seal was installed from 899.5 ft to 59.5 ft bgs using 767.2 ft^3 of 3/8-in. bentonite chips. On April 11, a cement seal was installed from 59.5 ft to 8.0 ft bgs. The cement seal used 86.7 ft^3 of Portland Type I/II/V cement.

8.0 POST-INSTALLATION ACTIVITIES

Following well installation at CrEX-3, the well was developed and aquifer pumping tests were conducted. A temporary pumping system was installed. The wellhead surface completion will be constructed as part of the treatment system piping and infrastructure project in fall 2016. A geodetic survey will be performed once the surface completion vault and piping are installed. Site-restoration activities will be completed following the final disposition of contained drill cuttings and groundwater, per the NMED-approved land application decision trees.

8.1 Well Development

The well was developed between April 19 and May 2, 2016. Initially, the screened interval was swabbed and bailed from April 19 to 26 to remove formation fines in the filter pack and well sump. Bailing continued

until water clarity visibly improved. From April 27 to May 2, final well development was then performed with a submersible pump.

The swabbing tool employed was a 7.5-in.-O.D., 1-in.-thick nylon disc attached to a weighted steel rod. The wireline-conveyed tool was drawn repeatedly across the screened interval, causing a surging action across the screen and filter pack.

The first bailing tool employed was a 6.0-in.-O.D. by 20.0-ft-long carbon steel, bottom-filling, bailer with an approximate volume of 30 gal. The tool was repeatedly lowered by wireline, filled, withdrawn from the well, and emptied into the cuttings pit. After 1 d of bailing, it was determined that 5.3 ft of material remained in the sump. Bailing switched to a 4-in. by 20-ft-long carbon steel sand bailer and was bailed on April 26 until the sump was cleaned out. Approximately 3200 gal. of groundwater was removed during bailing activities.

After bailing, a 30-horsepower (hp), 6-in. Franklin submersible pump was installed in the well for the final stage of well development. The screened interval was pumped from top to bottom and from bottom to top in 2-ft increments each day and night from April 27 to May 2. Approximately 68,205 gal. of groundwater was purged with the submersible pump during well development.

8.1.1 Well Development Field Parameters

The field parameters of turbidity, temperature, and pH were monitored via a flow-through cell at CrEX-3 during well development. The field parameter measurements toward the end of development on May 3, 2016, were pH of 8.01, temperature of 17.39°C, and turbidity of 2.52 nephelometric turbidity units (NTU). Field water-quality parameters are presented in Table 8.1-1.

8.2 Aquifer Testing

Step testing was conducted on May 3, 2016. The well was pumped in four steps at 25.6 gallons per minute (gpm), 38.1 gpm, 51.3 gpm, and 64.0 gpm in 1-h increments. A total of 11,700 gal. of water was removed during the step testing. A 24-h aquifer test was conducted between May 4 and 5, followed by a 24-h recovery period. The average pumping rate for the 24-h test was approximately 51.1 gpm. A 30-hp pump was used for the aquifer tests. A total of approximately 74,985 gal. of groundwater was purged during aquifer testing. Turbidity, temperature, and pH were measured during the aquifer tests. The CrEX-3 aquifer test results and analysis are presented in Appendix D.

8.3 Pumping System Installation

A dedicated pumping system for CrEX-3 was installed on May 8, 2016. The system uses a 6-in. Franklin Electric submersible pump and 30-hp motor. The pump control panel includes a variable-frequency drive that will allow for flow control via motor speed manipulation. The pump riser pipe consists of 3.0-in. threaded and coupled American Petroleum Institute 5L galvanized steel. Two 1.0-in.-I.D. schedule 80 polyvinyl chloride (PVC) tubes are installed along with, and banded to, the pump column. A dedicated In-Situ Level Troll 500 transducer is installed in one of the tubes, and the second tube will be used for manual water-level measurements. Both PVC tubes are equipped with a 0.5-ft section of 0.010-in. slotted screen and a closed bottom.

Pumping system details for CrEX-3 are presented in Figure 8.3-1a. Figure 8.3-1b presents technical notes for the well.

8.4 Wellhead Completion

A reinforced concrete subsurface vault will be installed at the CrEX-3 wellhead in fall 2016. The vault will be slightly elevated above ground surface and will provide long-term structural integrity for the well. A brass monument marker will be embedded in the vault. Six steel bollards, covered by high-visibility plastic sleeves, will be set at the outside edges of the pad to protect the well from accidental vehicle damage. They are designed for easy removal to allow access to the well. Figure 8.3-1a shows details of the current wellhead completion.

8.5 Geodetic Survey

A provisional survey of the top of the stainless-steel well was performed on June 9, 2016. The temporary survey data will be used for water-level monitoring until the surface completion is constructed and the final survey is performed. Current survey data for CrEX-3 are presented on Table 8.5-1.

A licensed professional land surveyor will conduct a geodetic survey once the wellhead is completed. The survey data will conform to Laboratory Information Architecture project standards IA-CB02, “GIS Horizontal Spatial Reference System,” and IA-D802, “Geospatial Positioning Accuracy Standard for A/E/C and Facility Management.” All coordinates will be expressed relative to New Mexico State Plane Coordinate System Central Zone 83 (North American Datum [NAD] 83); elevation will be expressed in feet above mean sea level (amsl) using the National Geodetic Vertical Datum of 1929. Survey points will include ground-surface elevation near the concrete pad, the top of the monument marker in the concrete pad, the top of the well casing, and the top of the protective casing.

8.6 Waste Management and Site Restoration

Waste generated from the CrEX-3 project includes drilling fluids, drill cuttings, and contact waste. A summary of the waste characterization samples collected during drilling, construction, and development of the CrEX-3 well is presented in Table 8.6-1. All waste streams produced during drilling and development activities were sampled in accordance with the “Waste Characterization Strategy Form for Chromium Well CrEX-1” (LANL 2014, 254859). Development water was land-applied under a temporary permission to discharge (NMED 2014, 600128).

Fluids produced during drilling and containerized in the pit will be evaporated on-site. Evaporation activities began in June 2016.

Analytical results for fluids produced during well development and pump testing will be reviewed with the goal of land application. Data will be reviewed manually and within the automated waste determination program per the waste characterization strategy form and ENV-RCRA-QP-010, Land Application of Groundwater. If it is determined that drilling fluids are nonhazardous but cannot meet the criteria for land application, the drilling fluids will be reevaluated for treatment and disposal at one of the Laboratory’s wastewater treatment facilities or other authorized disposal facility. If analytical data indicate the drilling fluids are hazardous/nonradioactive or mixed low-level waste, the drilling fluids will be to an off-site treatment, storage, and disposal facility.

Cuttings produced during drilling were sampled, and analytical results will be reviewed with the goal of land application. Once the fluids are evaporated or removed from the pit, a composite volatile organic analyte sample of the cuttings will be collected and evaluated against land-application criteria (ENV-RCRA-QP-011, Land Application of Drill Cuttings). If cuttings meet land-application criteria, materials will be spread across the pad area, and the site will be reseeded as required for site reclamation.

Characterization of contact waste will be based upon acceptable knowledge, referencing the analyses of the waste samples collected from the drilling fluids, drill cuttings, and decontamination fluids. A waste profile form will be completed, and the contact wastes will be removed from the site following land application of the pit-contained drill cuttings. The pit liner will be included in the contact waste disposal materials.

Site restoration activities are conducted by Maintenance and Site Services personnel at the Laboratory. Activities include evaporating drilling fluids, removing cuttings from the pit, and managing the development/pump test fluids in accordance with applicable procedures. The polyethylene liner will be removed following land application of the cuttings, and the containment area berms will be removed and leveled. Activities also include backfilling and regrading the containment area, as appropriate.

9.0 DEVIATIONS FROM PLANNED ACTIVITIES

Drilling and well construction at CrEX-3 were performed as specified in “Drilling Work Plan for Groundwater Monitoring Well CrEX-3” (LANL 2014, 254824). One significant deviation from the plan occurred. The broken string of 14.0-in. casing left in the borehole between 182.0 ft and 748.0 ft bgs. The bottom of the broken casing is approximately 150.0 ft above the top of the regional aquifer. Because no perched-intermediate water was encountered at this location and the casing is set in the bentonite backfill, it will not act as a conduit and will not compromise the well in any way.

10.0 ACKNOWLEDGMENTS

Yellow Jacket Drilling drilled and installed extraction well CrEX-3.

11.0 REFERENCES AND MAP DATA SOURCES

11.1 References

The following list includes all documents cited in this report. Parenthetical information following each reference provides the author(s), publication date, and ER ID or ESH ID. This information is also included in text citations. ER IDs were assigned by the Environmental Programs Directorate’s Records Processing Facility (IDs through 599999), and ESH IDs are assigned by the Environment, Safety, and Health (ESH) Directorate (IDs 600000 and above). IDs are used to locate documents in the Laboratory’s Electronic Document Management System and, where applicable, in the master reference set.

Copies of the master reference set are maintained at the NMED Hazardous Waste Bureau and the ESH Directorate. The set was developed to ensure that the administrative authority has all material needed to review this document, and it is updated with every document submitted to the administrative authority. Documents previously submitted to the administrative authority are not included.

LANL (Los Alamos National Laboratory), February 28, 2014. “Waste Characterization Strategy Form for Chromium Well CrEx-1,” Los Alamos National Laboratory, Los Alamos, New Mexico. (LANL 2014, 254859)

LANL (Los Alamos National Laboratory), March 2014. “Drilling Work Plan for Groundwater Extraction Well CrEX-1,” Los Alamos National Laboratory document LA-UR-14-21478, Los Alamos, New Mexico. (LANL 2014, 254824)

LANL (Los Alamos National Laboratory), November 2015. "Drilling Work Plan for Groundwater Extraction Well CrEX-3," Los Alamos National Laboratory document LA-UR-15-28592, Los Alamos, New Mexico. (LANL 2015, 601001)

LANL (Los Alamos National Laboratory), December 16, 2015. "Storm Water Pollution Prevention Plan, CrEX-3 Well Pad and Construction Support Activities, Los Alamos National Laboratory," Los Alamos National Laboratory, Los Alamos, New Mexico. (LANL 2015, 601729)

NMED (New Mexico Environment Department), August 8, 2014. "Temporary Permission to Discharge, Treated Ground Water from Aquifer Testing at Pilot Pumping Well CrEX-1 (AI: 856, PRD20140007)," New Mexico Environment Department letter to A. Dorries (LANL) and G. Turner (DOE) from J. Schoeppner (NMED-GWQB), Santa Fe, New Mexico. (NMED 2014, 600128)

North Wind Inc., July 2011. "Spill Prevention Control and Countermeasures Plan for the ADEP Groundwater Monitoring Well Drilling Operations, Los Alamos National Laboratory, Revision 6," plan prepared for Los Alamos National Laboratory, Los Alamos, New Mexico. (North Wind, Inc., 2011, 213292)

Yellow Jacket Drilling, June 27, 2014. "Integrated Work Document for Drilling and Installation of LANL Well [CrEX-1]," Los Alamos, New Mexico. (Yellow Jacket Drilling 2014, 600131)

11.2 Map Data Sources

Point Feature Locations of the Environmental Restoration Project Database; Los Alamos National Laboratory, Waste and Environmental Services Division, EP2008-0109; 12 April 2010.

Hypsography, 100 and 20 Foot Contour Interval; Los Alamos National Laboratory, ENV Environmental Remediation and Surveillance Program; 1991.

Surface Drainages, 1991; Los Alamos National Laboratory, ENV Environmental Remediation and Surveillance Program, ER2002-0591; 1:24,000 Scale Data; Unknown publication date.

Paved Road Arcs; Los Alamos National Laboratory, KSL Site Support Services, Planning, Locating and Mapping Section; 06 January 2004; as published 28 May 2009.

Dirt Road Arcs; Los Alamos National Laboratory, KSL Site Support Services, Planning, Locating and Mapping Section; 06 January 2004; as published 28 May 2009.

Structures; Los Alamos National Laboratory, KSL Site Support Services, Planning, Locating and Mapping Section; 06 January 2004; as published 28 May 2009.

Technical Area Boundaries; Los Alamos National Laboratory, Site Planning & Project Initiation Group, Infrastructure Planning Division; 4 December 2009.

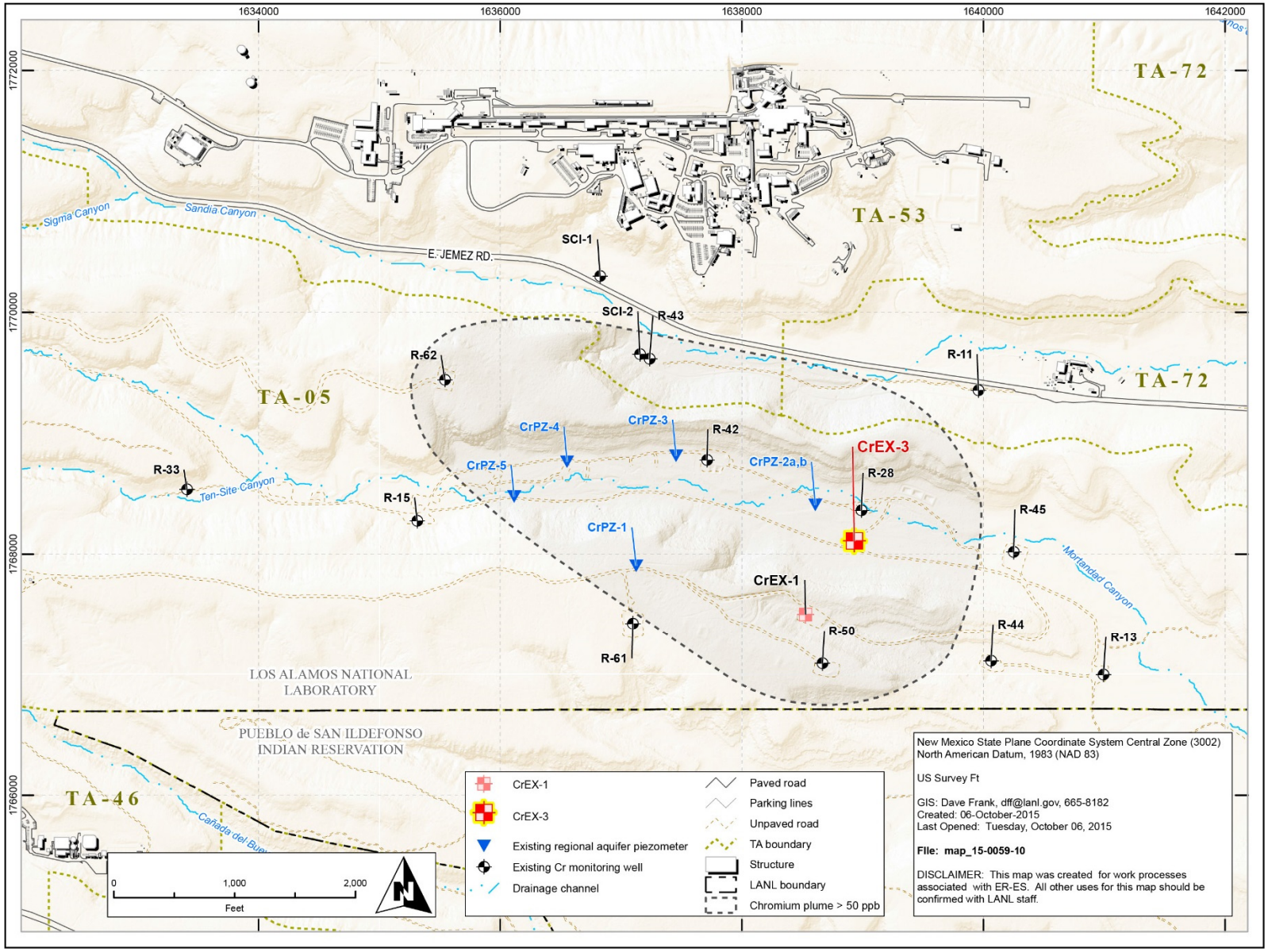


Figure 1.0-1 Location of extraction well CrEX-3

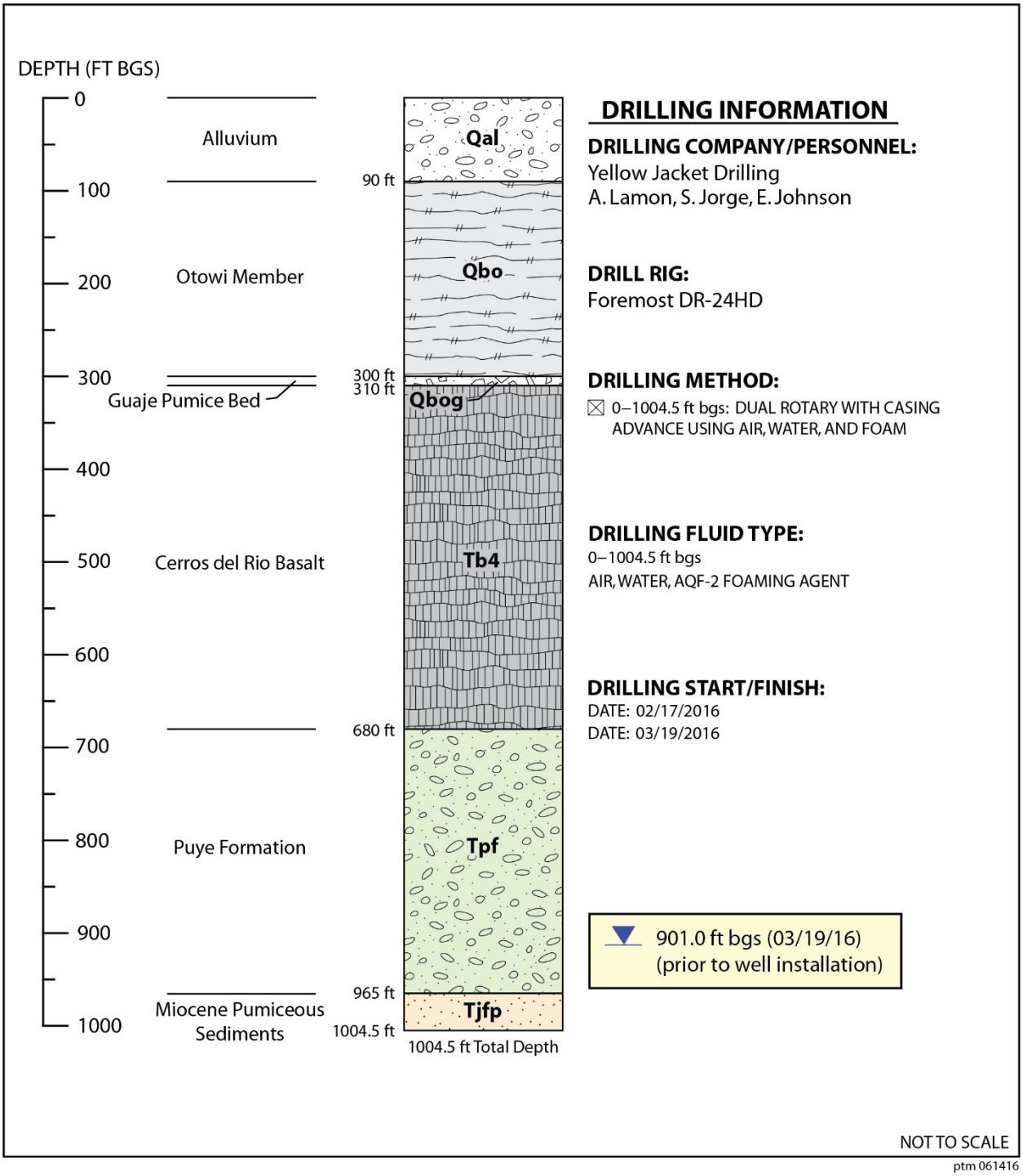


Figure 5.1-1 Extraction well CrEX-3 borehole stratigraphy

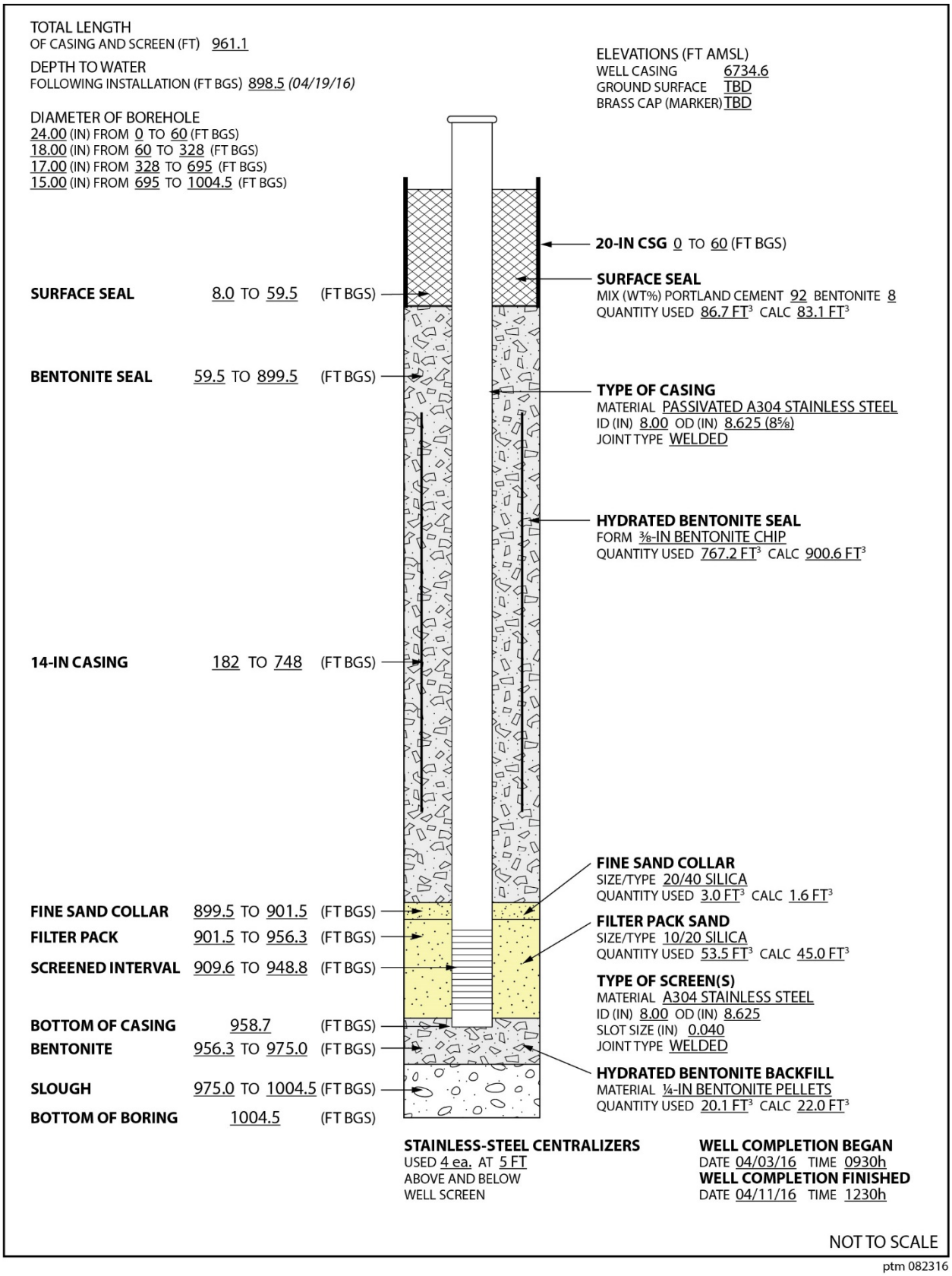


Figure 7.2-1 Extraction well CrEX-3 as-built well construction diagram

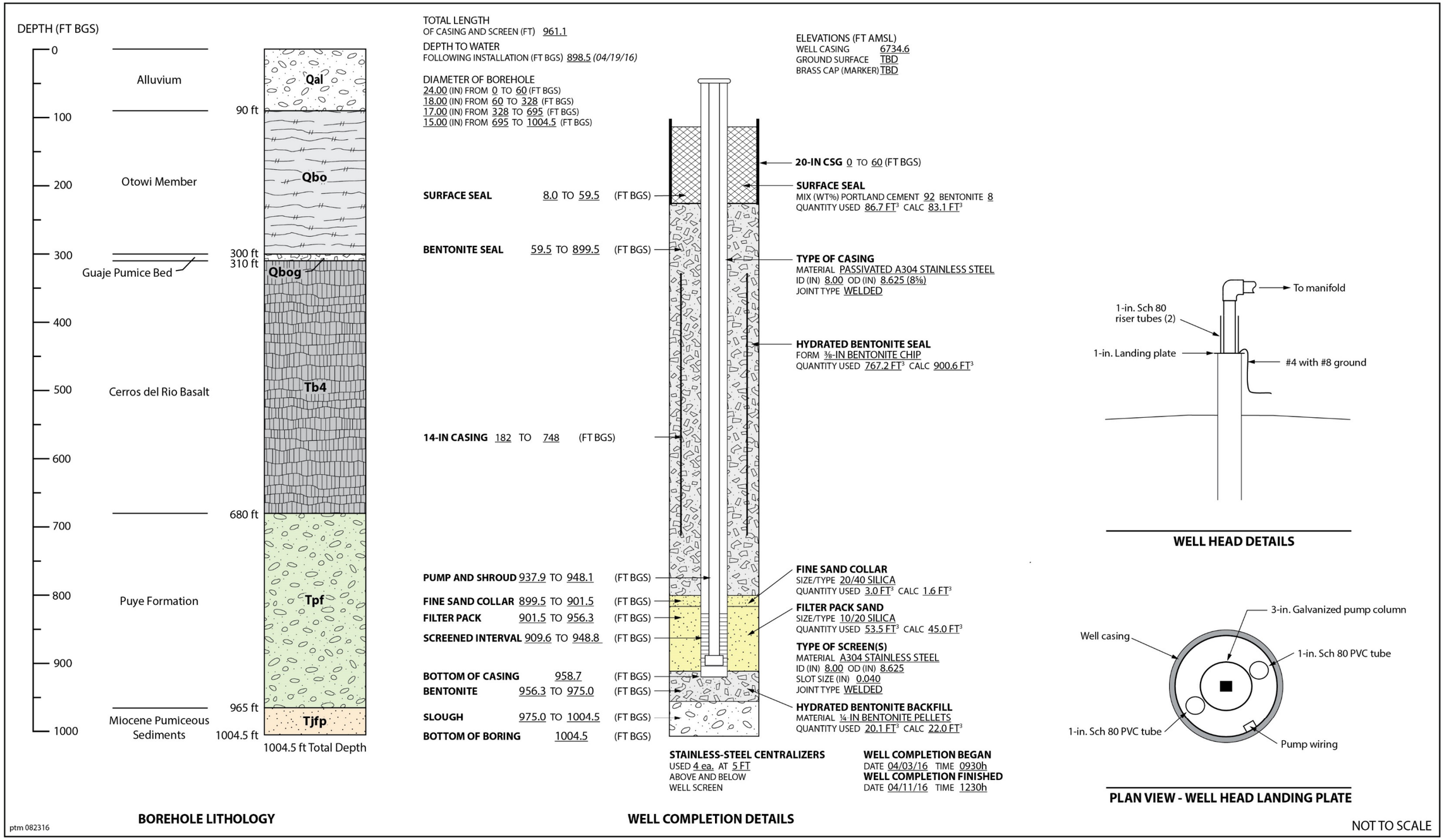


Figure 8.3-1a Extraction well CrEX-3 as-built diagram with borehole lithology and technical well completion details

CrEX-3 TECHNICAL NOTES:

SURVEY INFORMATION*

Brass Marker

Northing:	TBD
Easting:	TBD
Elevation:	TBD

Well Casing (top of stainless steel)

Northing:	TBD
Easting:	TBD
Elevation:	6734.6 ft amsl

BOREHOLE GEOPHYSICAL LOGS

LANL: Natural gamma ray

DRILLING INFORMATION

Drilling Company
Yellow Jacket Drilling, Inc.

Drill Rig
Foremost DR-24HD

Drilling Methods
Dual rotary fluid-assisted air rotary

Drilling Fluids
Air, potable water, AQF-2 Foam

MILESTONE DATES

Drilling

Start:	02/17/2016
Finished:	03/19/2016

Well Completion

Start:	04/03/2016
Finished:	04/11/2016

Well Development

Start:	04/19/2016
Finished:	05/02/2016

WELL DEVELOPMENT

Development Methods
Performed swabbing, bailing, and pumping
Total Volume Purged: 71,405 gal.

Parameter Measurements (Final)

pH:	7.91
Temperature:	20.7˚C
Turbidity:	0.81 NTU

AQUIFER TESTING

24-h Constant-Rate Pumping Test

Water Produced:	74,985 gal.
Average Flow Rate:	51.1 gpm
Performed on:	05/04/16–05/05/16

DEDICATED SAMPLING SYSTEM

Pump (Shrouded)
Make: Franklin Electric
Model: 70SR30F66-3263

Motor
Make: Franklin Electric
Model: Submersible Sand Fighter
30 hp, 3 phase, 460 V

Pump Column
Flomatic model # 80DI check valves at 239, 471, and 725 ft bgs

Transducer Tubes
2 × 1.0-in. flush threaded schd. 80 PVC tubing
0.020-in. slot screens at 944.1–744.6 ft bgs

Transducer
Make: In-Situ Level TROLL
Model: LT 500
PSIG range: Max 30 PSI / 69 ft
S/N: 458444

NOTE:
* Coordinates based on New Mexico State Plane Grid Coordinates, Central Zone (NAD83); Elevation expressed in feet amsl using the National Geodetic Vertical Datum of 1929.

Figure 8.3-1b As-built technical notes for extraction well CrEX-3

Table 6.0-1
Logging Runs

Date(s)	Type of Log	Depth (ft bgs)	Description
03/03/2016	Video	0–670	LANL video from ground surface to 670.0 ft bgs. Observe open-hole interval.
03/03/2016	Gamma log	0-696	LANL gamma log through open-hole section.
03/08/2016	Video	0–740	LANL video to confirm condition of broken 14.0-in. drill casing.
03/19/2016	Gamma log	0–1004	LANL gamma log at drilling TD.
05/08/2016	Gamma log	1–960	LANL as-built gamma log to confirm position of bentonite backfill and sand pack materials.
05/08/2016	Video	0-960	LANL video to confirm screen condition. Not recorded due to camera failure.

Table 7.2-1
CrEX-3 Extraction Well Annular Fill Materials

Material	Volume
Upper surface seal: cement slurry	86.7 ft^3
Upper bentonite seal: bentonite chips	767.2 ft^3
Fine sand collar: 20/40 silica sand	3.0 ft^3
Filter pack: 10/20 silica sand	53.5 ft^3
Backfill: bentonite pellets	20.1 ft^3

Table 8.1-1
Field Water-Quality Parameters and Well Performance for Development of Well CrEX-3

Date	Time	Pumping Rate (gpm)	Depth to Water (ft btoc[a])	Draw Down (ft)	Cumulative Purge Volume (gal.)	pH	Turbidity (NTU)	Temp (deg C)
Well Development								
04/30/2016	8:18	0.0	901.54	0.00	29,130	NC[b]	NC	NC
	8:30	30.0	NC	NC	NC	NC	NC	NC
	8:40	30.0	909.79	8.25	29,440	7.83	5.82	18.17
	8:50	0.0	910.10	8.56	29,770	8.04	15.10	19.14
	9:00	0.0	910.21	8.67	30,095	7.99	11.30	19.02
	9:05	0.0	NC	NC	NC	NC	NC	NC
	9:10	40.0	NC	NC	30,495	NC	NC	NC
	9:20	40.0	913.20	11.66	30,865	7.95	10.10	19.18
	9:30	40.0	913.40	11.86	31,350	7.95	8.35	18.88
	9:40	40.0	913.58	12.04	31,780	7.94	7.63	18.81
	9:50	40.0	913.62	12.08	32,210	7.94	6.70	18.35
	9:56	50.0	NC	NC	32,470	NC	NC	NC
	10:20	50.0	916.39	14.85	33,690	7.94	6.37	17.77
	10:30	50.0	916.52	14.98	34,195	7.93	5.66	19.45
	10:40	50.0	916.58	15.04	34,710	7.93	5.47	19.07
	10:46	60.0	NC	NC	35,040	NC	NC	NC
	11:00	60.0	921.82	20.28	35,950	7.94	8.77	19.93
	11:10	60.0	922.10	20.56	36,595	7.92	6.80	19.68
	11:20	60.0	922.35	20.81	37,240	7.91	NC	19.66
	11:30	0.0	NC	NC	37,890	NC	NC	NC
	12:15	0.0	NC	NC	NC	NC	NC	NC
	12:50	0.0	NC	NC	NC	NC	NC	NC
	16:00	35.0	901.60	0.06	41,810	NC	NC	NC
	16:05	35.0	910.20	8.66	41,810	7.90	2.48	19.75
	16:30	35.0	911.13	9.59	42,000	7.89	3.06	19.55
	16:50	35.0	911.38	9.84	42,965	7.89	2.70	19.08
	17:10	35.0	911.57	10.03	43,740	7.90	3.06	20.17
	17:15	0.0	NC	NC	44,510	NC	NC	NC
05/1/2016	7:54	0.0	901.65	0.00	44,700	NC	NC	NC
	8:00	30.0	NC	NC	44,700	NC	NC	NC
	8:15	25.6	909.70	8.05	NC	NC	NC	NC
	8:30	25.6	910.00	8.35	44,730	7.96	3.40	18.45
	8:35	38.1	NC	NC	NC	NC	NC	NC
	9:13	38.1	911.79	10.14	NC	7.93	3.28	19.19
	9:25	38.1	911.80	10.15	NC	7.92	2.99	19.20

Table 8.1-1 (continued)

Date	Time	Pumping Rate (gpm)	Depth to Water (ft btoc[a])	Draw Down (ft)	Cumulative Purge Volume (gal.)	pH	Turbidity (NTU)	Temp (deg C)
	9:30	42.5	NC	NC	NC	NC	NC	NC
	9:45	42.5	913.23	11.58	NC	7.91	2.63	19.05
	10:00	42.5	913.36	11.71	NC	7.92	1.94	19.38
	10:05	51.3	NC	NC	NC	NC	NC	NC
	10:20	51.3	915.84	14.19	NC	7.92	2.73	18.63
	10:45	51.3	916.11	14.46	NC	7.92	1.91	19.27
	10:50	66.3	NC	NC	NC	NC	NC	NC
	11:05	66.3	921.00	19.35	NC	7.93	3.39	18.82
	11:20	66.3	921.34	19.69	NC	7.93	2.83	19.15
	11:30	66.3	921.50	19.85	NC	7.93	2.91	18.72
	11:35	0.0	NC	NC	NC	NC	NC	NC
05/02/2016	11:08	0.0	901.90	0.00	NC	NC	NC	NC
	11:23	25.0	NC	NC	NC	NC	NC	NC
	11:35	25.0	NC	NC	45,030	NC	NC	NC
	11:40	25.0	907.70	5.80	45,165	7.98	3.13	16.69
	11:48	25.0	907.84	5.94	NC	8.01	2.52	17.39
	11:50	0.0	NC	NC	45,430	NC	NC	NC
	13:08	0.0	901.86	-0.04	45,430	NC	NC	NC
	13:10	38.1	NC	NC	45,430	NC	NC	NC
	13:40	38.1	990.00	88.10	46,570	NC	NC	NC
	13:50	38.1	909.10	7.20	46,960	NC	NC	NC
	13:51	42.5	NC	NC	46,998	NC	NC	NC
	14:05	42.5	910.20	8.30	47,595	NC	NC	NC
	14:10	42.5	NC	NC	47,805	NC	NC	NC
	14:11	51.3	NC	NC	NC	NC	NC	NC
	14:30	51.3	912.35	10.45	48,820	NC	NC	NC
	14:50	51.3	912.62	10.72	49,850	NC	NC	NC
	15:00	51.3	912.68	10.78	50,360	NC	NC	NC
	15:01	66.3	912.62	10.72	NC	NC	NC	NC
	15:30	66.3	918.05	16.15	52,330	NC	NC	NC
	15:45	66.3	918.33	16.43	53,330	NC	NC	NC
	15:46	57.0	NC	NC	NC	NC	NC	NC
	16:32	57.0	916.26	14.36	56,080	NC	NC	NC
	16:45	57.0	NC	NC	56,775	NC	NC	NC
	16:46	64.0	NC	NC	NC	NC	NC	NC
	17:00	64.0	917.94	16.04	57,730	NC	NC	NC

Table 8.1-1 (continued)

Date	Time	Pumping Rate (gpm)	Depth to Water (ft btoc[a])	Draw Down (ft)	Cumulative Purge Volume (gal.)	pH	Turbidity (NTU)	Temp (deg C)
	17:10	64.0	918.04	16.14	58,365	NC	NC	NC
	17:11	73.5	NC	NC	NC	NC	NC	NC
	17:30	73.5	921.11	19.21	59,830	NC	NC	NC
	17:40	73.5	921.29	19.39	60,560	NC	NC	NC
	17:41	0.0	NC	NC	60,630	NC	NC	NC
Step Test								
05/03/2016	8:12	0.0	901.84	0.00	NC	NC	NC	NC
	8:16	0.0	901.84	0.00	60,635	0	NC	NC
	8:20	0.0	901.84	0.00	60,635	NC	NC	NC
	8:25	0.0	901.84	0.00	60,635	NC	NC	NC
	8:28	0.0	901.84	0.00	60,635	NC	NC	NC
	8:30	25.6	NC	NC	60,635	NC	NC	NC
	8:35	25.6	907.55	5.71	60,785	8.02	NC	10.00
	8:40	25.6	907.85	6.01	60,940	7.96	1.72	18.13
	8:35	25.6	907.92	6.08	61,095	8.04	2.46	19.40
	8:50	25.6	908.07	6.23	61,250	8.02	2.33	19.48
	8:55	25.6	908.16	6.32	61,410	8.00	2.01	19.48
	9:00	25.6	908.21	6.37	61,570	7.98	2.01	20.02
	9:10	25.6	908.29	6.45	61,890	7.95	1.85	19.70
	9:20	25.6	908.34	6.50	62,220	7.94	1.68	19.53
	9:30	25.6	908.39	6.55	62,560	7.94	1.68	19.47
	9:31	38.1	NC	NC	NC	NC	NC	NC
	9:36	38.1	909.39	7.55	62,785	7.93	1.54	19.65
	9:41	38.1	909.48	7.64	62,975	7.93	1.67	19.10
	9:46	38.1	909.52	7.68	63,170	7.93	1.34	19.51
	9:51	38.1	909.55	7.71	63,365	7.93	1.52	19.76
	9:56	38.1	909.59	7.75	63,560	7.93	0.50	19.67
	10:01	38.1	909.60	7.76	63,755	7.93	1.50	19.44
	10:11	38.1	909.65	7.81	64,640	7.93	1.51	19.69
	10:21	38.1	909.67	7.83	64,530	7.93	1.37	19.18
	10:31	38.1	909.74	7.90	64,915	7.93	1.37	19.36
	10:32	51.3	NC	NC	NC	NC	NC	NC
	10:33	51.3	911.61	9.77	65,000	7.93	1.79	20.10
	10:38	51.3	912.41	10.57	65,260	7.93	1.54	20.03
	10:43	51.3	912.56	10.72	65,515	7.91	1.53	19.91
	10:48	51.3	912.68	10.84	65,770	7.92	1.81	19.86

Table 8.1-1 (continued)

Date	Time	Pumping Rate (gpm)	Depth to Water (ft btoc[a])	Draw Down (ft)	Cumulative Purge Volume (gal.)	pH	Turbidity (NTU)	Temp (deg C)
	10:53	51.3	912.75	10.91	66,030	7.92	1.67	19.90
	10:58	51.3	912.84	11.00	66,280	7.92	1.76	19.94
	11:03	51.3	912.90	11.06	66,530	7.92	1.61	20.14
	11:13	51.3	913.00	11.16	67,040	7.92	1.23	20.21
	11:23	51.3	913.09	11.25	67,550	7.92	1.54	20.12
	11:33	51.3	913.14	11.30	68,060	7.93	1.38	20.12
	11:34	64.0	NC	NC	NC	NC	NC	NC
	11:39	64.0	916.33	14.49	68,430	7.92	1.31	20.09
	11:44	64.0	916.64	14.80	68,750	7.92	1.97	20.03
	11:49	64.0	916.76	14.92	69,075	7.91	1.63	19.33
	11:54	64.0	916.81	14.97	69,395	7.93	1.91	20.23
	11:59	64.0	916.97	15.13	69,710	7.92	1.72	20.27
	12:04	64.0	917.03	15.19	70,030	7.92	1.66	20.12
	12:14	64.0	917.13	15.29	70,670	7.91	1.51	19.99
	12:24	64.0	917.16	15.32	71,310	7.91	1.45	20.20
	12:34	64.0	917.30	15.46	71,955	7.91	1.72	20.47
	12:39	64.0	917.32	15.48	72,270	7.91	1.60	20.51
	12:40	0.0	NC	NC	72,335	NC	NC	NC
24-h Aquifer Test								
05/04/2016	13:05	0.0	901.90	0.00	72,335	NC	NC	NC
	13:15	0.0	901.90	0.00	72,335	NC	NC	NC
	13:25	0.0	901.90	0.00	72,335	NC	NC	NC
	13:28	0.0	901.92	0.02	72,335	NC	NC	NC
	13:30	NC	NC	NC	72,335	NC	NC	NC
	13:31	NC	909.40	7.50	NC	NC	NC	NC
	13:32	NC	910.44	8.54	NC	NC	NC	NC
	13:33	NC	910.87	8.97	NC	NC	NC	NC
	13:34	NC	911.15	9.25	NC	NC	NC	NC
	13:35	NC	911.37	9.47	72,610	NC	NC	NC
	13:36	NC	911.46	9.56	NC	NC	NC	NC
	13:37	NC	911.62	9.72	NC	NC	NC	NC
	13:38	NC	911.73	9.83	NC	NC	NC	NC
	13:39	NC	911.82	9.92	NC	NC	NC	NC
	13:40	NC	911.91	10.01	72,870	7.93	3.40	19.69
	13:42	NC	912.04	10.14	NC	NC	NC	NC
	13:44	NC	912.15	10.25	NC	NC	NC	NC

Table 8.1-1 (continued)

Date	Time	Pumping Rate (gpm)	Depth to Water (ft btoc[a])	Draw Down (ft)	Cumulative Purge Volume (gal.)	pH	Turbidity (NTU)	Temp (deg C)
	13:46	NC	912.23	10.33	NC	NC	NC	NC
	13:48	NC	912.34	10.44	NC	NC	NC	NC
	13:50	NC	912.40	10.50	73,375	7.97	1.47	21.20
	13:55	NC	912.66	10.76	NC	NC	NC	NC
	14:00	NC	912.69	10.79	73,875	7.93	1.44	21.43
	14:05	NC	912.79	10.89	NC	NC	NC	NC
	14:10	NC	912.88	10.98	NC	NC	NC	NC
	14:15	NC	912.99	11.09	NC	NC	NC	NC
	14:20	NC	913.05	11.15	74,910	7.92	1.02	21.12
	14:30	NC	913.12	11.22	75,430	7.91	0.99	21.18
	14:40	51.2	913.23	11.33	75,945	7.91	0.79	21.23
	14:50	NC	913.28	11.38	76,465	7.92	0.79	20.85
	15:00	NC	913.30	11.40	76,955	7.92	0.79	20.99
	15:15	NC	913.35	11.45	77,765	7.92	1.32	21.17
	15:30	NC	913.38	11.48	78,540	7.92	0.55	21.26
	15:45	NC	913.37	11.47	79,315	7.91	0.55	21.38
	16:00	NC	913.42	11.52	80,085	7.92	0.66	20.43
	16:15	NC	913.44	11.54	80,860	7.92	0.54	21.03
	16:30	NC	913.45	11.55	81,630	7.91	0.54	21.18
	16:45	NC	913.45	11.55	82,400	7.91	0.47	21.13
	17:00	NC	913.49	11.59	83,180	7.91	0.42	21.41
	17:30	NC	913.44	11.54	84,730	7.92	0.41	20.83
	18:00	NC	913.49	11.59	86,330	7.91	0.00	21.27
	18:30	NC	913.48	11.58	87,790	7.90	0.39	21.44
	19:00	NC	913.46	11.56	89,360	7.90	0.74	21.29
	19:30	NC	913.46	11.56	90,880	7.90	0.74	20.36
	20:00	NC	913.46	11.56	92,440	7.91	0.24	19.63
	20:30	NC	913.45	11.55	93,960	7.91	0.36	19.50
	21:00	NC	913.44	11.54	95,440	7.91	0.31	19.24
	21:30	NC	913.44	11.54	97,060	7.91	0.31	19.75
	22:00	NC	913.43	11.53	98,460	7.91	0.45	19.02
	22:30	NC	913.40	11.50	100,000	7.92	0.45	18.82
	23:00	NC	913.40	11.50	101,530	7.92	0.58	18.66
	23:30	NC	913.50	11.60	103,000	7.92	0.76	18.82

Table 8.1-1 (continued)

Date	Time	Pumping Rate (gpm)	Depth to Water (ft btoc[a])	Draw Down (ft)	Cumulative Purge Volume (gal.)	pH	Turbidity (NTU)	Temp (deg C)
05/05/2016	0:00	NC	913.35	11.45	104,550	7.91	0.90	19.04
	0:30	NC	913.35	11.45	106,050	7.92	0.01	18.60
	1:00	NC	913.35	11.45	107,560	7.92	1.50	18.45
	1:30	NC	913.30	11.40	109,100	7.92	1.25	18.47
	2:00	NC	913.26	11.36	110,540	7.90	1.38	23.68
	2:30	NC	913.21	11.31	112,150	7.92	1.35	19.15
	3:00	NC	913.19	11.29	113,570	7.94	0.26	18.64
	3:30	NC	913.15	11.25	115,140	7.98	0.45	18.70
	4:00	NC	913.12	11.22	116,660	7.98	0.48	19.26
	4:30	NC	913.11	11.21	118,100	7.96	0.46	18.95
	5:00	NC	913.80	11.90	119,690	7.99	0.87	19.06
	5:30	NC	913.60	11.70	121,120	7.94	1.01	18.55
	6:00	53.0	913.05	11.15	122,680	7.93	0.43	18.64
	6:30	53.0	913.03	11.13	124,190	7.92	0.43	18.07
	7:00	53.0	913.00	11.10	125,710	7.91	0.58	18.61
	7:30	53.0	912.99	11.09	127,240	7.90	0.74	19.26
	8:00	NC	912.97	11.07	128,785	7.91	0.55	19.77
	8:30	NC	912.97	11.07	130,330	7.91	0.54	19.78
	9:00	NC	912.97	11.07	131,880	7.90	0.50	19.88
	9:30	NC	912.90	11.00	133,420	7.90	0.50	20.10
	10:00	NC	912.86	10.96	134,975	7.90	1.35	20.14
	10:30	NC	912.83	10.93	136,515	7.91	0.67	20.45
	11:00	NC	912.79	10.89	138,060	7.89	0.98	20.63
	11:30	NC	912.75	10.85	139,610	7.90	0.62	20.91
	11:45	NC	912.72	10.82	140,640	7.91	0.62	20.73
	12:00	NC	912.65	10.75	142,700	7.90	0.67	21.10
	12:30	NC	912.60	10.70	144,250	7.90	0.89	21.49
	13:00	NC	912.60	10.70	145,025	7.90	0.68	21.29
	13:15	NC	912.60	10.70	145,530	7.91	0.82	21.24
	13:25	NC	NC	NC	145,790	7.90	0.82	21.25
	13:30	NC	912.17	10.27	141,155	7.91	0.81	20.70
	13:32	NC	NC	NC	NC	NC	NC	NC
	13:35	NC	912.50	10.60	146,045	NC	NC	NC
	13:40	NC	912.50	10.60	146,295	NC	NC	NC
	13:45	NC	912.49	10.59	146,550	NC	NC	NC
	13:50	NC	912.49	10.59	146,805	NC	NC	NC

Table 8.1-1 (continued)

Date	Time	Pumping Rate (gpm)	Depth to Water (ft btoc[a])	Draw Down (ft)	Cumulative Purge Volume (gal.)	pH	Turbidity (NTU)	Temp (deg C)
	13:55	NC	912.49	10.59	147,065	NC	NC	NC
	13:58	NC	912.50	10.60	147,215	NC	NC	NC
	14:00	NC	NC	NC	147,320	NC	NC	NC
	14:01	0.0	904.40	2.50	147,320	NC	NC	NC
	14:02	0.0	903.30	1.40	147,320	NC	NC	NC
	14:03	0.0	903.02	1.12	147,320	NC	NC	NC
	14:04	0.0	902.78	0.88	147,320	NC	NC	NC
	14:05	0.0	902.70	0.80	147,320	NC	NC	NC
	14:06	0.0	902.65	0.75	147,320	NC	NC	NC
	14:08	0.0	902.55	0.65	147,320	NC	NC	NC
	14:10	0.0	902.10	0.20	147,320	NC	NC	NC
	14:12	0.0	902.08	0.18	147,320	NC	NC	NC
	14:14	0.0	902.04	0.14	147,320	NC	NC	NC
	14:16	0.0	902.03	0.13	147,320	NC	NC	NC
	14:18	0.0	902.01	0.11	147,320	NC	NC	NC
	14:20	0.0	902.00	0.10	147,320	NC	NC	NC
	14:25	0.0	901.98	0.08	147,320	NC	NC	NC

[a] ft btoc = Feet below top of casing.

[b] NC = Not collected.

Table 8.5-1
CrEX-3 Survey Coordinates

Identification	Northing	Easting	Elevation
CrEX-3 top of stainless-steel well casing	1768184.223	1638949.276	6734.601

Notes: All coordinates are expressed as New Mexico State Plane Coordinate System Central Zone (NAD 83); elevation is expressed in ft amsl using the National Geodetic Vertical Datum of 1929. Provisional survey conducted. Will be resurveyed when vault is installed.

Table 8.6-1
Summary of Waste Characterization Samples Collected during Drilling, Construction, and Development of CrEX-3

Event ID	Sample ID	Date Collected	Description	Sample Matrix
10595	WSTMO-16-110685	02/19/2016	CrEX-3 drill cuttings (top) VOC	Solid
10595	WSTMO-16-110687	02/19/2016	CrEX-3 drill cuttings trip blank VOC	Solid
10595	WSTMO-16-110684	02/26/2016	CrEX-3 drill cuttings (middle) VOC	Solid
10595	WSTMO-16-110689	02/26/2016	CrEX-3 drill cuttings trip blank VOC	Solid
10595	WSTMO-16-110686	03/16/2016	CrEX-3 drill cuttings (bottom) VOC	Solid
10595	WSTMO-16-110688	03/16/2016	CrEX-3 drill cuttings trip blank VOC	Solid
10623	WSTMO-16-114806	06/06/2016	CrEX-3 drill cuttings (comprehensive)	Solid
10594	WSTMO-16-110675	02/19/2016	CrEX-3 drilling fluids (top) VOC	Liquid
10594	WSTMO-16-110681	02/19/2016	CrEX-3 drilling fluids trip blank VOC	Liquid
10594	WSTMO-16-11079	02/19/2016	CrEX-3 drilling field dup. VOC	Liquid
10594	WSTMO-16-110677	02/26/2016	CrEX-3 drilling fluid VOC	Liquid
10594	WSTMO-16-110682	02/26/2016	CrEX-3 drilling fluid trip blank VOC	Liquid
10594	WSTMO-16-110680	02/26/2016	CrEX-3 drilling fluid dup. VOC	Liquid
10594	WSTMO-16-110676	03/16/2016	CrEX-3 drilling fluid VOC	Liquid
10594	WSTMO-16-110683	03/16/2016	CrEX-3 drilling fluid trip blank VOC	Liquid
10594	WSTMO-16-110678	03/16/2016	CrEX-3 drilling fluid dup. VOC	Liquid
10624	WSTMO-16-114780	06/06/2016	CrEX-3 drilling fluid VOC	Liquid
10624	WSTMO-16-4788	06/06/2016	CrEX-3 drilling fluid dup. VOC	Liquid
10624	WSTMO-16-114781	06/06/2016	CrEX-3 drilling fluid dup. VOC	Liquid

Appendix A

Final Well Design and
New Mexico Environment Department Approval

From: Katzman, Danny
Sent: Monday, March 21, 2016 11:52 AM
To: White, Stephen Spalding; Branch, John Phillip; Thomson, Jim
Subject: FW: CrEX-3 well design proposal

From: Dale, Michael, NMENV <Michael.Dale@state.nm.us>
Sent: Monday, March 21, 2016 10:26:52 AM
To: Katzman, Danny
Cc: Shen, Hai; Swickley, Stephani Fuller; Everett, Mark Capen; Ball, Ted; Wear, Benjamin, NMENV; Kulis, Jerzy, NMENV; Longmire, Patrick; Fellenz, David Richard; Green, Megan; Yanicak, Stephen M; Granzow, Kim P
Subject: RE: CrEX-3 well design proposal

Danny,

New Mexico Environment Department (NMED) hereby approves the installation of the regional-aquifer injection well CrEX-3 as proposed in your e-mail, with attachment, that was received today, March 21, 2016 at 9:34 AM. This approval is based on information available to NMED at the time of the approval. LANL must provide the results of groundwater sampling, any modifications to the well design as proposed in the above-mentioned e-mail, and any additional information relevant to the installation of the well as soon as such data or information become available. In addition, please provide NMED reasonable-time (e.g., 1 -2 days) notification prior to the initiation of well development and aquifer testing at CrEX-3. Please call if you have any questions concerning this approval.

Thank you,

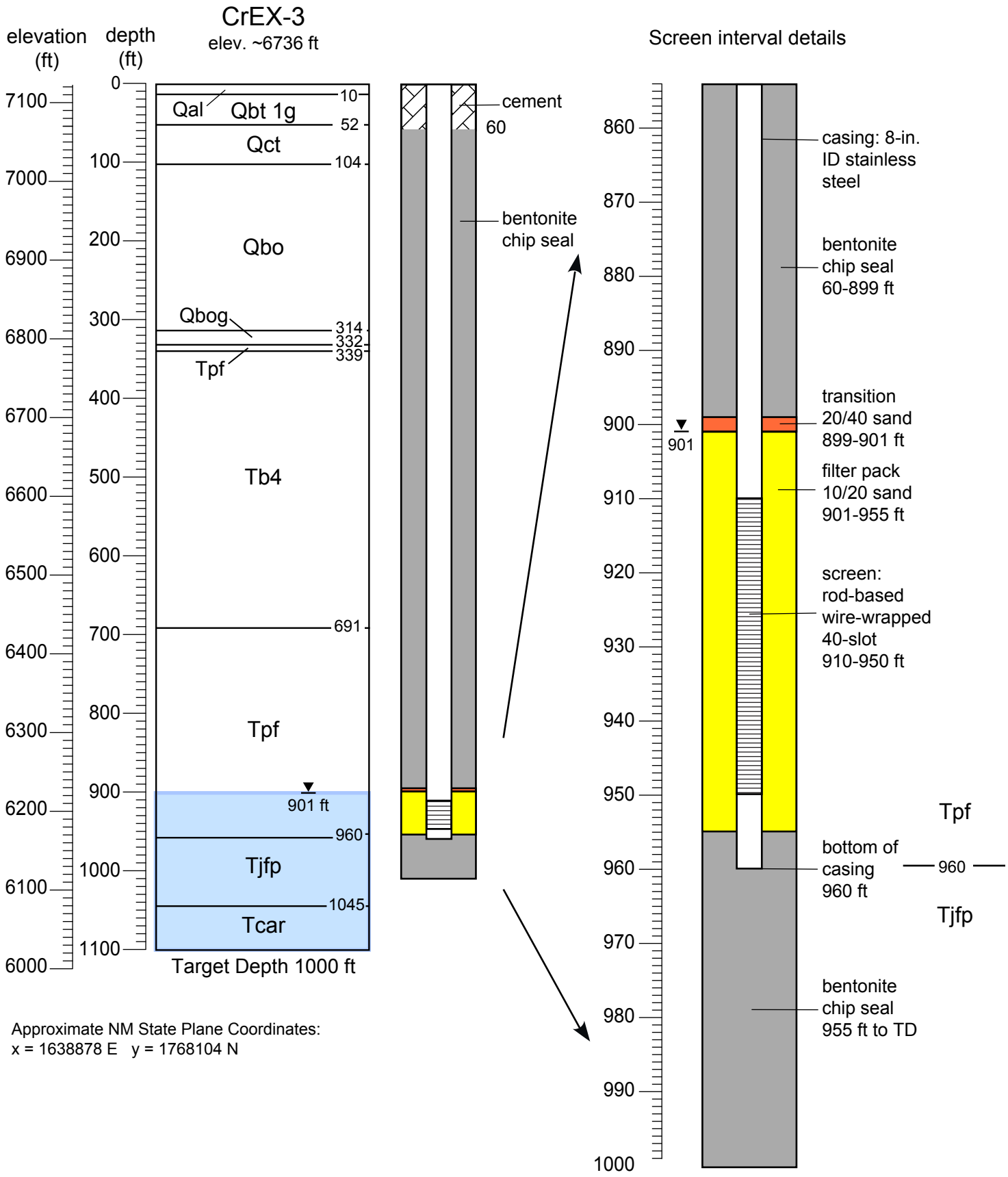
Michael R. Dale
New Mexico Environment Department
1183 Diamond Drive, Suite B
Los Alamos, NM 87544
LANL MS M894
Cell Phone: (505) 231-5423
Office Phone (505) 476-3078

From: Katzman, Danny [katzman@lanl.gov]
Sent: Monday, March 21, 2016 9:34 AM
To: Dale, Michael, NMENV
Cc: Shen, Hai; Swickley, Stephani Fuller; Everett, Mark Capen; Ball, Ted
Subject: CrEX-3 well design proposal

Michael- thanks for joining us in the CrEX-3 well-design discussion on Sunday.
Here's a summary of what I believe we agreed to as the design and basis. Please verify in a response to this email.

A first-order objective for CrEX-3 is to test mass-removal strategies which involves characterization of the hydraulic and contaminant response to pumping, particularly in the centroid. In order to achieve this, the team agreed that the well design should position the well screen entirely within the Puye formation and comfortably above the Miocene Pumiceous contact estimated at ~960' bgs. Based on analytical results from nearby corehole (CrCH-2) and R-28, it also appears that contamination is also predominantly within the upper 50 ft of the water table which is at ~901' bgs in the CrEX-3 borehole. Based on this information, we recommend that CrEX-3 be designed with a 40' screen with the slots set at 910' (9 ft below the water table). Primary filter pack will extend from 901-910' with an additional 2' of transition sand on top. See the attached figure for additional detail.

Let us know if you have any questions.
Thanks.
Danny



Approximate NM State Plane Coordinates:
x = 1638878 E y = 1768104 N

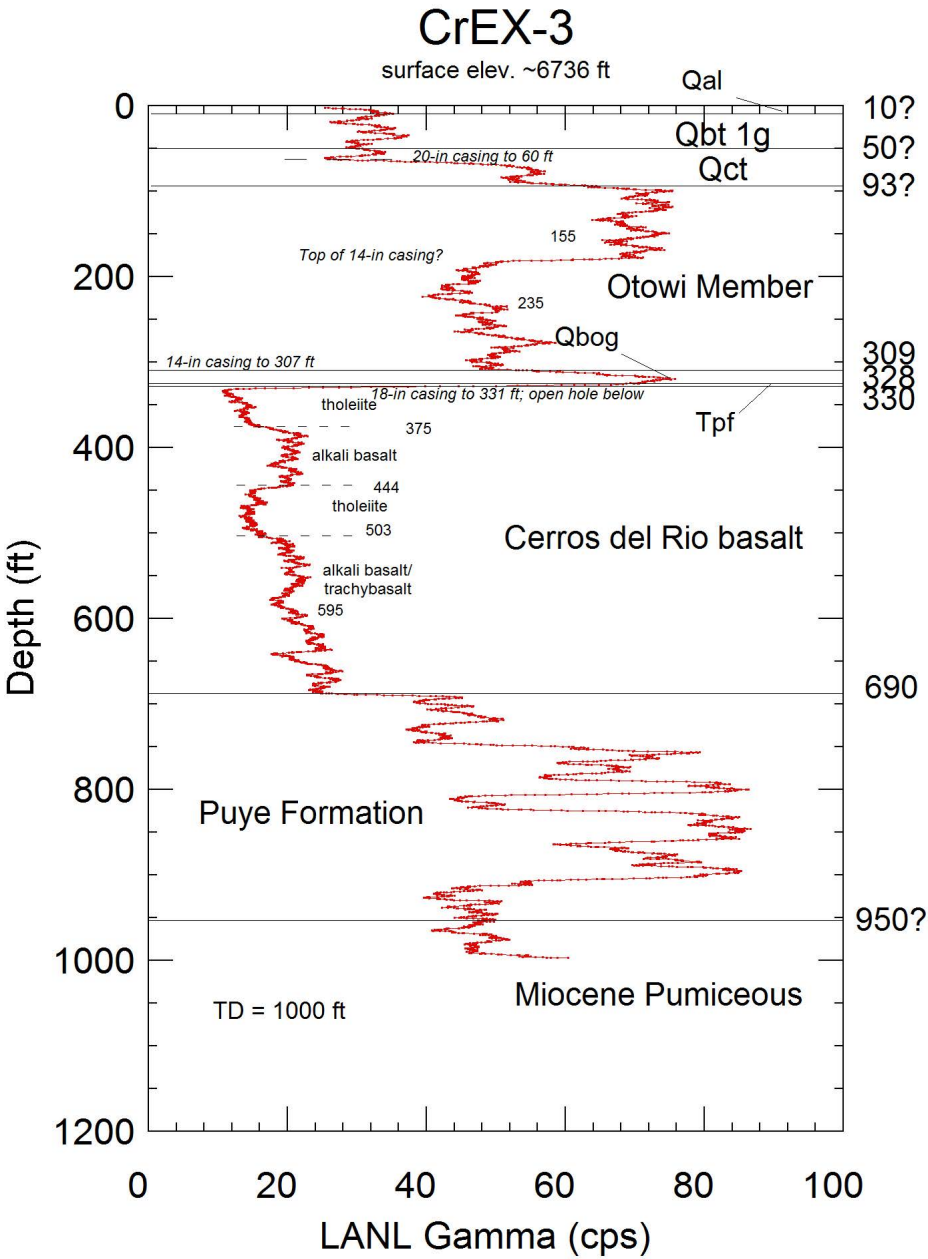
Appendix B

Borehole Video Logging
(on DVD included with this document)

TO VIEW THE VIDEO THAT ACCOMPANIES THIS DOCUMENT, PLEASE CALL THE HAZARDOUS WASTE BUREAU AT 505-476-6000 TO MAKE AN APPOINTMENT

Appendix C

Geophysical Logs
(on CD included with this document)


CrEX-3
surface elev. ~6736 ft
Qal
10?
Qbt 1g
50?
Qct
93?
20-in casing to 60 ft
155
Top of 14-in casing?
Otowi Member
235
Qbog
309
14-in casing to 307 ft
328
330
18-in casing to 331 ft; open hole below
tholeiite
375
Tpf
alkali basalt
444
tholeiite
503
Cerros del Rio basalt
alkali basalt/
trachybasalt
595
690
Puye Formation
950?
Miocene Pumiceous
TD = 1000 ft
Depth (ft)
0
200
400
600
800
1000
1200
0
20
40
60
80
100
LANL Gamma (cps)

Depth	Time	TCPU	EHT	COUNT	GR
ft	sec	'C	Volts		CPS
0.15	-999	21.6531	-999	-999	-999
0.35	0.809	21.6531	-923.914	23	28.4302
0.55	0.804	21.6531	-919.999	19	23.6318
0.75	0.809	21.6531	-919.999	18	22.2497
0.95	0.803	21.6531	-919.999	25	31.1333
1.15	0.809	21.6531	-919.999	16	19.7775
1.35	0.81	21.6531	-923.914	23	28.3951
1.56	0.809	21.6531	-923.914	14	17.3053
1.76	0.813	21.8703	-919.999	11	13.5301
1.96	0.813	21.8703	-919.999	15	18.4502
2.16	0.809	21.4359	-923.914	11	13.597
2.36	0.803	21.6531	-919.999	10	12.4533
2.56	0.808	21.6531	-923.914	24	29.703
2.76	0.794	21.6531	-919.999	21	26.4484
2.96	0.795	21.6531	-923.914	17	21.3836
3.16	0.793	21.6531	-919.999	21	26.4817
3.36	0.798	21.6531	-919.999	29	36.3409
3.56	0.802	21.8703	-916.084	29	36.1596
3.76	0.803	21.6531	-923.914	27	33.6239
3.96	0.791	21.6531	-923.914	25	31.6056
4.16	0.798	21.6531	-923.914	22	27.5689
4.36	0.799	21.6531	-923.914	29	36.2954
4.56	0.806	21.8703	-923.914	23	28.536
4.76	0.812	21.6531	-916.084	27	33.2512
4.96	0.802	21.8703	-927.829	29	36.1596
5.16	0.808	21.8703	-916.084	32	39.604
5.36	0.809	21.8703	-919.999	30	37.0828
5.56	0.807	21.6531	-919.999	27	33.4572
5.76	0.806	21.4359	-919.999	30	37.2208
5.96	0.8	21.6531	-923.914	24	30
6.16	0.813	21.6531	-923.914	15	18.4502
6.36	0.813	21.6531	-919.999	23	28.2903
6.56	0.809	21.6531	-935.659	23	28.4302
6.76	0.803	21.6531	-923.914	22	27.3973
6.96	0.806	21.6531	-923.914	21	26.0546
7.16	0.813	21.6531	-919.999	28	34.4403
7.36	0.806	21.6531	-919.999	24	29.7767
7.56	0.791	21.6531	-919.999	38	48.0405
7.76	0.799	21.6531	-919.999	25	31.2891
7.96	0.795	21.6531	-923.914	31	38.9937
8.16	0.808	21.6531	-919.999	21	25.9901
8.36	0.795	21.6531	-919.999	27	33.9623
8.56	0.792	21.8703	-919.999	34	42.9293
8.76	0.792	21.6531	-919.999	25	31.5657
8.96	0.791	21.6531	-919.999	16	20.2276

9.16	0.803	21.8703	-927.829	35	43.5866
9.36	0.802	21.6531	-919.999	22	27.4314
9.56	0.808	21.6531	-919.999	33	40.8416
9.76	0.806	21.8703	-927.829	38	47.1464
9.96	0.817	21.6531	-916.084	20	24.4798
10.16	0.81	21.8703	-919.999	37	45.679
10.36	0.809	21.6531	-927.829	31	38.3189
10.56	0.808	21.6531	-923.914	23	28.4653
10.76	0.804	21.8703	-923.914	26	32.3383
10.96	0.811	21.6531	-919.999	26	38.2244
11.16	0.804	21.6531	-916.084	31	33.5821
11.36	0.813	21.6531	-923.914	27	24.6002
11.56	0.803	21.6531	-923.914	20	41.0959
11.76	0.806	21.6531	-919.999	33	23.5732
11.96	0.814	21.8703	-919.999	19	30.7125
12.16	0.806	21.6531	-919.999	25	33.4988
12.36	0.795	21.6531	-923.914	27	37.7358
12.56	0.788	21.6531	-919.999	30	21.5736
12.76	0.798	21.6531	-923.914	17	27.5689
12.96	0.8	21.6531	-919.999	22	27.5
13.16	0.799	21.6531	-919.999	22	43.8048
13.36	0.791	21.6531	-919.999	35	22.756
13.56	0.795	21.6531	-923.914	18	33.9623
13.76	0.801	21.6531	-923.914	27	39.9501
13.96	0.797	21.6531	-923.914	32	35.1317
14.16	0.8	21.6531	-923.914	28	28.75
14.36	0.803	21.6531	-923.914	23	29.8879
14.56	0.813	21.6531	-923.914	24	24.6002
14.76	0.807	21.8703	-919.999	20	26.0223
14.96	0.804	21.6531	-919.999	21	32.3383
15.16	0.809	21.6531	-923.914	26	25.958
15.36	0.809	21.4359	-923.914	21	33.3745
15.56	0.812	21.8703	-919.999	27	24.6305
15.76	0.815	21.6531	-919.999	20	29.4479
15.96	0.806	21.6531	-919.999	24	39.7022
16.16	0.809	21.6531	-919.999	32	29.6663
16.36	0.811	21.6531	-919.999	24	29.5931
16.56	0.812	21.8703	-919.999	24	27.0936
16.76	0.812	21.6531	-919.999	22	39.4089
16.96	0.798	21.8703	-919.999	32	37.594
17.16	0.797	21.6531	-923.914	30	40.1506
17.36	0.797	21.8703	-919.999	32	32.6223
17.56	0.8	21.6531	-919.999	26	20
17.76	0.797	21.6531	-927.829	16	31.3676
17.96	0.793	21.6531	-919.999	25	23.9596
18.16	0.798	21.6531	-919.999	19	33.8346
18.36	0.793	21.6531	-919.999	27	25.2207

18.56	0.794	21.6531	-916.084	20	21.4106
18.76	0.793	21.6531	-919.999	17	25.2207
18.96	0.796	21.4359	-919.999	20	15.0754
19.16	0.802	21.6531	-919.999	12	26.1845
19.36	0.809	21.6531	-919.999	21	33.3745
19.56	0.811	21.6531	-919.999	27	14.7965
19.76	0.807	21.6531	-919.999	12	24.7831
19.96	0.806	21.6531	-923.914	20	29.7767
20.16	0.809	21.6531	-923.914	24	17.3053
20.36	0.809	21.8703	-923.914	14	25.958
20.56	0.807	21.8703	-923.914	21	35.9356
20.76	0.803	21.8703	-923.914	29	23.6613
20.96	0.809	21.6531	-919.999	19	35.8467
21.16	0.814	21.6531	-923.914	29	24.57
21.36	0.814	21.6531	-919.999	20	28.2555
21.56	0.811	21.8703	-923.914	23	38.2244
21.77	0.805	21.8703	-923.914	31	27.3292
21.97	0.808	21.6531	-919.999	22	33.4158
22.17	0.804	21.6531	-923.914	27	37.3134
22.37	0.792	21.6531	-923.914	30	27.7778
22.57	0.79	21.6531	-923.914	22	34.1772
22.77	0.788	21.6531	-919.999	27	30.4569
22.97	0.799	21.8703	-923.914	24	32.5407
23.17	0.797	21.6531	-919.999	26	36.3864
23.37	0.795	21.6531	-927.829	29	26.4151
23.57	0.79	21.8703	-919.999	21	37.9747
23.77	0.795	21.6531	-919.999	30	23.8994
23.97	0.809	21.6531	-923.914	19	35.8467
24.17	0.807	21.6531	-923.914	29	33.4572
24.37	0.801	21.6531	-919.999	27	36.2047
24.57	0.801	21.6531	-919.999	29	36.2047
24.77	0.813	21.6531	-923.914	29	45.5105
24.97	0.811	21.6531	-919.999	37	34.5253
25.17	0.807	21.6531	-919.999	28	22.3048
25.37	0.806	21.6531	-923.914	18	38.4615
25.57	0.806	21.8703	-919.999	31	31.0174
25.77	0.814	21.6531	-919.999	25	29.484
25.97	0.812	21.6531	-919.999	24	30.7882
26.17	0.81	21.6531	-919.999	25	29.6296
26.37	0.804	21.6531	-919.999	24	32.3383
26.57	0.811	21.4359	-919.999	26	39.4575
26.77	0.809	21.6531	-919.999	32	27.1941
26.97	0.801	21.8703	-923.914	22	42.4469
27.17	0.795	21.6531	-919.999	34	44.0252
27.37	0.795	21.8703	-927.829	35	36.478
27.57	0.801	21.6531	-919.999	29	36.2047
27.77	0.804	21.6531	-919.999	29	33.5821

27.97	0.797	21.6531	-923.914	27	48.9335
28.17	0.792	21.6531	-923.914	39	36.6162
28.37	0.794	21.6531	-923.914	29	30.2267
28.57	0.796	21.4359	-919.999	24	27.6382
28.77	0.799	21.6531	-923.914	22	36.2954
28.97	0.804	21.8703	-923.914	29	33.5821
29.17	0.801	21.8703	-919.999	27	34.9563
29.37	0.807	21.8703	-919.999	28	38.4139
29.57	0.814	21.6531	-919.999	31	31.941
29.77	0.809	21.6531	-919.999	26	21.0136
29.97	0.805	21.6531	-927.829	17	17.3913
30.17	0.797	21.6531	-919.999	14	36.3864
30.37	0.808	21.6531	-919.999	29	23.5149
30.57	0.814	21.8703	-923.914	19	27.027
30.77	0.809	21.6531	-923.914	22	37.0828
30.97	0.805	21.6531	-912.169	30	24.8447
31.17	0.808	21.8703	-919.999	20	43.3168
31.37	0.812	21.4359	-923.914	35	27.0936
31.57	0.811	21.6531	-923.914	22	29.5931
31.77	0.802	21.8703	-923.914	24	34.9127
31.97	0.794	21.6531	-916.084	28	26.4484
32.17	0.794	21.6531	-916.084	21	17.6322
32.37	0.801	21.6531	-923.914	14	32.4594
32.57	0.795	21.6531	-919.999	26	41.5094
32.77	0.797	21.6531	-919.999	33	36.3864
32.97	0.795	21.6531	-919.999	29	32.7044
33.17	0.797	21.6531	-919.999	26	37.6412
33.37	0.801	21.6531	-923.914	30	39.9501
33.57	0.8	21.6531	-916.084	32	51.25
33.77	0.801	21.6531	-919.999	41	34.9563
33.97	0.807	21.6531	-919.999	28	33.4572
34.17	0.813	21.6531	-919.999	27	44.2804
34.37	0.806	21.6531	-923.914	36	35.9801
34.57	0.802	21.4359	-919.999	29	31.1721
34.77	0.802	21.8703	-923.914	25	42.394
34.97	0.811	21.6531	-923.914	34	34.5253
35.17	0.807	21.6531	-923.914	28	33.4572
35.37	0.809	21.6531	-919.999	27	28.4302
35.57	0.809	21.6531	-919.999	23	40.7911
35.77	0.8	21.6531	-927.829	33	30
35.97	0.808	21.6531	-919.999	24	38.3663
36.17	0.809	21.4359	-923.914	31	22.2497
36.37	0.809	21.6531	-919.999	18	46.9716
36.57	0.796	21.6531	-927.829	38	47.7387
36.77	0.801	21.6531	-919.999	38	43.6954
36.97	0.799	21.8703	-927.829	35	21.2766
37.17	0.803	21.6531	-923.914	17	36.1146

37.37	0.793	21.6531	-923.914	29	42.8752
37.57	0.797	21.6531	-916.084	34	37.6412
37.77	0.795	21.6531	-927.829	30	42.7673
37.97	0.795	21.6531	-919.999	34	36.478
38.17	0.793	21.8703	-923.914	29	41.6141
38.37	0.792	21.6531	-919.999	33	31.5657
38.57	0.802	21.6531	-919.999	25	23.6908
38.77	0.812	21.4359	-919.999	19	33.2512
38.97	0.81	21.8703	-919.999	27	46.9136
39.17	0.81	21.4359	-923.914	38	24.6914
39.37	0.801	21.6531	-919.999	20	37.4532
39.57	0.812	21.8703	-919.999	30	36.9458
39.77	0.814	21.8703	-919.999	30	22.113
39.97	0.809	21.6531	-923.914	18	39.555
40.17	0.806	21.6531	-923.914	32	27.2953
40.37	0.803	21.6531	-923.914	22	27.3973
40.57	0.807	21.6531	-919.999	22	22.3048
40.77	0.814	21.6531	-923.914	18	25.7985
40.97	0.808	21.6531	-923.914	21	32.1782
41.17	0.805	21.6531	-923.914	26	26.087
41.37	0.806	21.6531	-923.914	21	37.2208
41.58	0.804	21.6531	-923.914	30	38.5572
41.78	0.797	21.8703	-919.999	31	23.8394
41.98	0.789	21.8703	-919.999	19	27.8834
42.18	0.794	21.8703	-919.999	22	23.9295
42.38	0.798	21.6531	-923.914	19	22.5564
42.58	0.798	21.6531	-923.914	18	27.5689
42.78	0.797	21.6531	-923.914	22	22.5847
42.98	0.794	21.6531	-923.914	18	34.005
43.18	0.797	21.6531	-919.999	27	36.3864
43.38	0.801	21.4359	-919.999	29	31.211
43.58	0.807	21.6531	-916.084	25	26.0223
43.78	0.807	21.8703	-927.829	21	26.0223
43.98	0.809	21.8703	-927.829	21	30.9023
44.18	0.805	21.6531	-923.914	25	27.3292
44.38	0.809	21.6531	-919.999	22	32.1384
44.58	0.81	21.6531	-919.999	26	38.2716
44.78	0.81	21.8703	-923.914	31	17.284
44.98	0.81	21.8703	-919.999	14	34.5679
45.18	0.812	21.8703	-923.914	28	30.7882
45.38	0.816	21.8703	-923.914	25	45.3431
45.58	0.814	21.6531	-927.829	37	36.855
45.78	0.806	21.6531	-923.914	30	29.7767
45.98	0.805	21.6531	-919.999	24	24.8447
46.18	0.809	21.6531	-919.999	20	25.958
46.38	0.804	21.6531	-923.914	21	33.5821
46.58	0.794	21.4359	-916.084	27	39.0428

46.78	0.794	21.6531	-923.914	31	41.5617
46.98	0.793	21.6531	-923.914	33	32.7869
47.18	0.804	21.6531	-923.914	26	18.6567
47.38	0.803	21.6531	-916.084	15	24.9066
47.58	0.797	21.6531	-923.914	20	22.5847
47.78	0.783	21.6531	-919.999	18	19.1571
47.98	0.793	21.8703	-923.914	15	30.2648
48.18	0.806	21.6531	-923.914	24	27.2953
48.38	0.806	21.6531	-923.914	22	29.7767
48.58	0.801	21.6531	-919.999	24	37.4532
48.78	0.804	21.6531	-919.999	30	24.8756
48.98	0.814	21.6531	-923.914	20	30.7125
49.18	0.812	21.8703	-919.999	25	25.8621
49.38	0.809	21.6531	-923.914	21	27.1941
49.58	0.802	21.6531	-916.084	22	38.6534
49.78	0.808	21.6531	-916.084	31	28.4653
49.98	0.81	21.8703	-927.829	23	28.3951
50.18	0.813	21.6531	-923.914	23	30.7503
50.38	0.812	21.6531	-923.914	25	32.0197
50.58	0.811	21.8703	-919.999	26	29.5931
50.78	0.813	21.6531	-919.999	24	27.0603
50.98	0.814	21.6531	-916.084	22	30.7125
51.18	0.807	21.6531	-923.914	25	43.3705
51.38	0.798	21.8703	-919.999	35	26.3158
51.58	0.797	21.6531	-912.169	21	30.1129
51.78	0.8	21.8703	-923.914	24	30
51.98	0.8	21.4359	-919.999	24	22.5
52.18	0.793	21.6531	-923.914	18	34.0479
52.38	0.797	21.6531	-927.829	27	28.8582
52.58	0.796	21.8703	-919.999	23	38.9447
52.78	0.799	21.8703	-919.999	31	42.5532
52.98	0.797	21.6531	-919.999	34	38.8959
53.18	0.799	21.6531	-923.914	31	26.2829
53.38	0.806	21.6531	-919.999	21	24.8139
53.58	0.804	21.8703	-919.999	20	29.8507
53.78	0.812	21.6531	-919.999	24	28.3251
53.98	0.811	21.6531	-919.999	23	29.5931
54.18	0.802	21.8703	-927.829	24	38.6534
54.38	0.808	21.6531	-919.999	31	35.8911
54.58	0.812	21.6531	-919.999	29	46.798
54.78	0.815	21.6531	-916.084	38	29.4479
54.98	0.813	21.6531	-923.914	24	29.5203
55.18	0.807	21.6531	-919.999	24	39.653
55.38	0.812	21.6531	-923.914	32	40.6404
55.58	0.817	21.6531	-919.999	33	34.2717
55.78	0.812	21.6531	-923.914	28	29.5567
55.98	0.803	21.6531	-927.829	24	36.1146

56.18	0.805	21.8703	-923.914	29	33.5404
56.38	0.807	21.6531	-923.914	27	27.2615
56.58	0.802	21.8703	-923.914	22	32.419
56.78	0.804	21.6531	-919.999	26	19.9005
56.98	0.799	21.8703	-923.914	16	38.7985
57.18	0.803	21.6531	-919.999	31	37.3599
57.38	0.806	21.6531	-919.999	30	24.8139
57.58	0.793	21.6531	-919.999	20	34.0479
57.78	0.795	21.6531	-923.914	27	32.7044
57.98	0.797	21.6531	-923.914	26	40.1506
58.18	0.808	21.8703	-923.914	32	28.4653
58.38	0.814	21.6531	-919.999	23	30.7125
58.58	0.81	21.8703	-919.999	25	41.9753
58.78	0.804	21.6531	-919.999	34	17.4129
58.98	0.811	21.6531	-916.084	14	36.9914
59.18	0.813	21.8703	-916.084	30	30.7503
59.38	0.806	21.8703	-919.999	25	33.4988
59.58	0.807	21.6531	-923.914	27	24.7831
59.78	0.807	21.8703	-919.999	20	23.544
59.98	0.812	21.8703	-919.999	19	28.3251
60.18	0.814	21.6531	-919.999	23	29.484
60.38	0.816	21.6531	-919.999	24	31.8627
60.58	0.809	21.8703	-919.999	26	28.4302
60.78	0.809	21.6531	-923.914	23	27.1941
60.98	0.804	21.6531	-923.914	22	16.1692
61.18	0.795	21.8703	-919.999	13	13.8365
61.38	0.769	21.6531	-919.999	11	26.0078
61.59	0.769	21.8703	-919.999	20	20.8062
61.79	0.767	21.8703	-923.914	16	16.9492
61.99	0.777	21.8703	-919.999	13	30.888
62.19	0.771	21.8703	-923.914	24	20.7523
62.39	0.77	21.6531	-919.999	16	24.6753
62.59	0.769	21.8703	-923.914	19	27.3082
62.79	0.772	21.6531	-923.914	21	24.6114
62.99	0.783	21.8703	-927.829	19	29.3742
63.19	0.778	21.6531	-923.914	23	29.563
63.39	0.779	21.8703	-919.999	23	32.0924
63.59	0.78	21.8703	-919.999	25	30.7692
63.79	0.781	21.8703	-919.999	24	26.8886
63.99	0.784	21.6531	-923.914	21	34.4388
64.19	0.778	21.6531	-919.999	27	19.2802
64.39	0.778	21.4359	-919.999	15	33.419
64.59	0.777	21.8703	-923.914	26	34.749
64.79	0.788	21.8703	-923.914	27	40.6091
64.99	0.788	21.8703	-923.914	32	32.9949
65.19	0.779	21.8703	-919.999	26	23.1065
65.39	0.777	21.6531	-916.084	18	23.166

65.59	0.785	21.8703	-923.914	18	50.9554
65.79	0.796	21.8703	-919.999	40	45.2261
65.99	0.794	21.8703	-919.999	36	31.4861
66.19	0.794	21.8703	-919.999	25	46.5995
66.39	0.793	22.0876	-927.829	37	45.3972
66.59	0.795	21.6531	-919.999	36	50.3145
66.79	0.794	21.6531	-923.914	40	49.1184
66.99	0.787	21.8703	-923.914	39	43.202
67.19	0.786	21.8703	-919.999	34	35.6234
67.39	0.789	21.6531	-923.914	28	45.6274
67.59	0.792	22.0876	-923.914	36	50.5051
67.79	0.8	21.8703	-919.999	40	46.25
67.99	0.799	21.6531	-919.999	37	53.8173
68.19	0.803	21.8703	-916.084	43	49.8132
68.39	0.807	21.8703	-923.914	40	40.8922
68.59	0.802	21.6531	-919.999	33	62.3441
68.79	0.803	21.8703	-923.914	50	48.5679
68.99	0.801	21.6531	-923.914	39	49.9376
69.19	0.804	21.8703	-919.999	40	42.2886
69.39	0.803	21.8703	-923.914	34	44.8319
69.59	0.801	21.6531	-919.999	36	43.6954
69.79	0.795	21.6531	-923.914	35	47.7987
69.99	0.803	21.8703	-923.914	38	41.0959
70.19	0.805	21.6531	-919.999	33	43.4783
70.39	0.805	21.8703	-923.914	35	69.5652
70.59	0.793	21.8703	-919.999	56	51.7024
70.79	0.789	21.8703	-923.914	41	65.9062
70.99	0.784	21.8703	-923.914	52	58.6735
71.19	0.791	21.8703	-919.999	46	56.89
71.39	0.793	21.6531	-923.914	45	52.9634
71.59	0.784	21.6531	-923.914	42	56.1224
71.79	0.785	21.6531	-919.999	44	66.242
71.99	0.79	21.6531	-919.999	52	44.3038
72.19	0.793	21.8703	-919.999	35	50.4414
72.39	0.794	21.8703	-923.914	40	51.6373
72.59	0.795	21.6531	-919.999	41	55.3459
72.79	0.798	21.8703	-919.999	44	42.6065
72.99	0.8	21.8703	-923.914	34	47.5
73.19	0.798	21.8703	-919.999	38	65.1629
73.39	0.798	21.6531	-923.914	52	43.8596
73.59	0.801	21.8703	-931.744	35	59.9251
73.79	0.805	21.6531	-919.999	48	50.9317
73.99	0.802	21.8703	-923.914	41	49.8753
74.19	0.8	21.6531	-923.914	40	51.25
74.39	0.802	21.8703	-919.999	41	57.3566
74.59	0.805	21.8703	-923.914	46	49.6894
74.79	0.804	21.8703	-923.914	40	74.6269

74.99	0.801	21.8703	-923.914	60	64.9189
75.19	0.793	21.8703	-919.999	52	65.5738
75.39	0.789	21.8703	-919.999	52	46.8948
75.59	0.791	21.6531	-919.999	37	63.2111
75.79	0.793	21.8703	-919.999	50	56.7465
75.99	0.786	21.6531	-919.999	45	50.8906
76.19	0.788	21.8703	-923.914	40	53.2995
76.39	0.789	21.6531	-923.914	42	48.1622
76.59	0.79	21.6531	-927.829	38	49.3671
76.79	0.782	21.6531	-919.999	39	65.2174
76.99	0.786	21.6531	-927.829	51	57.2519
77.19	0.791	21.6531	-919.999	45	45.512
77.39	0.799	21.8703	-923.914	36	56.3204
77.59	0.803	21.8703	-923.914	45	59.7758
77.79	0.803	21.6531	-923.914	48	59.7758
77.99	0.799	21.8703	-919.999	48	45.0563
78.19	0.799	22.0876	-919.999	36	56.3204
78.39	0.801	21.6531	-923.914	45	71.161
78.59	0.8	21.6531	-919.999	57	45
78.79	0.795	21.8703	-923.914	36	60.3774
78.99	0.799	21.8703	-923.914	48	53.8173
79.19	0.804	21.8703	-919.999	43	46.0199
79.39	0.806	21.8703	-919.999	37	64.5161
79.59	0.803	21.8703	-916.084	52	47.3225
79.79	0.798	21.6531	-919.999	38	68.9223
79.99	0.8	21.6531	-927.829	55	61.25
80.19	0.799	22.0876	-919.999	49	48.811
80.39	0.792	21.8703	-919.999	39	45.4545
80.59	0.782	21.6531	-923.914	36	70.3325
80.79	0.786	21.6531	-923.914	55	53.4351
80.99	0.787	22.0876	-923.914	42	49.5553
81.19	0.791	21.8703	-919.999	39	60.6827
81.39	0.783	21.8703	-923.914	48	57.4713
81.6	0.784	21.6531	-919.999	45	71.4286
81.8	0.787	21.8703	-923.914	56	43.202
82	0.799	21.6531	-923.914	34	56.3204
82.2	0.8	21.6531	-916.084	45	53.75
82.4	0.792	21.8703	-919.999	43	44.1919
82.6	0.796	21.6531	-923.914	35	47.7387
82.8	0.803	21.6531	-927.829	38	69.7385
83	0.801	21.8703	-919.999	56	43.6954
83.2	0.798	21.8703	-923.914	35	57.6441
83.4	0.798	21.8703	-923.914	46	37.594
83.6	0.802	21.6531	-919.999	30	56.1097
83.8	0.807	21.8703	-923.914	45	60.7187
84	0.804	21.8703	-923.914	49	26.1194
84.2	0.798	21.8703	-923.914	21	58.8972

84.4	0.798	21.6531	-919.999	47	63.9098
84.6	0.802	21.8703	-919.999	51	44.8878
84.8	0.798	21.8703	-919.999	36	52.6316
85	0.794	21.8703	-923.914	42	42.8212
85.2	0.786	21.6531	-919.999	34	54.7074
85.4	0.788	21.6531	-923.914	43	52.0305
85.6	0.796	21.6531	-916.084	41	43.9698
85.8	0.792	21.8703	-927.829	35	55.5556
86	0.788	21.8703	-923.914	44	57.1066
86.2	0.782	21.8703	-923.914	45	56.266
86.4	0.788	21.6531	-919.999	44	45.6853
86.6	0.789	21.6531	-923.914	36	70.9759
86.8	0.793	21.6531	-919.999	56	68.0958
87	0.795	21.6531	-919.999	54	42.7673
87.2	0.799	21.8703	-923.914	34	45.0563
87.4	0.802	21.6531	-923.914	36	49.8753
87.6	0.802	21.8703	-916.084	40	56.1097
87.8	0.799	21.8703	-916.084	45	52.5657
88	0.796	21.6531	-919.999	42	51.5075
88.2	0.794	21.6531	-923.914	41	47.8589
88.4	0.805	21.6531	-927.829	38	60.8696
88.6	0.804	21.6531	-919.999	49	37.3134
88.8	0.796	21.6531	-919.999	30	71.608
89	0.801	21.8703	-923.914	57	38.7016
89.2	0.807	21.6531	-923.914	31	52.0446
89.4	0.804	21.8703	-916.084	42	60.9453
89.6	0.793	21.8703	-923.914	49	50.4414
89.8	0.79	21.6531	-919.999	40	53.1646
90	0.788	21.6531	-919.999	42	49.4924
90.2	0.789	21.6531	-923.914	39	51.9645
90.4	0.787	21.6531	-919.999	41	80.0508
90.6	0.786	21.8703	-919.999	63	39.4402
90.8	0.788	21.8703	-919.999	31	48.2234
91	0.791	21.8703	-919.999	38	53.0973
91.2	0.792	21.8703	-923.914	42	59.3434
91.4	0.791	21.6531	-923.914	47	48.0405
91.6	0.794	21.8703	-923.914	38	49.1184
91.8	0.802	21.8703	-923.914	39	61.0973
92	0.805	21.6531	-923.914	49	80.7453
92.2	0.799	21.6531	-919.999	65	57.572
92.4	0.795	21.8703	-927.829	46	54.0881
92.6	0.794	21.8703	-923.914	43	64.2317
92.8	0.801	21.8703	-919.999	51	63.6704
93	0.802	21.6531	-919.999	51	67.3317
93.2	0.796	21.8703	-916.084	54	55.2764
93.4	0.797	21.8703	-919.999	44	53.9523
93.6	0.803	21.6531	-923.914	43	77.2105

93.8	0.799	21.8703	-919.999	62	56.3204
94	0.795	21.6531	-916.084	45	51.5723
94.2	0.798	21.8703	-923.914	41	76.4411
94.4	0.792	21.8703	-923.914	61	64.3939
94.6	0.791	21.8703	-919.999	51	60.6827
94.8	0.789	21.8703	-919.999	48	55.7668
95	0.79	21.6531	-919.999	44	77.2152
95.2	0.786	21.8703	-919.999	61	77.6081
95.4	0.789	21.8703	-919.999	61	65.9062
95.6	0.788	21.6531	-919.999	52	68.5279
95.8	0.783	21.8703	-923.914	54	63.857
96	0.784	21.8703	-919.999	50	49.7449
96.2	0.791	21.8703	-919.999	39	54.3616
96.4	0.798	22.0876	-919.999	43	73.9348
96.6	0.804	21.6531	-919.999	59	54.7264
96.8	0.799	21.6531	-919.999	44	67.5845
97	0.799	21.8703	-923.914	54	66.3329
97.2	0.802	21.8703	-919.999	53	57.3566
97.4	0.805	21.8703	-923.914	46	74.5342
97.6	0.803	21.8703	-919.999	60	69.7385
97.8	0.798	21.8703	-923.914	56	70.1754
98	0.797	21.8703	-919.999	56	79.0464
98.2	0.798	21.8703	-923.914	63	88.9724
98.4	0.804	21.6531	-923.914	71	64.6766
98.6	0.8	21.8703	-919.999	52	76.25
98.8	0.797	21.6531	-927.829	61	75.2823
99	0.799	21.8703	-935.659	60	76.3454
99.2	0.797	21.6531	-919.999	61	71.5182
99.4	0.792	21.6531	-919.999	57	69.4444
99.6	0.777	21.8703	-923.914	55	72.0721
99.8	0.787	21.8703	-916.084	56	90.216
100	0.792	21.6531	-919.999	71	70.7071
100.2	0.788	21.6531	-919.999	56	78.6802
100.4	0.784	21.8703	-923.914	62	95.6633
100.6	0.783	21.6531	-919.999	75	70.2427
100.8	0.791	21.8703	-923.914	55	64.4753
101	0.799	21.8703	-919.999	51	51.3141
101.2	0.798	21.8703	-919.999	41	93.985
101.4	0.797	21.8703	-923.914	75	79.0464
101.61	0.798	22.0876	-923.914	63	70.1754
101.81	0.797	21.6531	-919.999	56	72.7729
102.01	0.803	21.6531	-923.914	58	62.2665
102.21	0.803	21.6531	-923.914	50	68.4931
102.41	0.797	21.8703	-927.829	55	71.5182
102.61	0.801	22.0876	-923.914	57	76.1548
102.81	0.808	21.8703	-927.829	61	76.7327
103.01	0.804	21.8703	-919.999	62	55.9701

103.21	0.802	21.8703	-916.084	45	61.0973
103.41	0.797	21.6531	-919.999	49	80.3011
103.61	0.801	21.8703	-919.999	64	73.6579
103.81	0.795	21.8703	-923.914	59	71.6981
104.01	0.791	21.6531	-919.999	57	56.89
104.21	0.786	21.6531	-919.999	45	78.8804
104.41	0.786	21.8703	-923.914	62	72.5191
104.61	0.791	21.6531	-919.999	57	69.5322
104.81	0.793	21.8703	-919.999	55	66.8348
105.01	0.786	21.8703	-923.914	53	85.2417
105.21	0.781	22.0876	-919.999	67	65.3009
105.41	0.782	21.8703	-919.999	51	72.89
105.61	0.795	21.8703	-923.914	57	76.7296
105.81	0.796	21.6531	-919.999	61	69.0955
106.01	0.795	21.6531	-919.999	55	71.6981
106.21	0.799	21.6531	-919.999	57	71.3392
106.41	0.807	21.6531	-923.914	57	70.632
106.61	0.804	21.6531	-923.914	57	69.6517
106.81	0.796	21.8703	-923.914	56	89.196
107.01	0.798	21.6531	-919.999	71	76.4411
107.21	0.8	21.6531	-927.829	61	51.25
107.41	0.802	21.8703	-916.084	41	61.0973
107.61	0.803	21.8703	-923.914	49	58.5305
107.81	0.8	21.8703	-919.999	47	65
108.01	0.803	21.8703	-919.999	52	64.7572
108.21	0.806	21.6531	-919.999	52	59.5533
108.41	0.805	21.6531	-923.914	48	73.2919
108.61	0.796	21.6531	-919.999	59	65.3266
108.81	0.789	21.8703	-923.914	52	70.9759
109.01	0.791	22.0876	-923.914	56	77.1176
109.21	0.791	21.6531	-923.914	61	72.0607
109.41	0.79	21.8703	-919.999	57	58.2278
109.61	0.783	21.8703	-919.999	46	66.4112
109.81	0.784	21.8703	-923.914	52	76.5306
110.01	0.79	21.8703	-923.914	60	79.7468
110.21	0.788	21.8703	-919.999	63	72.335
110.41	0.788	21.8703	-923.914	57	67.2589
110.61	0.795	21.6531	-919.999	53	66.6667
110.81	0.803	21.8703	-919.999	53	70.9838
111.01	0.795	21.8703	-916.084	57	76.7296
111.21	0.8	21.8703	-919.999	61	95
111.41	0.797	21.8703	-923.914	76	80.3011
111.61	0.797	21.6531	-919.999	64	74.0276
111.81	0.803	21.8703	-923.914	59	82.1918
112.01	0.8	21.8703	-923.914	66	70
112.21	0.802	21.8703	-919.999	56	74.813
112.41	0.798	21.6531	-923.914	60	56.391

112.61	0.803	21.8703	-919.999	45	73.4745
112.81	0.805	21.8703	-919.999	59	78.2609
113.01	0.803	21.8703	-923.914	63	56.0399
113.21	0.793	22.0876	-916.084	45	56.7465
113.41	0.79	22.0876	-927.829	45	70.8861
113.61	0.796	21.6531	-923.914	56	84.1709
113.81	0.792	21.8703	-923.914	67	70.7071
114.01	0.79	21.6531	-919.999	56	74.6835
114.21	0.788	21.8703	-923.914	59	77.4112
114.41	0.789	21.8703	-919.999	61	76.0456
114.61	0.791	21.8703	-919.999	60	73.3249
114.81	0.787	21.6531	-923.914	58	97.8399
115.01	0.787	21.8703	-923.914	77	73.6976
115.21	0.787	21.8703	-923.914	58	69.8856
115.41	0.795	21.6531	-923.914	55	64.1509
115.61	0.802	21.8703	-923.914	51	56.1097
115.81	0.799	21.6531	-919.999	45	70.0876
116.01	0.799	21.6531	-919.999	56	70.0876
116.21	0.797	21.6531	-919.999	39	48.9335
116.41	0.801	21.6531	-923.914	61	76.1548
116.61	0.803	21.6531	-919.999	71	88.4184
116.81	0.799	21.8703	-927.829	55	68.836
117.01	0.789	21.8703	-923.914	56	70.9759
117.21	0.799	21.6531	-919.999	66	82.6033
117.41	0.805	21.6531	-923.914	70	86.9565
117.61	0.806	21.8703	-919.999	72	89.33
117.81	0.8	21.8703	-919.999	56	70
118.01	0.8	21.8703	-919.999	59	73.75
118.21	0.801	21.8703	-923.914	62	77.4032
118.41	0.797	21.6531	-923.914	57	71.5182
118.61	0.793	21.6531	-923.914	66	83.2282
118.81	0.783	21.6531	-923.914	54	68.9655
119.01	0.784	21.6531	-919.999	57	72.7041
119.21	0.791	21.8703	-923.914	57	72.0607
119.41	0.791	21.8703	-923.914	47	59.4185
119.61	0.788	21.6531	-923.914	56	71.066
119.81	0.784	21.6531	-919.999	54	68.8775
120.01	0.791	21.6531	-923.914	71	89.7598
120.21	0.798	21.8703	-927.829	65	81.4536
120.41	0.802	21.8703	-923.914	49	61.0973
120.61	0.801	21.8703	-919.999	49	61.1735
120.81	0.797	21.8703	-919.999	62	77.7917
121.01	0.8	21.6531	-919.999	69	86.25
121.21	0.797	21.6531	-919.999	59	74.0276
121.41	0.8	21.6531	-919.999	46	57.5
121.61	0.795	21.8703	-923.914	60	75.4717
121.82	0.802	21.6531	-919.999	49	61.0973

122.02	0.804	21.8703	-919.999	75	93.2836
122.22	0.801	21.8703	-916.084	59	73.6579
122.42	0.801	21.6531	-916.084	58	72.4095
122.62	0.791	21.6531	-927.829	65	82.1745
122.82	0.803	21.8703	-919.999	56	69.7385
123.02	0.799	21.6531	-919.999	65	81.3517
123.22	0.795	21.8703	-919.999	68	85.5346
123.42	0.784	21.8703	-919.999	51	65.051
123.62	0.785	21.8703	-923.914	53	67.5159
123.82	0.796	21.6531	-919.999	63	79.1457
124.02	0.793	21.8703	-923.914	51	64.3127
124.22	0.786	21.6531	-919.999	56	71.2468
124.42	0.782	21.6531	-919.999	61	78.0051
124.62	0.787	21.6531	-927.829	44	55.9085
124.82	0.792	21.6531	-919.999	52	65.6566
125.02	0.795	21.6531	-927.829	53	66.6667
125.22	0.801	21.8703	-919.999	59	73.6579
125.42	0.8	21.8703	-923.914	51	63.75
125.62	0.8	21.6531	-927.829	63	78.75
125.82	0.804	21.6531	-923.914	59	73.3831
126.02	0.8	21.8703	-923.914	47	58.75
126.22	0.799	21.6531	-927.829	47	58.8235
126.42	0.803	21.6531	-927.829	63	78.4558
126.62	0.804	21.8703	-923.914	44	54.7264
126.82	0.799	21.8703	-919.999	49	61.3267
127.02	0.793	21.8703	-919.999	55	69.3569
127.22	0.8	21.6531	-923.914	73	91.25
127.42	0.804	21.8703	-923.914	49	60.9453
127.62	0.802	21.8703	-919.999	48	59.8504
127.82	0.792	21.6531	-923.914	52	65.6566
128.02	0.793	21.8703	-923.914	63	79.4451
128.22	0.79	21.8703	-923.914	60	75.9494
128.42	0.786	21.8703	-923.914	51	64.8855
128.62	0.788	21.8703	-919.999	48	60.9137
128.82	0.785	21.8703	-919.999	50	63.6943
129.02	0.785	21.8703	-919.999	48	61.1465
129.22	0.789	21.6531	-923.914	69	87.4525
129.42	0.791	21.8703	-919.999	58	73.3249
129.62	0.794	21.8703	-927.829	53	66.7506
129.82	0.791	21.4359	-916.084	60	75.8533
130.02	0.8	21.6531	-923.914	53	66.25
130.22	0.802	21.8703	-919.999	58	72.3192
130.42	0.802	21.8703	-919.999	46	57.3566
130.62	0.797	21.8703	-923.914	54	67.7541
130.82	0.8	21.8703	-919.999	63	78.75
131.02	0.803	21.8703	-923.914	60	74.7198
131.22	0.804	22.0876	-919.999	57	70.8955

131.42	0.803	21.6531	-923.914	45	56.0399
131.62	0.8	21.6531	-923.914	59	73.75
131.82	0.804	21.6531	-919.999	56	69.6517
132.02	0.807	21.8703	-923.914	47	58.2404
132.22	0.802	21.6531	-923.914	49	61.0973
132.42	0.796	21.8703	-919.999	58	72.8643
132.62	0.791	21.8703	-919.999	48	60.6827
132.82	0.794	21.6531	-919.999	64	80.6045
133.02	0.791	21.8703	-919.999	43	54.3616
133.22	0.788	21.6531	-919.999	48	60.9137
133.42	0.782	21.6531	-919.999	43	54.9872
133.62	0.789	21.8703	-919.999	49	62.1039
133.82	0.79	21.8703	-919.999	48	60.7595
134.02	0.785	21.6531	-919.999	63	80.2548
134.22	0.78	22.0876	-919.999	45	57.6923
134.42	0.791	21.6531	-919.999	47	59.4185
134.62	0.8	21.6531	-923.914	48	60
134.82	0.801	21.8703	-923.914	70	87.3908
135.02	0.8	21.8703	-919.999	50	62.5
135.22	0.8	21.8703	-923.914	51	63.75
135.42	0.8	21.8703	-919.999	50	62.5
135.62	0.803	21.8703	-923.914	55	68.4931
135.82	0.801	21.6531	-919.999	44	54.9313
136.02	0.798	21.8703	-923.914	46	57.6441
136.22	0.799	21.6531	-919.999	65	81.3517
136.42	0.803	21.8703	-923.914	57	70.9838
136.62	0.808	21.8703	-919.999	71	87.8713
136.82	0.803	21.8703	-919.999	58	72.2291
137.02	0.801	21.6531	-923.914	62	77.4032
137.22	0.803	21.6531	-919.999	56	69.7385
137.42	0.801	21.6531	-919.999	61	76.1548
137.62	0.792	22.0876	-923.914	48	60.6061
137.82	0.787	21.8703	-927.829	33	41.9314
138.02	0.787	21.8703	-916.084	60	76.2389
138.22	0.791	21.8703	-923.914	53	67.0038
138.42	0.786	21.8703	-919.999	58	73.7914
138.62	0.784	21.8703	-919.999	46	58.6735
138.82	0.782	21.8703	-919.999	51	65.2174
139.02	0.788	21.8703	-919.999	54	68.5279
139.22	0.799	21.8703	-923.914	56	70.0876
139.42	0.801	21.8703	-919.999	60	74.9064
139.62	0.799	21.8703	-919.999	49	61.3267
139.82	0.788	21.8703	-919.999	49	62.1827
140.02	0.803	21.6531	-919.999	45	56.0399
140.22	0.804	21.8703	-919.999	44	54.7264
140.42	0.8	21.8703	-923.914	56	70
140.62	0.798	21.6531	-919.999	76	95.2381

140.82	0.8	21.6531	-919.999	66	82.5
141.02	0.808	21.8703	-919.999	49	60.6436
141.22	0.806	21.6531	-919.999	52	64.5161
141.42	0.803	21.6531	-919.999	63	78.4558
141.63	0.8	21.8703	-919.999	70	87.5
141.83	0.802	21.8703	-923.914	45	56.1097
142.03	0.798	21.6531	-919.999	49	61.4035
142.23	0.795	21.6531	-919.999	55	69.1824
142.43	0.79	21.6531	-919.999	56	70.8861
142.63	0.792	21.8703	-923.914	46	58.0808
142.83	0.793	21.8703	-927.829	52	65.5738
143.03	0.794	21.8703	-923.914	52	65.4912
143.23	0.786	21.6531	-919.999	59	75.0636
143.43	0.786	21.6531	-919.999	65	82.6972
143.63	0.788	21.6531	-919.999	59	74.8731
143.83	0.791	21.6531	-923.914	77	97.3451
144.03	0.794	21.8703	-923.914	43	54.1562
144.23	0.794	21.6531	-919.999	56	70.529
144.43	0.799	21.8703	-923.914	49	61.3267
144.63	0.803	21.8703	-919.999	51	63.5118
144.83	0.804	21.8703	-923.914	62	77.1144
145.03	0.799	21.6531	-919.999	49	61.3267
145.23	0.797	21.6531	-919.999	51	63.99
145.43	0.798	21.8703	-923.914	52	65.1629
145.63	0.799	21.8703	-923.914	57	71.3392
145.83	0.804	21.6531	-919.999	65	80.8458
146.03	0.802	21.8703	-923.914	52	64.8379
146.23	0.8	21.6531	-923.914	56	70
146.43	0.804	21.6531	-919.999	58	72.1393
146.63	0.809	21.6531	-923.914	57	70.4574
146.83	0.795	21.6531	-923.914	54	67.9245
147.03	0.789	21.8703	-923.914	58	73.5108
147.23	0.792	21.6531	-919.999	54	68.1818
147.43	0.791	21.6531	-919.999	56	70.7965
147.63	0.789	21.8703	-919.999	75	95.057
147.83	0.785	21.6531	-919.999	47	59.8726
148.03	0.787	21.8703	-919.999	60	76.2389
148.23	0.793	21.6531	-923.914	54	68.0958
148.43	0.79	21.6531	-919.999	69	87.3418
148.63	0.792	21.6531	-923.914	60	75.7576
148.83	0.794	21.8703	-919.999	55	69.2695
149.03	0.805	21.8703	-919.999	64	79.5031
149.23	0.808	21.8703	-919.999	58	71.7822
149.43	0.8	21.6531	-919.999	53	66.25
149.63	0.795	21.6531	-919.999	58	72.956
149.83	0.794	21.6531	-916.084	54	68.0101
150.03	0.804	21.6531	-923.914	69	85.8209

150.23	0.8	22.0876	-923.914	54	67.5
150.43	0.798	21.8703	-923.914	54	67.6692
150.63	0.797	21.6531	-919.999	72	90.3388
150.83	0.803	21.6531	-923.914	61	75.9651
151.03	0.81	21.6531	-919.999	57	70.3704
151.23	0.795	21.6531	-923.914	59	74.2138
151.43	0.797	21.6531	-923.914	58	72.7729
151.63	0.796	21.8703	-919.999	63	79.1457
151.83	0.794	21.6531	-923.914	53	66.7506
152.03	0.788	21.6531	-919.999	50	63.4518
152.23	0.789	21.6531	-919.999	46	58.3016
152.43	0.79	21.8703	-919.999	60	75.9494
152.63	0.792	21.6531	-919.999	61	77.0202
152.83	0.789	21.6531	-923.914	63	79.8479
153.03	0.782	21.6531	-919.999	51	65.2174
153.23	0.787	21.4359	-908.254	57	72.4269
153.43	0.789	21.8703	-923.914	70	88.7199
153.63	0.8	21.8703	-927.829	51	63.75
153.83	0.806	21.8703	-919.999	55	68.2382
154.03	0.8	21.6531	-923.914	52	65
154.23	0.798	21.8703	-916.084	67	83.9599
154.43	0.805	21.6531	-923.914	47	58.3851
154.63	0.803	21.8703	-923.914	54	67.2478
154.83	0.804	21.8703	-919.999	62	77.1144
155.03	0.797	21.6531	-919.999	66	82.8105
155.23	0.796	21.8703	-919.999	70	87.9397
155.43	0.802	21.6531	-919.999	42	52.3691
155.63	0.804	21.8703	-923.914	50	62.1891
155.83	0.801	21.6531	-919.999	64	79.9001
156.03	0.798	21.8703	-923.914	46	57.6441
156.23	0.798	21.8703	-919.999	42	52.6316
156.43	0.799	21.8703	-919.999	54	67.5845
156.63	0.794	21.8703	-923.914	53	66.7506
156.83	0.784	21.8703	-923.914	45	57.398
157.03	0.784	21.8703	-919.999	58	73.9796
157.23	0.792	21.6531	-923.914	49	61.8687
157.43	0.791	21.6531	-923.914	60	75.8533
157.63	0.786	21.8703	-919.999	69	87.7863
157.83	0.785	21.6531	-919.999	61	77.707
158.03	0.791	21.8703	-923.914	49	61.9469
158.23	0.798	21.8703	-923.914	40	50.1253
158.43	0.799	21.6531	-923.914	61	76.3454
158.63	0.798	21.6531	-919.999	41	51.3784
158.83	0.797	21.8703	-919.999	51	63.99
159.03	0.801	21.6531	-919.999	53	66.1673
159.23	0.8	21.8703	-923.914	50	62.5
159.43	0.801	21.8703	-919.999	52	64.9189

159.63	0.8	21.8703	-919.999	58	72.5
159.83	0.804	21.6531	-919.999	67	83.3333
160.03	0.807	21.6531	-919.999	64	79.3061
160.23	0.807	21.8703	-919.999	54	66.9145
160.43	0.803	21.6531	-923.914	52	64.7572
160.63	0.803	21.8703	-919.999	44	54.7945
160.83	0.804	21.8703	-923.914	59	73.3831
161.03	0.8	21.6531	-923.914	62	77.5
161.23	0.79	21.6531	-923.914	40	50.6329
161.43	0.787	21.6531	-923.914	48	60.9911
161.64	0.787	21.6531	-927.829	47	59.7205
161.84	0.793	21.8703	-919.999	51	64.3127
162.04	0.791	21.8703	-919.999	59	74.5891
162.24	0.786	21.6531	-923.914	48	61.0687
162.44	0.787	21.6531	-919.999	69	87.6747
162.64	0.783	21.8703	-923.914	55	70.2427
162.84	0.79	22.0876	-919.999	50	63.2911
163.04	0.797	21.8703	-916.084	45	56.4617
163.24	0.798	21.6531	-923.914	64	80.2005
163.44	0.801	21.6531	-919.999	50	62.422
163.64	0.802	21.6531	-923.914	51	63.591
163.84	0.805	21.8703	-919.999	71	88.1988
164.04	0.799	21.8703	-919.999	45	56.3204
164.24	0.8	21.6531	-919.999	47	58.75
164.44	0.802	21.6531	-919.999	55	68.5786
164.64	0.806	21.6531	-923.914	61	75.6824
164.84	0.801	21.6531	-919.999	72	89.8876
165.04	0.799	21.8703	-919.999	54	67.5845
165.24	0.805	21.6531	-923.914	55	68.323
165.44	0.808	21.8703	-919.999	53	65.5941
165.64	0.808	21.8703	-923.914	65	80.4455
165.84	0.797	21.6531	-927.829	57	71.5182
166.04	0.792	21.6531	-923.914	53	66.9192
166.24	0.794	21.6531	-919.999	52	65.4912
166.44	0.792	21.6531	-923.914	48	60.6061
166.64	0.791	21.6531	-919.999	67	84.7029
166.84	0.785	21.6531	-919.999	58	73.8854
167.04	0.782	21.6531	-919.999	68	86.9565
167.24	0.79	21.6531	-923.914	54	68.3544
167.44	0.789	21.6531	-919.999	49	62.1039
167.64	0.793	21.4359	-919.999	56	70.6179
167.84	0.797	21.6531	-923.914	60	75.2823
168.04	0.8	21.8703	-919.999	52	65
168.24	0.804	21.6531	-923.914	72	89.5522
168.44	0.794	21.6531	-923.914	75	94.4584
168.64	0.796	21.6531	-919.999	54	67.8392
168.84	0.799	21.6531	-919.999	54	67.5845

169.04	0.802	21.8703	-923.914	55	68.5786
169.24	0.801	21.8703	-923.914	53	66.1673
169.44	0.802	21.6531	-923.914	50	62.3441
169.64	0.801	21.8703	-919.999	59	73.6579
169.84	0.805	21.8703	-923.914	63	78.2609
170.04	0.809	21.6531	-919.999	70	86.5266
170.24	0.801	21.6531	-919.999	59	73.6579
170.44	0.794	21.8703	-919.999	57	71.7884
170.64	0.794	21.8703	-927.829	57	71.7884
170.84	0.795	21.8703	-919.999	49	61.6352
171.04	0.796	21.6531	-919.999	53	66.5829
171.24	0.792	21.8703	-927.829	50	63.1313
171.44	0.786	21.8703	-919.999	50	63.6132
171.64	0.789	21.8703	-923.914	52	65.9062
171.84	0.792	21.6531	-923.914	53	66.9192
172.04	0.791	21.6531	-919.999	55	69.5322
172.24	0.788	21.6531	-923.914	54	68.5279
172.44	0.788	21.8703	-919.999	63	79.9492
172.64	0.796	21.6531	-919.999	65	81.6583
172.84	0.803	21.6531	-919.999	47	58.5305
173.04	0.801	21.6531	-923.914	62	77.4032
173.24	0.797	21.6531	-919.999	57	71.5182
173.44	0.801	21.6531	-923.914	54	67.4157
173.64	0.804	21.6531	-919.999	56	69.6517
173.84	0.803	21.6531	-919.999	49	61.0212
174.04	0.788	21.8703	-919.999	58	73.6041
174.24	0.799	21.8703	-927.829	56	70.0876
174.44	0.81	21.8703	-919.999	54	66.6667
174.64	0.805	21.6531	-923.914	48	59.6273
174.84	0.803	21.8703	-919.999	56	69.7385
175.04	0.8	21.6531	-923.914	50	62.5
175.24	0.803	21.8703	-923.914	56	69.7385
175.44	0.801	21.6531	-919.999	42	52.4345
175.64	0.792	21.6531	-923.914	50	63.1313
175.84	0.785	21.6531	-927.829	58	73.8854
176.04	0.786	21.6531	-919.999	58	73.7914
176.24	0.791	21.6531	-923.914	66	83.4387
176.44	0.791	21.8703	-923.914	64	80.9102
176.64	0.79	21.6531	-923.914	45	56.962
176.84	0.787	22.0876	-923.914	65	82.5921
177.04	0.79	21.6531	-923.914	51	64.557
177.24	0.803	21.8703	-919.999	48	59.7758
177.44	0.802	21.6531	-923.914	62	77.3067
177.64	0.802	21.6531	-923.914	53	66.0848
177.84	0.799	21.8703	-923.914	64	80.1001
178.04	0.801	21.6531	-919.999	67	83.6454
178.24	0.798	22.0876	-919.999	42	52.6316

178.44	0.795	21.8703	-919.999	41	51.5723
178.64	0.796	21.6531	-923.914	61	76.6332
178.84	0.8	21.8703	-923.914	64	80
179.04	0.803	21.8703	-923.914	54	67.2478
179.24	0.805	21.8703	-919.999	52	64.5963
179.44	0.802	21.8703	-923.914	70	87.2818
179.64	0.8	21.8703	-919.999	54	67.5
179.84	0.8	21.8703	-916.084	47	58.75
180.04	0.801	21.8703	-919.999	61	76.1548
180.24	0.791	21.6531	-919.999	49	61.9469
180.44	0.785	21.6531	-923.914	44	56.051
180.64	0.791	21.8703	-919.999	47	59.4185
180.84	0.797	21.6531	-919.999	39	48.9335
181.04	0.793	21.8703	-927.829	47	59.2686
181.24	0.785	21.8703	-923.914	36	45.8599
181.44	0.784	21.8703	-923.914	33	42.0918
181.65	0.791	21.8703	-919.999	38	48.0405
181.85	0.791	21.6531	-916.084	59	74.5891
182.05	0.796	21.8703	-919.999	44	55.2764
182.25	0.799	21.6531	-923.914	39	48.811
182.45	0.802	21.6531	-919.999	42	52.3691
182.65	0.804	21.8703	-923.914	38	47.2637
182.85	0.806	21.8703	-919.999	36	44.665
183.05	0.801	21.8703	-916.084	42	52.4345
183.25	0.801	21.6531	-927.829	29	36.2047
183.45	0.802	21.6531	-919.999	28	34.9127
183.65	0.802	21.6531	-919.999	40	49.8753
183.85	0.799	21.8703	-919.999	39	48.811
184.05	0.797	21.8703	-923.914	34	42.66
184.25	0.802	21.8703	-923.914	49	61.0973
184.45	0.806	21.4359	-919.999	45	55.8313
184.65	0.798	21.6531	-919.999	38	47.619
184.85	0.796	21.6531	-923.914	46	57.7889
185.05	0.791	21.8703	-919.999	48	60.6827
185.25	0.79	21.6531	-919.999	35	44.3038
185.45	0.788	21.6531	-919.999	35	44.4162
185.65	0.787	21.6531	-916.084	36	45.7433
185.85	0.786	21.6531	-923.914	37	47.0738
186.05	0.789	21.6531	-923.914	36	45.6274
186.25	0.791	21.8703	-919.999	37	46.7762
186.45	0.792	21.6531	-919.999	43	54.2929
186.65	0.794	21.6531	-923.914	42	52.8967
186.85	0.796	21.8703	-923.914	36	45.2261
187.05	0.801	21.6531	-923.914	48	59.9251
187.25	0.802	21.8703	-919.999	30	37.4065
187.45	0.803	21.6531	-923.914	41	51.0585
187.65	0.795	21.6531	-919.999	34	42.7673

187.85	0.797	21.4359	-923.914	35	43.9147
188.05	0.808	21.6531	-923.914	38	47.0297
188.25	0.808	21.6531	-923.914	39	48.2673
188.45	0.803	21.8703	-923.914	58	72.2291
188.65	0.803	21.8703	-923.914	32	39.8506
188.85	0.809	21.6531	-919.999	35	43.2633
189.05	0.809	21.8703	-919.999	37	45.7355
189.25	0.805	21.8703	-919.999	36	44.7205
189.45	0.797	21.8703	-923.914	45	56.4617
189.65	0.794	21.6531	-916.084	31	39.0428
189.85	0.791	21.8703	-919.999	33	41.7193
190.05	0.792	21.8703	-919.999	44	55.5556
190.25	0.788	21.6531	-923.914	44	55.8376
190.45	0.786	21.6531	-923.914	38	48.3461
190.65	0.794	21.8703	-916.084	32	40.3023
190.85	0.793	21.6531	-919.999	32	40.3531
191.05	0.791	21.8703	-919.999	36	45.512
191.25	0.782	21.6531	-919.999	32	40.9207
191.45	0.795	21.8703	-923.914	35	44.0252
191.65	0.804	21.8703	-919.999	39	48.5075
191.85	0.805	21.6531	-923.914	36	44.7205
192.05	0.797	21.6531	-923.914	30	37.6412
192.25	0.799	21.6531	-919.999	43	53.8173
192.45	0.805	21.6531	-919.999	41	50.9317
192.65	0.805	21.6531	-919.999	30	37.2671
192.85	0.803	21.8703	-919.999	38	47.3225
193.05	0.798	21.6531	-919.999	31	38.8471
193.25	0.802	22.0876	-919.999	37	46.1347
193.45	0.804	21.6531	-919.999	41	50.995
193.65	0.808	21.6531	-916.084	36	44.5545
193.85	0.807	21.6531	-927.829	34	42.1314
194.05	0.802	21.8703	-923.914	33	41.1471
194.25	0.804	21.8703	-919.999	40	49.7512
194.45	0.799	21.8703	-919.999	34	42.5532
194.65	0.793	21.8703	-923.914	35	44.1362
194.85	0.792	21.4359	-923.914	36	45.4545
195.05	0.791	21.6531	-923.914	42	53.0973
195.25	0.792	21.8703	-923.914	37	46.7172
195.45	0.788	21.8703	-923.914	45	57.1066
195.65	0.786	21.6531	-923.914	34	43.257
195.85	0.788	22.0876	-923.914	36	45.6853
196.05	0.794	21.8703	-919.999	44	55.4156
196.25	0.801	22.0876	-923.914	43	53.6829
196.45	0.803	21.6531	-923.914	42	52.3039
196.65	0.798	21.6531	-919.999	25	31.3283
196.85	0.793	21.8703	-919.999	43	54.2245
197.05	0.805	21.8703	-923.914	31	38.5093

197.25	0.805	21.8703	-923.914	47	58.3851
197.45	0.8	21.8703	-919.999	30	37.5
197.65	0.797	21.6531	-919.999	33	41.4053
197.85	0.802	21.6531	-923.914	43	53.616
198.05	0.811	21.6531	-919.999	34	41.9235
198.25	0.807	21.6531	-923.914	37	45.8488
198.45	0.804	21.6531	-923.914	38	47.2637
198.65	0.803	21.8703	-923.914	36	44.8319
198.85	0.804	21.6531	-919.999	37	46.0199
199.05	0.797	21.8703	-919.999	35	43.9147
199.25	0.792	21.6531	-916.084	42	53.0303
199.45	0.793	21.6531	-919.999	43	54.2245
199.65	0.795	21.8703	-916.084	28	35.2201
199.85	0.794	21.6531	-923.914	40	50.3778
200.05	0.792	21.8703	-919.999	36	45.4545
200.25	0.79	21.8703	-923.914	37	46.8354
200.45	0.79	21.6531	-919.999	42	53.1646
200.65	0.795	21.8703	-923.914	34	42.7673
200.85	0.796	21.8703	-923.914	39	48.995
201.05	0.795	21.6531	-923.914	36	45.283
201.25	0.796	21.6531	-919.999	35	43.9698
201.45	0.803	21.6531	-919.999	22	27.3973
201.66	0.805	21.6531	-923.914	36	44.7205
201.86	0.802	21.6531	-919.999	51	63.591
202.06	0.797	21.8703	-919.999	33	41.4053
202.26	0.798	21.6531	-919.999	37	46.3659
202.46	0.803	21.8703	-919.999	30	37.3599
202.66	0.798	21.6531	-923.914	34	42.6065
202.86	0.805	21.8703	-923.914	28	34.7826
203.06	0.801	21.8703	-923.914	43	53.6829
203.26	0.804	21.6531	-923.914	47	58.4577
203.46	0.809	21.8703	-919.999	36	44.4994
203.66	0.806	21.6531	-923.914	49	60.794
203.86	0.795	21.8703	-919.999	42	52.8302
204.06	0.791	21.8703	-923.914	30	37.9267
204.26	0.796	21.8703	-919.999	31	38.9447
204.46	0.793	21.6531	-919.999	27	34.0479
204.66	0.788	21.8703	-919.999	37	46.9543
204.86	0.785	21.8703	-919.999	41	52.2293
205.06	0.795	21.8703	-923.914	39	49.0566
205.26	0.795	21.6531	-919.999	31	38.9937
205.46	0.794	22.0876	-916.084	33	41.5617
205.66	0.794	21.6531	-927.829	34	42.8212
205.86	0.802	22.0876	-919.999	38	47.3815
206.06	0.809	21.8703	-919.999	41	50.6799
206.26	0.804	21.6531	-923.914	36	44.7761
206.46	0.8	21.6531	-923.914	50	62.5

206.66	0.796	21.6531	-919.999	36	45.2261
206.86	0.798	21.8703	-919.999	42	52.6316
207.06	0.806	21.6531	-919.999	38	47.1464
207.26	0.802	21.6531	-923.914	35	43.6409
207.46	0.797	22.0876	-919.999	41	51.4429
207.66	0.802	21.6531	-919.999	38	47.3815
207.86	0.811	21.8703	-923.914	45	55.4871
208.06	0.808	21.8703	-919.999	30	37.1287
208.26	0.798	21.6531	-923.914	31	38.8471
208.46	0.794	21.8703	-919.999	35	44.0806
208.66	0.798	21.6531	-923.914	42	52.6316
208.86	0.793	21.8703	-923.914	40	50.4414
209.06	0.792	21.6531	-923.914	27	34.0909
209.26	0.787	21.6531	-919.999	41	52.0966
209.46	0.795	21.6531	-923.914	32	40.2516
209.66	0.794	21.8703	-923.914	32	40.3023
209.86	0.792	21.6531	-919.999	33	41.6667
210.06	0.789	21.8703	-919.999	44	55.7668
210.26	0.793	21.8703	-919.999	29	36.57
210.46	0.797	21.8703	-919.999	30	37.6412
210.66	0.805	21.8703	-919.999	28	34.7826
210.86	0.806	21.6531	-919.999	32	39.7022
211.06	0.802	21.8703	-919.999	32	39.9002
211.26	0.801	21.8703	-927.829	29	36.2047
211.46	0.806	21.6531	-927.829	26	32.2581
211.66	0.807	21.8703	-923.914	46	57.0012
211.86	0.803	21.6531	-923.914	38	47.3225
212.06	0.797	21.8703	-919.999	31	38.8959
212.26	0.802	21.6531	-923.914	42	52.3691
212.46	0.804	21.6531	-919.999	35	43.5323
212.66	0.805	21.6531	-916.084	32	39.7516
212.86	0.804	21.8703	-919.999	36	44.7761
213.06	0.798	21.6531	-923.914	34	42.6065
213.26	0.8	21.6531	-919.999	38	47.5
213.46	0.798	21.6531	-919.999	46	57.6441
213.66	0.791	21.6531	-923.914	28	35.3982
213.86	0.785	21.8703	-923.914	29	36.9427
214.06	0.785	21.8703	-923.914	39	49.6815
214.26	0.795	21.8703	-919.999	29	36.478
214.46	0.794	21.8703	-919.999	41	51.6373
214.66	0.786	21.6531	-919.999	34	43.257
214.86	0.792	22.0876	-919.999	34	42.9293
215.06	0.802	21.8703	-919.999	33	41.1471
215.26	0.803	21.8703	-919.999	23	28.6426
215.46	0.803	21.8703	-923.914	31	38.6052
215.66	0.799	21.8703	-919.999	35	43.8048
215.86	0.8	21.8703	-919.999	47	58.75

216.06	0.803	21.6531	-923.914	28	34.8692
216.26	0.798	21.8703	-919.999	26	32.5815
216.46	0.8	21.8703	-919.999	27	33.75
216.66	0.803	21.6531	-923.914	37	46.0772
216.86	0.806	21.6531	-919.999	33	40.9429
217.06	0.809	21.8703	-923.914	40	49.4438
217.26	0.805	21.8703	-923.914	37	45.9627
217.46	0.802	21.8703	-919.999	44	54.8628
217.66	0.807	21.6531	-923.914	49	60.7187
217.86	0.803	21.4359	-923.914	39	48.5679
218.06	0.798	21.6531	-923.914	34	42.6065
218.26	0.785	21.6531	-923.914	34	43.3121
218.46	0.79	21.6531	-927.829	50	63.2911
218.66	0.791	21.6531	-919.999	43	54.3616
218.86	0.793	21.8703	-923.914	33	41.6141
219.06	0.792	21.6531	-923.914	41	51.7677
219.26	0.788	21.8703	-919.999	31	39.3401
219.46	0.793	21.6531	-927.829	30	37.831
219.66	0.791	21.6531	-923.914	37	46.7762
219.86	0.798	21.6531	-919.999	35	43.8596
220.06	0.8	21.6531	-923.914	35	43.75
220.26	0.802	21.6531	-923.914	32	39.9002
220.46	0.804	21.6531	-919.999	39	48.5075
220.66	0.805	21.8703	-919.999	28	34.7826
220.86	0.803	21.8703	-919.999	25	31.1333
221.06	0.799	21.8703	-919.999	38	47.5594
221.26	0.8	21.8703	-919.999	32	40
221.46	0.807	21.8703	-923.914	43	53.2838
221.66	0.801	21.8703	-919.999	23	28.7141
221.87	0.799	21.8703	-919.999	28	35.0438
222.07	0.802	21.8703	-923.914	37	46.1347
222.27	0.81	21.8703	-919.999	28	34.5679
222.47	0.81	21.8703	-923.914	40	49.3827
222.67	0.8	21.6531	-919.999	33	41.25
222.87	0.792	21.6531	-919.999	32	40.404
223.07	0.792	21.8703	-919.999	32	40.404
223.27	0.801	21.6531	-923.914	32	39.9501
223.47	0.794	21.8703	-923.914	34	42.8212
223.67	0.789	21.8703	-919.999	26	32.9531
223.87	0.784	21.6531	-923.914	27	34.4388
224.07	0.792	21.8703	-923.914	42	53.0303
224.27	0.796	21.8703	-923.914	26	32.6633
224.47	0.796	21.6531	-923.914	41	51.5075
224.67	0.795	21.8703	-923.914	32	40.2516
224.87	0.804	21.8703	-923.914	29	36.0697
225.07	0.805	21.6531	-919.999	32	39.7516
225.27	0.799	22.0876	-919.999	31	38.7985

225.47	0.793	21.8703	-919.999	37	46.6583
225.67	0.801	21.8703	-919.999	19	23.7204
225.87	0.804	21.8703	-923.914	42	52.2388
226.07	0.799	21.8703	-919.999	36	45.0563
226.27	0.802	21.8703	-923.914	34	42.394
226.47	0.802	21.8703	-919.999	35	43.6409
226.67	0.807	21.8703	-919.999	34	42.1314
226.87	0.81	21.8703	-919.999	39	48.1481
227.07	0.808	21.6531	-923.914	34	42.0792
227.27	0.797	21.6531	-919.999	41	51.4429
227.47	0.794	21.6531	-923.914	30	37.7834
227.67	0.795	21.6531	-919.999	35	44.0252
227.87	0.8	21.6531	-919.999	40	50
228.07	0.795	21.8703	-923.914	47	59.1195
228.27	0.788	21.8703	-923.914	33	41.8782
228.47	0.792	21.8703	-923.914	33	41.6667
228.67	0.796	21.6531	-923.914	28	35.1759
228.87	0.793	21.8703	-919.999	34	42.8752
229.07	0.795	21.8703	-916.084	29	36.478
229.27	0.793	21.8703	-923.914	49	61.7907
229.47	0.8	21.6531	-923.914	47	58.75
229.67	0.802	21.6531	-916.084	36	44.8878
229.87	0.803	21.6531	-923.914	35	43.5866
230.07	0.799	21.6531	-919.999	33	41.3016
230.27	0.798	21.8703	-919.999	37	46.3659
230.47	0.802	21.8703	-919.999	25	31.1721
230.67	0.802	21.8703	-919.999	42	52.3691
230.87	0.799	21.6531	-919.999	34	42.5532
231.07	0.791	21.8703	-923.914	43	54.3616
231.27	0.806	21.8703	-923.914	43	53.3499
231.47	0.808	21.6531	-919.999	36	44.5545
231.67	0.803	21.8703	-923.914	34	42.3412
231.87	0.799	21.6531	-927.829	40	50.0626
232.07	0.801	21.8703	-919.999	28	34.9563
232.27	0.806	21.6531	-919.999	32	39.7022
232.47	0.798	21.8703	-923.914	41	51.3784
232.67	0.789	21.6531	-916.084	33	41.8251
232.87	0.787	21.6531	-919.999	42	53.3672
233.07	0.793	21.8703	-927.829	37	46.6583
233.27	0.794	21.6531	-919.999	39	49.1184
233.47	0.79	21.6531	-919.999	50	63.2911
233.67	0.792	21.8703	-923.914	39	49.2424
233.87	0.795	21.6531	-927.829	37	46.5409
234.07	0.802	21.6531	-919.999	54	67.3317
234.27	0.806	21.8703	-923.914	46	57.072
234.47	0.806	21.8703	-919.999	26	32.2581
234.67	0.803	21.8703	-916.084	46	57.2852

234.87	0.803	21.6531	-927.829	31	38.6052
235.07	0.804	21.6531	-919.999	38	47.2637
235.27	0.796	21.6531	-916.084	40	50.2513
235.47	0.797	21.8703	-923.914	48	60.2258
235.67	0.798	21.8703	-919.999	36	45.1128
235.87	0.808	21.8703	-927.829	38	47.0297
236.07	0.804	21.6531	-923.914	43	53.4826
236.27	0.803	21.6531	-923.914	45	56.0399
236.47	0.803	21.6531	-923.914	41	51.0585
236.67	0.803	21.6531	-919.999	43	53.5492
236.87	0.799	21.8703	-923.914	46	57.572
237.07	0.797	21.6531	-923.914	42	52.6976
237.27	0.789	21.6531	-923.914	38	48.1622
237.47	0.793	21.8703	-919.999	39	49.1803
237.67	0.799	21.6531	-919.999	27	33.7922
237.87	0.799	21.8703	-923.914	38	47.5594
238.07	0.789	21.8703	-931.744	37	46.8948
238.27	0.787	21.8703	-923.914	52	66.0737
238.47	0.794	21.8703	-919.999	37	46.5995
238.67	0.798	21.8703	-919.999	36	45.1128
238.87	0.801	21.6531	-919.999	42	52.4345
239.07	0.798	21.6531	-923.914	36	45.1128
239.27	0.803	21.6531	-923.914	29	36.1146
239.47	0.808	21.8703	-923.914	43	53.2178
239.67	0.805	21.8703	-919.999	45	55.9006
239.87	0.802	21.8703	-927.829	51	63.591
240.07	0.804	21.8703	-919.999	43	53.4826
240.27	0.802	21.8703	-919.999	56	69.8254
240.47	0.805	21.8703	-923.914	38	47.205
240.67	0.804	21.8703	-919.999	32	39.801
240.87	0.799	21.8703	-919.999	33	41.3016
241.07	0.801	21.6531	-919.999	45	56.1798
241.27	0.808	21.8703	-919.999	41	50.7426
241.47	0.806	21.8703	-919.999	40	49.6278
241.67	0.795	21.6531	-923.914	40	50.3145
241.88	0.794	21.6531	-919.999	27	34.005
242.08	0.795	21.6531	-923.914	43	54.0881
242.28	0.798	21.6531	-919.999	38	47.619
242.48	0.785	21.8703	-919.999	48	61.1465
242.68	0.788	21.8703	-919.999	34	43.1472
242.88	0.791	21.6531	-916.084	36	45.512
243.08	0.797	21.6531	-916.084	43	53.9523
243.28	0.795	21.8703	-919.999	34	42.7673
243.48	0.798	21.6531	-923.914	33	41.3534
243.68	0.801	21.6531	-923.914	40	49.9376
243.88	0.804	21.8703	-919.999	34	42.2886
244.08	0.807	21.6531	-916.084	29	35.9356

244.28	0.801	21.8703	-919.999	40	49.9376
244.48	0.799	21.6531	-919.999	31	38.7985
244.68	0.797	21.8703	-919.999	42	52.6976
244.88	0.805	21.8703	-919.999	30	37.2671
245.08	0.807	21.8703	-919.999	35	43.3705
245.28	0.804	21.6531	-923.914	39	48.5075
245.48	0.803	21.8703	-923.914	31	38.6052
245.68	0.806	21.8703	-919.999	36	44.665
245.88	0.812	21.8703	-919.999	37	45.5665
246.08	0.807	22.0876	-919.999	42	52.0446
246.28	0.799	21.8703	-919.999	34	42.5532
246.48	0.794	21.6531	-923.914	39	49.1184
246.68	0.794	21.8703	-919.999	44	55.4156
246.88	0.796	21.6531	-923.914	31	38.9447
247.08	0.79	21.8703	-919.999	39	49.3671
247.28	0.788	21.8703	-919.999	37	46.9543
247.48	0.794	22.0876	-919.999	28	35.2645
247.68	0.797	21.6531	-919.999	30	37.6412
247.88	0.794	21.6531	-927.829	36	45.34
248.08	0.789	21.6531	-923.914	50	63.3714
248.28	0.793	21.8703	-919.999	35	44.1362
248.48	0.808	21.8703	-923.914	40	49.505
248.68	0.805	21.8703	-919.999	36	44.7205
248.88	0.801	21.8703	-923.914	36	44.9438
249.08	0.798	21.6531	-919.999	40	50.1253
249.28	0.808	21.8703	-923.914	40	49.505
249.48	0.807	21.8703	-923.914	42	52.0446
249.68	0.803	21.6531	-919.999	34	42.3412
249.88	0.801	21.8703	-923.914	51	63.6704
250.08	0.798	21.6531	-923.914	42	52.6316
250.28	0.808	21.8703	-919.999	43	53.2178
250.48	0.807	21.8703	-923.914	33	40.8922
250.68	0.808	21.8703	-919.999	38	47.0297
250.88	0.806	21.6531	-923.914	39	48.3871
251.08	0.804	21.8703	-923.914	39	48.5075
251.28	0.806	21.8703	-923.914	41	50.8685
251.48	0.797	21.6531	-919.999	23	28.8582
251.68	0.795	21.8703	-919.999	32	40.2516
251.88	0.792	21.8703	-919.999	41	51.7677
252.08	0.797	21.8703	-923.914	43	53.9523
252.28	0.79	21.6531	-923.914	37	46.8354
252.48	0.786	22.0876	-923.914	49	62.341
252.68	0.793	22.0876	-916.084	42	52.9634
252.88	0.798	21.6531	-919.999	37	46.3659
253.08	0.804	21.6531	-916.084	40	49.7512
253.28	0.807	21.8703	-919.999	49	60.7187
253.48	0.802	21.8703	-923.914	37	46.1347

253.68	0.799	21.6531	-916.084	44	55.0688
253.88	0.798	21.6531	-923.914	38	47.619
254.08	0.804	21.8703	-923.914	32	39.801
254.28	0.804	21.8703	-916.084	29	36.0697
254.48	0.795	21.6531	-919.999	36	45.283
254.68	0.804	21.8703	-919.999	31	38.5572
254.88	0.81	21.8703	-923.914	43	53.0864
255.08	0.81	21.8703	-919.999	36	44.4444
255.28	0.803	21.8703	-919.999	48	59.7758
255.48	0.804	21.6531	-919.999	34	42.2886
255.68	0.81	21.8703	-916.084	35	43.2099
255.88	0.818	21.8703	-916.084	40	48.8998
256.08	0.817	21.6531	-919.999	49	59.9755
256.28	0.814	21.6531	-919.999	48	58.9681
256.48	0.818	21.8703	-927.829	35	42.7873
256.68	0.819	21.6531	-923.914	39	47.619
256.88	0.811	21.8703	-919.999	43	53.021
257.08	0.809	21.6531	-919.999	43	53.152
257.28	0.816	21.8703	-923.914	45	55.1471
257.48	0.819	21.8703	-919.999	32	39.072
257.68	0.819	21.8703	-919.999	44	53.7241
257.88	0.819	21.8703	-923.914	39	47.619
258.08	0.819	21.8703	-919.999	38	46.398
258.28	0.826	21.6531	-923.914	41	49.6368
258.48	0.822	21.8703	-919.999	40	48.6618
258.68	0.819	21.8703	-923.914	49	59.8291
258.88	0.821	21.8703	-923.914	44	53.5932
259.08	0.823	21.8703	-927.829	38	46.1725
259.28	0.826	21.8703	-923.914	54	65.3753
259.48	0.819	21.6531	-919.999	41	50.0611
259.68	0.823	21.8703	-923.914	48	58.3232
259.88	0.822	21.8703	-919.999	30	36.4963
260.08	0.827	21.8703	-927.829	38	45.9492
260.28	0.827	21.8703	-923.914	37	44.74
260.48	0.822	21.8703	-923.914	46	55.9611
260.68	0.816	21.6531	-919.999	33	40.4412
260.88	0.815	21.6531	-919.999	35	42.9448
261.08	0.818	21.8703	-919.999	35	42.7873
261.28	0.812	21.8703	-919.999	32	39.4089
261.48	0.806	21.6531	-923.914	44	54.5906
261.68	0.811	21.6531	-919.999	36	44.3896
261.89	0.82	21.8703	-919.999	45	54.878
262.09	0.817	21.8703	-919.999	50	61.1995
262.29	0.82	21.6531	-923.914	35	42.6829
262.49	0.823	21.6531	-923.914	33	40.0972
262.69	0.829	21.8703	-923.914	44	53.076
262.89	0.826	21.8703	-916.084	34	41.1622

263.09	0.823	21.8703	-923.914	31	37.6671
263.29	0.817	21.8703	-919.999	31	37.9437
263.49	0.819	21.8703	-923.914	43	52.5031
263.69	0.822	21.8703	-919.999	43	52.3114
263.89	0.821	21.6531	-916.084	28	34.1048
264.09	0.823	21.8703	-923.914	47	57.1081
264.29	0.821	22.0876	-919.999	37	45.067
264.49	0.829	21.8703	-919.999	40	48.2509
264.69	0.828	21.6531	-923.914	45	54.3478
264.89	0.822	21.6531	-919.999	34	41.3625
265.09	0.815	21.6531	-919.999	36	44.1718
265.29	0.818	21.8703	-923.914	31	37.8973
265.49	0.815	21.8703	-923.914	30	36.8098
265.69	0.813	21.8703	-923.914	39	47.9705
265.89	0.809	21.6531	-919.999	32	39.555
266.09	0.814	21.8703	-919.999	24	29.484
266.29	0.818	21.8703	-923.914	42	51.3447
266.49	0.81	21.8703	-919.999	34	41.9753
266.69	0.812	21.8703	-919.999	56	68.9655
266.89	0.816	21.8703	-919.999	39	47.7941
267.09	0.821	21.8703	-916.084	31	37.7588
267.29	0.829	21.6531	-923.914	52	62.7262
267.49	0.826	21.8703	-927.829	47	56.9007
267.69	0.822	21.6531	-919.999	46	55.9611
267.89	0.823	21.8703	-919.999	43	52.2479
268.09	0.827	21.8703	-919.999	40	48.3676
268.29	0.825	21.8703	-923.914	42	50.9091
268.49	0.82	21.8703	-923.914	44	53.6585
268.69	0.823	21.8703	-916.084	40	48.6027
268.89	0.823	21.6531	-919.999	37	44.9575
269.09	0.827	21.8703	-919.999	35	42.3216
269.29	0.822	21.8703	-919.999	35	42.5791
269.49	0.822	21.8703	-919.999	42	51.0949
269.69	0.821	21.6531	-923.914	32	38.9769
269.89	0.82	21.8703	-919.999	47	57.3171
270.09	0.817	21.8703	-916.084	36	44.0636
270.29	0.81	21.8703	-919.999	41	50.6173
270.49	0.804	21.8703	-919.999	35	43.5323
270.69	0.818	22.0876	-927.829	49	59.9022
270.89	0.815	21.8703	-919.999	40	49.0798
271.09	0.806	21.8703	-919.999	48	59.5533
271.29	0.81	21.8703	-923.914	48	59.2593
271.49	0.821	21.6531	-919.999	55	66.9915
271.69	0.832	21.8703	-916.084	43	51.6827
271.89	0.823	21.6531	-919.999	37	44.9575
272.09	0.818	21.6531	-919.999	41	50.1222
272.29	0.824	21.8703	-923.914	41	49.7573

272.49	0.822	21.8703	-923.914	43	52.3114
272.69	0.817	21.8703	-919.999	47	57.5275
272.89	0.821	21.6531	-923.914	45	54.8112
273.09	0.821	21.8703	-919.999	43	52.3752
273.29	0.833	21.6531	-919.999	40	48.0192
273.49	0.827	21.8703	-923.914	45	54.4135
273.69	0.826	21.8703	-919.999	44	53.2688
273.89	0.826	21.8703	-919.999	61	73.8499
274.09	0.83	21.6531	-923.914	34	40.9639
274.29	0.824	21.8703	-923.914	34	41.2621
274.49	0.814	21.8703	-919.999	40	49.14
274.69	0.806	21.8703	-927.829	46	57.072
274.89	0.811	21.8703	-919.999	44	54.254
275.09	0.816	21.8703	-923.914	31	37.9902
275.29	0.811	21.8703	-919.999	52	64.1184
275.49	0.808	21.8703	-923.914	59	73.0198
275.69	0.81	21.8703	-923.914	60	74.0741
275.89	0.816	21.6531	-923.914	40	49.0196
276.09	0.814	21.8703	-923.914	53	65.1106
276.29	0.822	21.8703	-919.999	47	57.1776
276.49	0.82	21.8703	-919.999	43	52.439
276.69	0.823	21.8703	-916.084	48	58.3232
276.89	0.826	21.6531	-923.914	37	44.7942
277.09	0.822	21.8703	-923.914	47	57.1776
277.29	0.821	21.8703	-923.914	48	58.4653
277.49	0.819	21.6531	-919.999	59	72.0391
277.69	0.825	21.8703	-916.084	42	50.9091
277.89	0.824	21.8703	-923.914	44	53.3981
278.09	0.821	21.8703	-919.999	47	57.2473
278.29	0.821	21.8703	-923.914	43	52.3752
278.49	0.83	21.6531	-923.914	52	62.6506
278.69	0.833	21.6531	-923.914	44	52.8211
278.89	0.822	21.8703	-923.914	53	64.4769
279.09	0.816	21.8703	-923.914	47	57.598
279.29	0.818	21.8703	-923.914	42	51.3447
279.49	0.817	21.8703	-919.999	54	66.0955
279.69	0.81	21.8703	-919.999	43	53.0864
279.89	0.809	21.6531	-923.914	50	61.8047
280.09	0.81	21.8703	-919.999	49	60.4938
280.29	0.81	21.8703	-927.829	54	66.6667
280.49	0.816	21.8703	-919.999	30	36.7647
280.69	0.816	21.8703	-919.999	29	35.5392
280.89	0.815	21.6531	-923.914	47	57.6687
281.09	0.826	21.6531	-923.914	34	41.1622
281.29	0.827	21.8703	-919.999	40	48.3676
281.49	0.825	22.0876	-919.999	35	42.4242
281.69	0.808	21.8703	-923.914	56	69.3069

281.9	0.821	21.8703	-919.999	62	75.5177
282.1	0.821	21.8703	-916.084	35	42.6309
282.3	0.823	21.8703	-923.914	47	57.1081
282.5	0.82	21.8703	-919.999	35	42.6829
282.7	0.825	21.8703	-923.914	51	61.8182
282.9	0.828	22.0876	-923.914	38	45.8937
283.1	0.832	21.8703	-927.829	44	52.8846
283.3	0.825	21.8703	-919.999	39	47.2727
283.5	0.815	21.8703	-919.999	44	53.9877
283.7	0.818	21.8703	-923.914	43	52.5672
283.9	0.817	21.8703	-919.999	36	44.0636
284.1	0.814	21.8703	-919.999	36	44.226
284.3	0.808	21.8703	-919.999	34	42.0792
284.5	0.812	21.6531	-919.999	35	43.1034
284.7	0.815	21.8703	-919.999	37	45.3988
284.9	0.816	21.8703	-919.999	38	46.5686
285.1	0.81	21.8703	-923.914	45	55.5556
285.3	0.813	21.8703	-923.914	44	54.1205
285.5	0.825	21.8703	-919.999	52	63.0303
285.7	0.821	21.8703	-923.914	51	62.1194
285.9	0.823	21.8703	-919.999	42	51.0328
286.1	0.819	21.8703	-919.999	57	69.5971
286.3	0.815	21.6531	-923.914	33	40.4908
286.5	0.824	21.8703	-927.829	43	52.1845
286.7	0.822	21.8703	-919.999	43	52.3114
286.9	0.821	21.8703	-923.914	44	53.5932
287.1	0.813	22.0876	-919.999	41	50.4305
287.3	0.822	21.8703	-919.999	45	54.7445
287.5	0.83	21.8703	-919.999	45	54.2169
287.7	0.827	21.8703	-923.914	39	47.1584
287.9	0.822	21.8703	-916.084	43	52.3114
288.1	0.825	21.8703	-919.999	34	41.2121
288.3	0.825	21.8703	-923.914	43	52.1212
288.5	0.816	21.8703	-923.914	41	50.2451
288.7	0.809	21.8703	-919.999	42	51.9159
288.9	0.809	21.8703	-923.914	44	54.3881
289.1	0.814	21.8703	-927.829	40	49.14
289.3	0.811	21.8703	-919.999	52	64.1184
289.5	0.809	22.0876	-919.999	33	40.7911
289.7	0.813	21.8703	-919.999	52	63.9606
289.9	0.82	21.8703	-916.084	36	43.9024
290.1	0.825	21.8703	-919.999	44	53.3333
290.3	0.826	21.8703	-923.914	45	54.4794
290.5	0.824	22.0876	-923.914	44	53.3981
290.7	0.823	21.8703	-923.914	37	44.9575
290.9	0.823	21.6531	-919.999	36	43.7424
291.1	0.824	21.8703	-919.999	36	43.6893

291.3	0.818	21.8703	-919.999	38	46.4548
291.5	0.817	21.8703	-923.914	45	55.0796
291.7	0.824	21.8703	-919.999	33	40.0485
291.9	0.827	21.8703	-919.999	36	43.5308
292.1	0.824	21.8703	-923.914	40	48.5437
292.3	0.824	21.8703	-923.914	43	52.1845
292.5	0.83	22.0876	-923.914	41	49.3976
292.7	0.818	21.8703	-919.999	32	39.1198
292.9	0.822	21.8703	-923.914	44	53.528
293.1	0.812	21.8703	-923.914	43	52.9557
293.3	0.808	21.8703	-923.914	40	49.505
293.5	0.813	21.8703	-923.914	44	54.1205
293.7	0.817	21.8703	-923.914	38	46.5116
293.9	0.811	21.8703	-923.914	54	66.5845
294.1	0.807	21.8703	-923.914	45	55.7621
294.3	0.813	21.8703	-923.914	41	50.4305
294.5	0.819	21.8703	-916.084	36	43.956
294.7	0.821	21.8703	-919.999	47	57.2473
294.9	0.818	21.8703	-923.914	32	39.1198
295.1	0.823	21.8703	-923.914	42	51.0328
295.3	0.826	22.0876	-923.914	50	60.5327
295.5	0.826	21.8703	-919.999	30	36.3196
295.7	0.821	21.8703	-919.999	47	57.2473
295.9	0.822	21.8703	-919.999	45	54.7445
296.1	0.827	21.8703	-923.914	33	39.9033
296.3	0.823	21.8703	-923.914	36	43.7424
296.5	0.823	21.8703	-923.914	35	42.5273
296.7	0.822	21.8703	-923.914	42	51.0949
296.9	0.824	21.8703	-919.999	41	49.7573
297.1	0.828	21.8703	-923.914	30	36.2319
297.3	0.824	21.8703	-919.999	41	49.7573
297.5	0.817	21.8703	-923.914	51	62.4235
297.7	0.812	21.8703	-919.999	37	45.5665
297.9	0.815	21.8703	-919.999	25	30.6748
298.1	0.815	21.8703	-919.999	41	50.3067
298.3	0.801	21.8703	-927.829	38	47.4407
298.5	0.807	21.8703	-919.999	42	52.0446
298.7	0.813	22.0876	-919.999	39	47.9705
298.9	0.815	22.0876	-927.829	29	35.5828
299.1	0.818	21.8703	-923.914	36	44.0098
299.3	0.817	21.8703	-919.999	32	39.1677
299.5	0.824	21.8703	-919.999	45	54.6117
299.7	0.829	21.8703	-919.999	31	37.3945
299.9	0.821	21.8703	-919.999	36	43.849
300.1	0.824	21.8703	-923.914	48	58.2524
300.3	0.815	21.8703	-919.999	41	50.3067
300.5	0.824	21.8703	-919.999	62	75.2427

300.7	0.826	21.8703	-923.914	36	43.5835
300.9	0.822	21.8703	-919.999	28	34.0633
301.1	0.824	21.8703	-919.999	36	43.6893
301.3	0.829	21.8703	-923.914	34	41.0133
301.5	0.834	22.0876	-923.914	40	47.9616
301.71	0.827	21.8703	-919.999	45	54.4135
301.91	0.822	21.8703	-919.999	49	59.6107
302.11	0.818	21.8703	-919.999	50	61.1247
302.31	0.817	21.8703	-923.914	41	50.1836
302.51	0.812	21.8703	-923.914	45	55.4187
302.71	0.807	21.8703	-919.999	41	50.8055
302.91	0.808	21.8703	-923.914	35	43.3168
303.11	0.811	21.8703	-919.999	37	45.6227
303.31	0.817	21.8703	-923.914	36	44.0636
303.51	0.814	21.8703	-919.999	43	52.8256
303.71	0.808	21.8703	-912.169	37	45.7921
303.91	0.813	21.8703	-919.999	39	47.9705
304.11	0.824	21.8703	-919.999	42	50.9709
304.31	0.825	21.8703	-919.999	48	58.1818
304.51	0.821	21.8703	-923.914	51	62.1194
304.71	0.818	21.8703	-919.999	42	51.3447
304.91	0.828	21.8703	-919.999	39	47.1014
305.11	0.824	22.0876	-919.999	44	53.3981
305.31	0.824	21.8703	-923.914	34	41.2621
305.51	0.819	21.8703	-927.829	38	46.398
305.71	0.822	21.8703	-919.999	40	48.6618
305.91	0.83	21.8703	-919.999	40	48.1928
306.11	0.826	21.8703	-919.999	38	46.0048
306.31	0.823	21.8703	-923.914	36	43.7424
306.51	0.827	21.8703	-919.999	31	37.4849
306.71	0.823	22.0876	-923.914	25	30.3767
306.91	0.821	21.8703	-919.999	31	37.7588
307.11	0.813	21.8703	-919.999	41	50.4305
307.31	0.807	21.8703	-919.999	45	55.7621
307.51	0.815	22.0876	-919.999	43	52.7607
307.71	0.814	21.6531	-916.084	41	50.3685
307.91	0.807	21.8703	-923.914	44	54.5229
308.11	0.804	22.0876	-923.914	53	65.9204
308.31	0.812	21.8703	-919.999	49	60.3448
308.51	0.82	22.0876	-923.914	45	54.878
308.71	0.822	21.8703	-916.084	49	59.6107
308.91	0.821	22.0876	-919.999	29	35.3228
309.11	0.821	21.8703	-919.999	42	51.1571
309.31	0.819	22.0876	-923.914	42	51.2821
309.51	0.822	21.8703	-919.999	48	58.3942
309.71	0.818	21.8703	-923.914	21	25.6724
309.91	0.821	21.8703	-919.999	27	32.8867

310.11	0.824	22.0876	-927.829	44	53.3981
310.31	0.825	21.8703	-923.914	54	65.4545
310.51	0.83	21.8703	-919.999	46	55.4217
310.71	0.824	21.8703	-919.999	47	57.0388
310.91	0.823	21.8703	-923.914	47	57.1081
311.11	0.832	21.8703	-923.914	53	63.7019
311.31	0.82	22.0876	-919.999	47	57.3171
311.51	0.814	21.8703	-919.999	56	68.7961
311.71	0.807	22.0876	-919.999	52	64.4362
311.91	0.815	21.8703	-923.914	55	67.4847
312.11	0.819	21.8703	-919.999	54	65.9341
312.31	0.812	21.8703	-919.999	51	62.8079
312.51	0.809	21.8703	-923.914	44	54.3881
312.71	0.812	21.8703	-919.999	54	66.5025
312.91	0.819	21.8703	-923.914	53	64.7131
313.11	0.82	22.0876	-919.999	57	69.5122
313.31	0.817	21.8703	-923.914	60	73.4394
313.51	0.818	21.8703	-923.914	48	58.6797
313.71	0.823	22.0876	-919.999	39	47.3876
313.91	0.824	21.8703	-919.999	37	44.9029
314.11	0.821	21.8703	-923.914	57	69.4275
314.31	0.816	22.0876	-919.999	51	62.5
314.51	0.824	21.8703	-923.914	55	66.7476
314.71	0.827	22.0876	-923.914	63	76.179
314.91	0.822	22.0876	-919.999	69	83.9416
315.11	0.821	21.8703	-919.999	59	71.8636
315.31	0.826	22.0876	-919.999	51	61.7433
315.51	0.832	21.8703	-923.914	45	54.0865
315.71	0.827	22.0876	-919.999	58	70.133
315.91	0.82	22.0876	-923.914	52	63.4146
316.11	0.817	21.8703	-923.914	62	75.8874
316.31	0.816	22.0876	-919.999	47	57.598
316.51	0.816	21.8703	-923.914	65	79.6569
316.71	0.809	21.8703	-919.999	50	61.8047
316.91	0.806	22.0876	-923.914	57	70.7196
317.11	0.807	21.8703	-919.999	60	74.3494
317.31	0.816	21.8703	-916.084	52	63.7255
317.51	0.817	21.8703	-919.999	57	69.7674
317.71	0.82	22.0876	-927.829	71	86.5854
317.91	0.82	21.8703	-919.999	55	67.0732
318.11	0.827	21.8703	-923.914	69	83.4341
318.31	0.826	22.0876	-923.914	59	71.4286
318.51	0.825	21.8703	-919.999	57	69.0909
318.71	0.819	22.0876	-923.914	66	80.5861
318.91	0.825	22.0876	-919.999	64	77.5758
319.11	0.821	22.0876	-919.999	60	73.0816
319.31	0.82	22.0876	-919.999	73	89.0244

319.51	0.82	22.0876	-919.999	61	74.3902
319.71	0.825	21.8703	-923.914	55	66.6667
319.91	0.831	21.8703	-919.999	73	87.846
320.11	0.827	21.8703	-927.829	49	59.2503
320.31	0.828	21.8703	-919.999	67	80.9179
320.51	0.811	22.0876	-927.829	66	81.381
320.71	0.822	21.8703	-923.914	55	66.91
320.91	0.817	22.0876	-923.914	67	82.0073
321.11	0.813	21.8703	-919.999	57	70.1107
321.31	0.804	21.8703	-916.084	51	63.4328
321.51	0.813	21.8703	-923.914	58	71.3407
321.71	0.819	22.0876	-923.914	73	89.1331
321.92	0.813	21.8703	-923.914	57	70.1107
322.12	0.811	21.8703	-919.999	59	72.7497
322.32	0.812	22.0876	-919.999	65	80.0493
322.52	0.82	22.0876	-919.999	35	42.6829
322.72	0.825	21.8703	-919.999	58	70.303
322.92	0.823	21.8703	-927.829	53	64.3985
323.12	0.82	22.0876	-919.999	67	81.7073
323.32	0.826	22.0876	-923.914	66	79.9031
323.52	0.826	22.0876	-923.914	57	69.0073
323.72	0.822	21.8703	-919.999	58	70.5596
323.92	0.822	22.0876	-919.999	53	64.4769
324.12	0.825	22.0876	-919.999	64	77.5758
324.32	0.831	22.0876	-923.914	64	77.0156
324.52	0.822	21.8703	-919.999	69	83.9416
324.72	0.82	21.8703	-923.914	47	57.3171
324.92	0.822	22.0876	-919.999	52	63.2603
325.12	0.824	22.0876	-927.829	60	72.8155
325.32	0.821	22.0876	-916.084	62	75.5177
325.52	0.814	22.0876	-919.999	49	60.1966
325.72	0.805	22.0876	-919.999	63	78.2609
325.92	0.811	22.0876	-923.914	67	82.6141
326.12	0.81	22.0876	-919.999	50	61.7284
326.32	0.809	22.0876	-923.914	54	66.7491
326.52	0.81	22.0876	-916.084	46	56.7901
326.72	0.809	22.0876	-919.999	53	65.513
326.92	0.819	22.0876	-919.999	46	56.1661
327.12	0.827	22.0876	-919.999	68	82.2249
327.32	0.825	22.0876	-919.999	55	66.6667
327.52	0.823	22.0876	-919.999	46	55.8931
327.72	0.822	22.0876	-916.084	49	59.6107
327.92	0.823	21.8703	-919.999	45	54.678
328.12	0.821	22.0876	-919.999	49	59.6833
328.32	0.821	21.8703	-923.914	51	62.1194
328.52	0.825	21.8703	-927.829	33	40
328.72	0.831	22.0876	-923.914	34	40.9146

328.92	0.831	21.8703	-923.914	21	25.2708
329.12	0.826	21.8703	-919.999	21	25.4237
329.32	0.827	22.0876	-919.999	23	27.8114
329.52	0.833	22.0876	-923.914	14	16.8067
329.72	0.829	21.8703	-919.999	24	28.9505
329.92	0.818	22.0876	-923.914	13	15.8924
330.12	0.81	22.0876	-923.914	11	13.5802
330.32	0.811	22.0876	-919.999	14	17.2626
330.52	0.816	22.0876	-919.999	8	9.80392
330.72	0.813	22.0876	-923.914	10	12.3001
330.92	0.807	22.0876	-916.084	10	12.3916
331.12	0.81	22.0876	-919.999	12	14.8148
331.32	0.814	22.0876	-923.914	11	13.5135
331.52	0.819	21.8703	-923.914	5	6.10501
331.72	0.814	22.0876	-923.914	16	19.656
331.92	0.82	22.0876	-919.999	8	9.7561
332.12	0.826	21.8703	-923.914	11	13.3172
332.32	0.824	22.0876	-923.914	10	12.1359
332.52	0.824	21.8703	-919.999	7	8.49515
332.72	0.822	22.0876	-923.914	7	8.51581
332.92	0.825	22.0876	-919.999	10	12.1212
333.12	0.828	21.8703	-919.999	6	7.24638
333.32	0.826	22.0876	-919.999	6	7.26392
333.52	0.823	22.0876	-919.999	9	10.9356
333.72	0.822	22.0876	-923.914	9	10.9489
333.92	0.831	21.8703	-923.914	11	13.2371
334.12	0.834	22.0876	-919.999	7	8.39329
334.32	0.824	22.0876	-923.914	13	15.7767
334.52	0.816	21.8703	-916.084	6	7.35294
334.72	0.819	22.0876	-916.084	11	13.431
334.92	0.818	22.0876	-919.999	8	9.77995
335.12	0.816	22.0876	-919.999	13	15.9314
335.32	0.807	22.0876	-923.914	6	7.43494
335.52	0.808	22.0876	-919.999	5	6.18812
335.72	0.81	22.0876	-919.999	14	17.284
335.92	0.812	22.0876	-916.084	15	18.4729
336.12	0.816	22.0876	-919.999	10	12.2549
336.32	0.816	22.0876	-919.999	10	12.2549
336.52	0.823	21.8703	-916.084	8	9.72053
336.72	0.828	22.0876	-919.999	12	14.4928
336.92	0.826	22.0876	-916.084	4	4.84262
337.12	0.815	22.0876	-923.914	4	4.90798
337.32	0.82	22.0876	-919.999	4	4.87805
337.52	0.827	22.0876	-919.999	10	12.0919
337.72	0.823	21.8703	-927.829	12	14.5808
337.92	0.824	21.8703	-919.999	8	9.70874
338.12	0.825	22.0876	-916.084	11	13.3333

338.32	0.837	22.0876	-923.914	12	14.3369
338.52	0.834	22.0876	-919.999	13	15.5875
338.72	0.826	21.8703	-919.999	14	16.9492
338.92	0.82	22.0876	-919.999	11	13.4146
339.12	0.82	22.0876	-923.914	4	4.87805
339.32	0.817	22.0876	-923.914	12	14.6879
339.52	0.817	21.8703	-923.914	7	8.56793
339.72	0.811	21.8703	-919.999	15	18.4957
339.92	0.812	22.0876	-919.999	6	7.38916
340.12	0.813	22.0876	-919.999	11	13.5301
340.32	0.814	22.0876	-919.999	8	9.82801
340.52	0.814	22.0876	-916.084	11	13.5135
340.72	0.817	22.0876	-919.999	5	6.11995
340.92	0.818	22.0876	-919.999	8	9.77995
341.12	0.824	22.0876	-919.999	8	9.70874
341.32	0.823	22.0876	-923.914	9	10.9356
341.52	0.82	22.0876	-919.999	8	9.7561
341.73	0.824	22.0876	-919.999	8	9.70874
341.93	0.825	22.0876	-923.914	22	26.6667
342.13	0.824	22.0876	-919.999	8	9.70874
342.33	0.823	22.0876	-919.999	16	19.4411
342.53	0.824	21.8703	-923.914	8	9.70874
342.73	0.822	22.0876	-919.999	12	14.5985
342.93	0.831	22.0876	-927.829	8	9.62696
343.13	0.828	22.0876	-923.914	16	19.3237
343.33	0.823	22.0876	-919.999	16	19.4411
343.53	0.825	22.0876	-923.914	10	12.1212
343.73	0.826	22.0876	-919.999	11	13.3172
343.93	0.82	22.0876	-923.914	9	10.9756
344.13	0.809	22.0876	-919.999	13	16.0692
344.33	0.81	22.0876	-923.914	19	23.4568
344.53	0.815	22.0876	-923.914	6	7.36196
344.73	0.812	22.0876	-919.999	6	7.38916
344.93	0.807	22.0876	-923.914	6	7.43494
345.13	0.81	22.0876	-923.914	8	9.87654
345.33	0.816	22.0876	-919.999	10	12.2549
345.53	0.822	22.522	-919.999	7	8.51581
345.73	0.826	22.0876	-923.914	6	7.26392
345.93	0.823	22.0876	-919.999	12	14.5808
346.13	0.829	22.0876	-919.999	14	16.8878
346.33	0.827	22.0876	-919.999	13	15.7195
346.53	0.824	22.0876	-923.914	8	9.70874
346.73	0.819	22.0876	-923.914	7	8.54701
346.93	0.817	22.0876	-919.999	10	12.2399
347.13	0.827	22.0876	-919.999	14	16.9287
347.33	0.827	22.0876	-916.084	9	10.8827
347.53	0.826	21.8703	-923.914	9	10.8959

347.73	0.824	22.0876	-923.914	10	12.1359
347.93	0.83	22.0876	-919.999	12	14.4578
348.13	0.83	22.0876	-923.914	12	14.4578
348.33	0.812	22.0876	-919.999	12	14.7783
348.53	0.813	22.0876	-916.084	10	12.3001
348.73	0.811	22.0876	-919.999	11	13.5635
348.93	0.814	22.0876	-919.999	14	17.199
349.13	0.816	22.0876	-923.914	17	20.8333
349.33	0.813	22.0876	-919.999	15	18.4502
349.53	0.809	22.0876	-919.999	15	18.5414
349.73	0.812	22.0876	-923.914	10	12.3153
349.93	0.814	22.0876	-923.914	10	12.285
350.13	0.818	22.0876	-919.999	12	14.6699
350.33	0.82	22.0876	-919.999	5	6.09756
350.53	0.824	21.8703	-923.914	12	14.5631
350.73	0.829	21.8703	-923.914	13	15.6815
350.93	0.826	22.0876	-923.914	11	13.3172
351.13	0.823	22.0876	-919.999	12	14.5808
351.33	0.824	22.3048	-923.914	13	15.7767
351.53	0.83	22.0876	-923.914	10	12.0482
351.73	0.83	22.0876	-923.914	13	15.6627
351.93	0.825	22.0876	-919.999	11	13.3333
352.13	0.822	22.0876	-919.999	14	17.0316
352.33	0.825	22.0876	-923.914	12	14.5455
352.53	0.828	22.0876	-916.084	12	14.4928
352.73	0.825	22.0876	-923.914	7	8.48485
352.93	0.815	22.0876	-923.914	18	22.0859
353.13	0.814	22.0876	-919.999	11	13.5135
353.33	0.816	22.0876	-923.914	16	19.6078
353.53	0.817	22.0876	-923.914	6	7.34394
353.73	0.808	22.0876	-923.914	18	22.2772
353.93	0.802	22.0876	-916.084	14	17.4564
354.13	0.812	22.0876	-923.914	11	13.5468
354.33	0.814	22.0876	-923.914	11	13.5135
354.53	0.812	22.0876	-923.914	18	22.1675
354.73	0.815	22.0876	-916.084	14	17.1779
354.93	0.825	22.0876	-912.169	9	10.9091
355.13	0.828	22.0876	-923.914	9	10.8696
355.33	0.824	22.0876	-923.914	7	8.49515
355.53	0.821	22.0876	-923.914	6	7.30816
355.73	0.822	22.0876	-919.999	7	8.51581
355.93	0.825	22.3048	-916.084	9	10.9091
356.13	0.826	22.0876	-923.914	13	15.7385
356.33	0.826	22.0876	-923.914	9	10.8959
356.53	0.824	22.0876	-919.999	11	13.3495
356.73	0.828	22.0876	-923.914	10	12.0773
356.93	0.835	22.0876	-919.999	17	20.3593

357.13	0.83	22.0876	-919.999	11	13.253
357.33	0.824	22.0876	-923.914	9	10.9223
357.53	0.818	22.0876	-919.999	10	12.2249
357.73	0.818	22.0876	-923.914	14	17.1149
357.93	0.812	22.0876	-923.914	8	9.85222
358.13	0.809	22.522	-919.999	16	19.7775
358.33	0.808	22.0876	-923.914	9	11.1386
358.53	0.812	22.0876	-923.914	11	13.5468
358.73	0.812	22.0876	-919.999	12	14.7783
358.93	0.812	22.0876	-919.999	7	8.62069
359.13	0.812	22.0876	-923.914	9	11.0837
359.33	0.812	22.0876	-923.914	11	13.5468
359.53	0.822	22.0876	-919.999	20	24.3309
359.73	0.827	22.0876	-919.999	11	13.3011
359.93	0.822	22.3048	-923.914	12	14.5985
360.13	0.821	22.0876	-923.914	14	17.0524
360.33	0.827	22.0876	-923.914	12	14.5103
360.53	0.831	22.0876	-919.999	12	14.4404
360.73	0.824	22.0876	-919.999	11	13.3495
360.93	0.821	22.0876	-923.914	9	10.9622
361.13	0.826	22.0876	-923.914	12	14.5278
361.33	0.831	22.0876	-923.914	15	18.0505
361.53	0.826	22.3048	-923.914	9	10.8959
361.73	0.825	22.0876	-919.999	14	16.9697
361.94	0.827	22.0876	-923.914	9	10.8827
362.14	0.826	22.0876	-919.999	6	7.26392
362.34	0.824	22.0876	-919.999	7	8.49515
362.54	0.815	22.0876	-919.999	14	17.1779
362.74	0.811	22.0876	-919.999	14	17.2626
362.94	0.817	22.3048	-916.084	7	8.56793
363.14	0.813	22.0876	-927.829	9	11.0701
363.34	0.808	22.0876	-919.999	15	18.5644
363.54	0.805	22.3048	-923.914	8	9.93789
363.74	0.812	22.0876	-927.829	16	19.7044
363.94	0.82	22.3048	-916.084	9	10.9756
364.14	0.824	22.522	-923.914	9	10.9223
364.34	0.821	22.0876	-923.914	9	10.9622
364.54	0.825	22.0876	-919.999	12	14.5455
364.74	0.828	22.0876	-919.999	14	16.9082
364.94	0.818	22.3048	-919.999	10	12.2249
365.14	0.823	22.0876	-919.999	15	18.226
365.34	0.822	22.0876	-919.999	8	9.73236
365.54	0.826	22.0876	-919.999	11	13.3172
365.74	0.831	22.0876	-919.999	11	13.2371
365.94	0.829	22.0876	-923.914	14	16.8878
366.14	0.826	22.0876	-919.999	8	9.68523
366.34	0.827	22.0876	-923.914	13	15.7195

366.54	0.831	22.3048	-923.914	8	9.62696
366.74	0.823	22.0876	-919.999	20	24.3013
366.94	0.815	22.0876	-923.914	13	15.9509
367.14	0.809	22.0876	-923.914	12	14.8331
367.34	0.816	22.3048	-916.084	13	15.9314
367.54	0.818	22.0876	-919.999	12	14.6699
367.74	0.814	22.0876	-923.914	11	13.5135
367.94	0.808	22.0876	-919.999	8	9.90099
368.14	0.811	22.3048	-923.914	13	16.0296
368.34	0.817	22.0876	-919.999	14	17.1359
368.54	0.819	22.0876	-919.999	9	10.989
368.74	0.821	22.0876	-923.914	12	14.6163
368.94	0.82	22.0876	-919.999	8	9.7561
369.14	0.824	22.0876	-927.829	17	20.6311
369.34	0.825	22.0876	-923.914	13	15.7576
369.54	0.82	22.3048	-919.999	7	8.53659
369.74	0.821	22.3048	-919.999	13	15.8343
369.94	0.828	22.0876	-919.999	8	9.66184
370.14	0.832	22.0876	-923.914	14	16.8269
370.34	0.827	22.0876	-923.914	12	14.5103
370.54	0.813	22.0876	-919.999	10	12.3001
370.74	0.827	22.0876	-919.999	13	15.7195
370.94	0.832	22.3048	-923.914	13	15.625
371.14	0.829	22.0876	-919.999	11	13.269
371.34	0.82	22.0876	-919.999	14	17.0732
371.54	0.818	22.0876	-919.999	8	9.77995
371.74	0.819	22.0876	-927.829	14	17.094
371.94	0.818	22.3048	-919.999	10	12.2249
372.14	0.812	22.0876	-919.999	14	17.2414
372.34	0.809	22.0876	-919.999	12	14.8331
372.54	0.807	22.0876	-919.999	12	14.8699
372.74	0.813	22.0876	-919.999	19	23.3702
372.94	0.814	22.0876	-923.914	10	12.285
373.14	0.817	22.0876	-923.914	11	13.4639
373.34	0.823	22.0876	-923.914	15	18.226
373.54	0.83	22.3048	-923.914	12	14.4578
373.74	0.827	22.0876	-919.999	11	13.3011
373.94	0.824	22.0876	-916.084	6	7.28155
374.14	0.823	22.3048	-919.999	12	14.5808
374.34	0.826	22.0876	-923.914	11	13.3172
374.54	0.826	22.0876	-919.999	13	15.7385
374.74	0.822	22.0876	-923.914	16	19.4647
374.94	0.821	22.0876	-919.999	17	20.7065
375.14	0.826	22.0876	-923.914	8	9.68523
375.34	0.831	22.0876	-919.999	18	21.6607
375.54	0.83	22.3048	-919.999	11	13.253
375.74	0.823	22.3048	-923.914	22	26.7315

375.94	0.815	22.3048	-919.999	10	12.2699
376.14	0.816	22.3048	-923.914	13	15.9314
376.34	0.819	22.0876	-927.829	16	19.536
376.54	0.813	22.0876	-923.914	11	13.5301
376.74	0.806	22.0876	-919.999	9	11.1663
376.94	0.811	22.3048	-923.914	11	13.5635
377.14	0.816	22.0876	-923.914	15	18.3824
377.34	0.811	22.0876	-923.914	10	12.3305
377.54	0.809	22.0876	-927.829	16	19.7775
377.74	0.816	22.0876	-919.999	18	22.0588
377.94	0.824	22.3048	-923.914	13	15.7767
378.14	0.822	22.522	-923.914	22	26.764
378.34	0.822	22.0876	-919.999	16	19.4647
378.54	0.827	22.3048	-923.914	12	14.5103
378.74	0.827	22.3048	-916.084	16	19.347
378.94	0.828	22.522	-919.999	13	15.7005
379.14	0.826	22.0876	-927.829	17	20.5811
379.34	0.823	22.3048	-927.829	14	17.0109
379.54	0.826	22.0876	-923.914	19	23.0024
379.74	0.831	22.0876	-919.999	16	19.2539
379.94	0.827	22.0876	-923.914	20	24.1838
380.14	0.821	22.3048	-923.914	11	13.3983
380.34	0.819	22.0876	-923.914	7	8.54701
380.54	0.824	22.0876	-916.084	22	26.699
380.74	0.821	22.0876	-919.999	10	12.1803
380.94	0.814	22.3048	-923.914	13	15.9705
381.14	0.81	22.3048	-919.999	17	20.9877
381.34	0.813	22.3048	-919.999	15	18.4502
381.54	0.811	22.3048	-919.999	15	18.4957
381.75	0.809	22.3048	-916.084	20	24.7219
381.95	0.807	22.0876	-919.999	17	21.0657
382.15	0.809	22.0876	-912.169	16	19.7775
382.35	0.818	22.0876	-923.914	20	24.4499
382.55	0.823	22.0876	-927.829	21	25.5164
382.75	0.827	22.3048	-919.999	19	22.9746
382.95	0.822	22.0876	-923.914	23	27.9805
383.15	0.826	22.0876	-919.999	12	14.5278
383.35	0.825	22.522	-919.999	11	13.3333
383.55	0.822	22.3048	-919.999	15	18.2482
383.75	0.816	22.3048	-923.914	15	18.3824
383.95	0.826	22.0876	-919.999	18	21.7918
384.15	0.832	22.0876	-919.999	15	18.0288
384.35	0.83	22.0876	-919.999	18	21.6867
384.55	0.825	22.3048	-923.914	18	21.8182
384.75	0.825	22.0876	-923.914	19	23.0303
384.95	0.83	22.3048	-919.999	23	27.7108
385.15	0.827	22.0876	-919.999	19	22.9746

385.35	0.816	22.0876	-919.999	22	26.9608
385.55	0.809	22.3048	-923.914	11	13.597
385.75	0.808	22.0876	-919.999	23	28.4653
385.95	0.813	22.3048	-919.999	22	27.0603
386.15	0.813	22.0876	-919.999	11	13.5301
386.35	0.806	22.0876	-916.084	18	22.3325
386.55	0.81	22.0876	-919.999	13	16.0494
386.75	0.814	22.0876	-923.914	18	22.113
386.95	0.817	22.522	-923.914	21	25.7038
387.15	0.811	22.3048	-923.914	19	23.4279
387.35	0.822	22.0876	-919.999	19	23.1144
387.55	0.828	22.0876	-923.914	15	18.1159
387.75	0.827	22.522	-927.829	21	25.393
387.95	0.821	22.3048	-919.999	17	20.7065
388.15	0.818	22.3048	-923.914	17	20.7824
388.35	0.827	22.3048	-923.914	23	27.8114
388.55	0.831	22.522	-919.999	21	25.2708
388.75	0.828	22.3048	-927.829	22	26.57
388.95	0.821	22.3048	-923.914	20	24.3605
389.15	0.821	22.0876	-923.914	11	13.3983
389.35	0.827	22.3048	-923.914	11	13.3011
389.55	0.831	22.3048	-923.914	17	20.4573
389.75	0.826	22.522	-919.999	19	23.0024
389.95	0.814	22.3048	-919.999	19	23.3415
390.15	0.816	22.0876	-919.999	11	13.4804
390.35	0.817	22.0876	-923.914	14	17.1359
390.55	0.813	22.3048	-919.999	20	24.6002
390.75	0.812	22.3048	-923.914	14	17.2414
390.95	0.808	22.3048	-923.914	14	17.3267
391.15	0.81	22.3048	-919.999	15	18.5185
391.35	0.807	22.3048	-927.829	16	19.8265
391.55	0.813	22.3048	-919.999	20	24.6002
391.75	0.815	22.3048	-916.084	13	15.9509
391.95	0.828	22.3048	-916.084	12	14.4928
392.15	0.828	22.0876	-919.999	16	19.3237
392.35	0.824	22.3048	-923.914	17	20.6311
392.55	0.817	22.0876	-923.914	18	22.0318
392.75	0.819	22.522	-927.829	17	20.757
392.95	0.828	22.3048	-923.914	8	9.66184
393.15	0.826	22.0876	-923.914	15	18.1598
393.35	0.821	22.0876	-919.999	17	20.7065
393.55	0.822	22.3048	-919.999	23	27.9805
393.75	0.831	22.3048	-923.914	17	20.4573
393.95	0.831	22.3048	-923.914	19	22.864
394.15	0.827	22.3048	-919.999	28	33.8573
394.35	0.82	22.3048	-916.084	19	23.1707
394.55	0.817	22.3048	-919.999	17	20.8078

394.75	0.815	22.3048	-923.914	12	14.7239
394.95	0.812	22.0876	-923.914	17	20.936
395.15	0.812	22.3048	-923.914	13	16.0099
395.35	0.813	22.522	-919.999	15	18.4502
395.55	0.815	22.0876	-923.914	15	18.4049
395.75	0.812	22.3048	-923.914	18	22.1675
395.95	0.812	22.3048	-923.914	25	30.7882
396.15	0.814	22.0876	-923.914	25	30.7125
396.35	0.822	22.0876	-916.084	24	29.1971
396.55	0.825	22.3048	-919.999	16	19.3939
396.75	0.821	22.0876	-919.999	11	13.3983
396.95	0.816	22.522	-919.999	21	25.7353
397.15	0.822	22.3048	-919.999	16	19.4647
397.35	0.825	22.0876	-919.999	17	20.6061
397.55	0.825	22.522	-923.914	17	20.6061
397.75	0.82	22.3048	-919.999	18	21.9512
397.95	0.821	22.3048	-923.914	15	18.2704
398.15	0.824	22.0876	-919.999	18	21.8447
398.35	0.824	22.3048	-923.914	23	27.9126
398.55	0.827	22.3048	-919.999	10	12.0919
398.75	0.823	22.522	-919.999	14	17.0109
398.95	0.821	22.3048	-923.914	16	19.4884
399.15	0.823	22.3048	-919.999	15	18.226
399.35	0.819	22.3048	-919.999	22	26.862
399.55	0.808	22.522	-919.999	10	12.3762
399.75	0.81	22.522	-923.914	17	20.9877
399.95	0.815	22.522	-927.829	12	14.7239
400.15	0.809	22.0876	-927.829	19	23.4858
400.35	0.806	22.522	-919.999	14	17.3697
400.55	0.808	22.3048	-927.829	14	17.3267
400.75	0.819	22.3048	-923.914	16	19.536
400.95	0.822	22.3048	-919.999	22	26.764
401.15	0.824	22.3048	-919.999	12	14.5631
401.35	0.823	22.3048	-919.999	16	19.4411
401.55	0.826	22.3048	-919.999	17	20.5811
401.76	0.83	22.3048	-919.999	11	13.253
401.96	0.824	22.522	-919.999	23	27.9126
402.16	0.821	22.3048	-919.999	23	28.0146
402.36	0.819	22.522	-916.084	18	21.978
402.56	0.823	22.3048	-919.999	20	24.3013
402.76	0.827	22.0876	-919.999	15	18.1378
402.96	0.825	22.3048	-919.999	12	14.5455
403.16	0.819	22.522	-919.999	18	21.978
403.36	0.827	22.3048	-919.999	14	16.9287
403.56	0.829	22.3048	-919.999	16	19.3004
403.76	0.814	22.3048	-919.999	18	22.113
403.96	0.814	22.3048	-923.914	20	24.57

404.16	0.81	22.3048	-919.999	11	13.5802
404.36	0.815	22.522	-919.999	17	20.8589
404.56	0.813	22.3048	-919.999	23	28.2903
404.76	0.809	22.3048	-923.914	18	22.2497
404.96	0.812	22.3048	-923.914	10	12.3153
405.16	0.813	22.522	-923.914	20	24.6002
405.36	0.817	22.522	-919.999	15	18.3599
405.56	0.819	22.522	-919.999	19	23.199
405.76	0.819	22.3048	-919.999	15	18.315
405.96	0.822	22.3048	-919.999	24	29.1971
406.16	0.828	22.3048	-923.914	18	21.7391
406.36	0.826	22.3048	-923.914	19	23.0024
406.56	0.824	22.3048	-919.999	19	23.0583
406.76	0.824	22.3048	-923.914	22	26.699
406.96	0.829	22.522	-923.914	20	24.1255
407.16	0.83	22.3048	-919.999	13	15.6627
407.36	0.827	22.3048	-919.999	22	26.6022
407.56	0.82	22.3048	-923.914	16	19.5122
407.76	0.825	22.3048	-923.914	13	15.7576
407.96	0.826	22.522	-919.999	12	14.5278
408.16	0.825	22.3048	-923.914	14	16.9697
408.36	0.815	22.522	-923.914	16	19.6319
408.56	0.814	22.3048	-919.999	14	17.199
408.76	0.816	22.522	-923.914	25	30.6373
408.96	0.814	22.0876	-919.999	10	12.285
409.16	0.812	22.522	-923.914	18	22.1675
409.36	0.802	22.522	-919.999	13	16.2095
409.56	0.811	22.522	-927.829	14	17.2626
409.76	0.816	22.522	-919.999	18	22.0588
409.96	0.813	22.3048	-919.999	11	13.5301
410.16	0.813	22.3048	-923.914	16	19.6802
410.36	0.824	22.3048	-919.999	12	14.5631
410.56	0.831	22.3048	-923.914	17	20.4573
410.76	0.824	22.522	-919.999	21	25.4854
410.96	0.821	22.522	-919.999	17	20.7065
411.16	0.82	22.3048	-923.914	20	24.3902
411.36	0.824	22.3048	-919.999	11	13.3495
411.56	0.826	22.3048	-919.999	22	26.6344
411.76	0.825	22.3048	-919.999	17	20.6061
411.96	0.817	22.0876	-923.914	22	26.9278
412.16	0.794	22.3048	-919.999	15	18.8917
412.36	0.791	22.3048	-923.914	11	13.9064
412.56	0.787	22.3048	-919.999	7	8.89454
412.76	0.784	22.3048	-919.999	22	28.0612
412.96	0.78	22.3048	-923.914	26	33.3333
413.16	0.778	22.3048	-919.999	22	28.2776
413.36	0.773	22.522	-919.999	18	23.2859

413.56	0.766	22.3048	-923.914	11	14.3603
413.76	0.77	22.522	-919.999	12	15.5844
413.96	0.772	22.3048	-923.914	18	23.3161
414.16	0.772	22.522	-923.914	17	22.0207
414.36	0.773	22.3048	-916.084	16	20.6986
414.56	0.771	22.3048	-916.084	13	16.8612
414.76	0.778	22.3048	-919.999	11	14.1388
414.96	0.78	22.3048	-919.999	20	25.641
415.16	0.784	22.3048	-919.999	17	21.6837
415.36	0.782	22.3048	-927.829	24	30.6905
415.56	0.778	22.522	-919.999	13	16.7095
415.76	0.785	22.3048	-919.999	9	11.465
415.96	0.791	22.3048	-923.914	9	11.378
416.16	0.786	22.3048	-923.914	23	29.2621
416.36	0.78	22.522	-916.084	17	21.7949
416.56	0.786	22.522	-919.999	6	7.63359
416.76	0.788	22.522	-919.999	15	19.0355
416.96	0.784	22.3048	-923.914	12	15.3061
417.16	0.781	22.3048	-919.999	13	16.6453
417.36	0.784	22.522	-919.999	16	20.4082
417.56	0.785	22.522	-919.999	16	20.3822
417.76	0.78	22.522	-919.999	15	19.2308
417.96	0.775	22.522	-919.999	18	23.2258
418.16	0.772	22.522	-923.914	14	18.1347
418.36	0.778	22.3048	-919.999	18	23.1362
418.56	0.773	22.522	-919.999	16	20.6986
418.76	0.769	22.3048	-919.999	19	24.7074
418.96	0.765	22.3048	-919.999	11	14.3791
419.16	0.77	22.3048	-919.999	10	12.987
419.36	0.784	22.522	-919.999	17	21.6837
419.56	0.78	22.3048	-919.999	13	16.6667
419.76	0.781	22.522	-916.084	12	15.3649
419.96	0.782	22.522	-919.999	7	8.95141
420.16	0.786	22.522	-919.999	15	19.084
420.36	0.785	22.3048	-923.914	17	21.6561
420.56	0.778	22.3048	-919.999	10	12.8535
420.76	0.782	22.522	-919.999	15	19.1816
420.96	0.787	22.3048	-923.914	17	21.601
421.16	0.787	22.522	-923.914	16	20.3304
421.36	0.786	22.3048	-916.084	10	12.7226
421.56	0.785	22.522	-923.914	19	24.2038
421.76	0.785	22.3048	-919.999	10	12.7389
421.97	0.788	22.3048	-919.999	15	19.0355
422.17	0.783	22.3048	-923.914	12	15.3257
422.37	0.775	22.522	-919.999	11	14.1935
422.57	0.769	22.3048	-923.914	16	20.8062
422.77	0.774	22.522	-923.914	15	19.3798

422.97	0.777	22.3048	-923.914	13	16.731
423.17	0.775	22.3048	-923.914	18	23.2258
423.37	0.769	22.3048	-919.999	15	19.5059
423.57	0.772	22.3048	-923.914	15	19.4301
423.77	0.777	22.3048	-923.914	17	21.879
423.97	0.779	22.522	-923.914	16	20.5392
424.17	0.779	22.3048	-919.999	18	23.1065
424.37	0.781	22.522	-919.999	13	16.6453
424.57	0.784	22.3048	-919.999	15	19.1327
424.77	0.785	22.3048	-923.914	19	24.2038
424.97	0.782	22.522	-919.999	17	21.7391
425.17	0.777	22.3048	-919.999	17	21.879
425.37	0.784	22.522	-923.914	16	20.4082
425.57	0.789	22.522	-923.914	15	19.0114
425.77	0.786	22.3048	-916.084	11	13.9949
425.97	0.779	22.522	-923.914	21	26.9576
426.17	0.782	22.522	-927.829	22	28.133
426.37	0.789	22.522	-923.914	16	20.2788
426.57	0.787	22.522	-919.999	9	11.4358
426.77	0.779	22.3048	-919.999	15	19.2555
426.97	0.776	22.3048	-919.999	23	29.6392
427.17	0.777	22.3048	-919.999	20	25.74
427.37	0.776	22.3048	-923.914	14	18.0412
427.57	0.774	22.522	-923.914	12	15.5039
427.77	0.768	22.522	-923.914	16	20.8333
427.97	0.77	22.522	-919.999	12	15.5844
428.17	0.771	22.3048	-919.999	12	15.5642
428.37	0.774	22.522	-919.999	16	20.6718
428.57	0.777	22.3048	-923.914	19	24.453
428.77	0.782	22.3048	-912.169	19	24.2967
428.97	0.788	22.3048	-919.999	18	22.8426
429.17	0.789	22.522	-923.914	19	24.0811
429.37	0.784	22.522	-923.914	21	26.7857
429.57	0.782	22.522	-923.914	16	20.4604
429.77	0.783	22.3048	-919.999	14	17.8799
429.97	0.787	22.522	-919.999	19	24.1423
430.17	0.781	22.3048	-919.999	13	16.6453
430.37	0.781	22.522	-923.914	15	19.2061
430.57	0.783	22.522	-923.914	14	17.8799
430.77	0.788	22.3048	-919.999	19	24.1117
430.97	0.788	22.3048	-919.999	28	35.533
431.17	0.784	22.522	-916.084	14	17.8571
431.37	0.781	22.522	-919.999	23	29.4494
431.57	0.773	22.522	-923.914	13	16.8176
431.77	0.772	22.522	-919.999	14	18.1347
431.97	0.775	22.522	-923.914	17	21.9355
432.17	0.77	22.3048	-919.999	16	20.7792

432.37	0.773	22.3048	-916.084	16	20.6986
432.57	0.777	22.7392	-919.999	15	19.305
432.77	0.773	22.3048	-916.084	14	18.1113
432.97	0.771	22.522	-923.914	18	23.3463
433.17	0.776	22.3048	-923.914	17	21.9072
433.37	0.783	22.522	-919.999	13	16.6028
433.57	0.786	22.3048	-916.084	11	13.9949
433.77	0.78	22.3048	-923.914	15	19.2308
433.97	0.78	22.522	-923.914	15	19.2308
434.17	0.787	22.522	-923.914	16	20.3304
434.37	0.788	22.3048	-916.084	14	17.7665
434.57	0.788	22.522	-923.914	12	15.2284
434.77	0.783	22.3048	-919.999	15	19.1571
434.97	0.787	22.522	-919.999	12	15.2478
435.17	0.789	22.522	-919.999	14	17.744
435.37	0.787	22.522	-923.914	15	19.0597
435.57	0.783	22.522	-919.999	17	21.7114
435.77	0.78	22.522	-919.999	19	24.359
435.97	0.786	22.3048	-919.999	14	17.8117
436.17	0.778	22.7392	-919.999	13	16.7095
436.37	0.777	22.522	-923.914	23	29.601
436.57	0.775	22.3048	-919.999	18	23.2258
436.77	0.775	22.522	-916.084	18	23.2258
436.97	0.777	22.7392	-927.829	9	11.583
437.17	0.765	22.3048	-916.084	24	31.3725
437.37	0.766	22.3048	-923.914	14	18.2768
437.57	0.774	22.3048	-923.914	19	24.5478
437.77	0.777	22.522	-919.999	14	18.018
437.97	0.785	22.522	-919.999	15	19.1083
438.17	0.786	22.3048	-923.914	15	19.084
438.37	0.781	22.522	-919.999	13	16.6453
438.57	0.784	22.522	-923.914	20	25.5102
438.77	0.789	22.522	-923.914	15	19.0114
438.97	0.784	22.522	-919.999	11	14.0306
439.17	0.781	22.522	-923.914	15	19.2061
439.37	0.78	22.522	-923.914	8	10.2564
439.57	0.79	22.7392	-916.084	16	20.2532
439.77	0.792	22.522	-923.914	18	22.7273
439.97	0.786	22.522	-919.999	17	21.6285
440.17	0.785	22.7392	-919.999	16	20.3822
440.37	0.79	22.522	-923.914	16	20.2532
440.57	0.79	22.522	-919.999	14	17.7215
440.77	0.79	22.3048	-919.999	16	20.2532
440.97	0.797	22.522	-923.914	16	20.0753
441.17	0.795	22.522	-923.914	15	18.8679
441.37	0.795	22.522	-923.914	11	13.8365
441.57	0.791	22.3048	-919.999	17	21.4918

441.77	0.785	22.522	-919.999	19	24.2038
441.98	0.788	22.3048	-919.999	18	22.8426
442.18	0.796	22.522	-919.999	12	15.0754
442.38	0.8	22.3048	-923.914	23	28.75
442.58	0.795	22.522	-923.914	17	21.3836
442.78	0.799	22.522	-923.914	14	17.5219
442.98	0.805	22.522	-919.999	19	23.6025
443.18	0.808	22.3048	-927.829	18	22.2772
443.38	0.8	22.522	-919.999	21	26.25
443.58	0.8	22.522	-916.084	16	20
443.78	0.806	22.522	-919.999	15	18.6104
443.98	0.81	22.3048	-923.914	15	18.5185
444.18	0.807	22.522	-923.914	12	14.8699
444.38	0.803	22.522	-923.914	15	18.68
444.58	0.804	22.522	-923.914	14	17.4129
444.78	0.807	22.522	-919.999	18	22.3048
444.98	0.807	22.522	-919.999	14	17.3482
445.18	0.802	22.522	-919.999	18	22.4439
445.38	0.794	22.3048	-919.999	20	25.1889
445.58	0.799	22.522	-919.999	15	18.7735
445.78	0.797	22.3048	-919.999	15	18.8206
445.98	0.792	22.522	-919.999	16	20.202
446.18	0.788	22.7392	-923.914	14	17.7665
446.38	0.794	22.522	-923.914	15	18.8917
446.58	0.792	22.522	-923.914	17	21.4646
446.78	0.791	22.3048	-919.999	11	13.9064
446.98	0.795	22.522	-923.914	21	26.4151
447.18	0.8	22.522	-916.084	14	17.5
447.38	0.809	22.522	-919.999	9	11.1248
447.58	0.806	22.3048	-919.999	14	17.3697
447.78	0.804	22.522	-919.999	14	17.4129
447.98	0.8	22.522	-919.999	16	20
448.18	0.804	22.522	-919.999	14	17.4129
448.38	0.809	22.522	-923.914	10	12.3609
448.58	0.803	22.522	-916.084	9	11.208
448.78	0.805	22.522	-919.999	9	11.1801
448.98	0.81	22.522	-923.914	15	18.5185
449.18	0.81	22.522	-919.999	12	14.8148
449.38	0.805	22.522	-923.914	10	12.4224
449.58	0.802	22.522	-919.999	10	12.4688
449.78	0.799	22.522	-919.999	15	18.7735
449.98	0.797	22.522	-916.084	8	10.0376
450.18	0.788	22.522	-919.999	11	13.9594
450.38	0.789	22.522	-923.914	18	22.8137
450.58	0.793	22.522	-919.999	9	11.3493
450.78	0.796	22.522	-916.084	17	21.3568
450.98	0.792	22.7392	-919.999	10	12.6263

451.18	0.791	22.522	-923.914	13	16.4349
451.38	0.796	22.522	-923.914	14	17.5879
451.58	0.805	22.522	-923.914	11	13.6646
451.78	0.804	22.522	-919.999	10	12.4378
451.98	0.801	22.522	-923.914	9	11.236
452.18	0.797	22.7392	-923.914	16	20.0753
452.38	0.803	22.522	-919.999	10	12.4533
452.58	0.804	22.3048	-919.999	12	14.9254
452.78	0.803	22.522	-923.914	19	23.6613
452.98	0.801	22.522	-927.829	3	3.74532
453.18	0.81	22.522	-919.999	11	13.5802
453.38	0.806	22.522	-923.914	15	18.6104
453.58	0.801	22.3048	-919.999	16	19.975
453.78	0.803	22.522	-923.914	6	7.47198
453.98	0.806	22.522	-923.914	8	9.92556
454.18	0.806	22.522	-919.999	10	12.4069
454.38	0.8	22.522	-919.999	17	21.25
454.58	0.794	22.522	-923.914	18	22.67
454.78	0.792	22.522	-916.084	10	12.6263
454.98	0.794	22.522	-916.084	16	20.1511
455.18	0.792	22.522	-927.829	13	16.4141
455.38	0.788	22.7392	-919.999	5	6.34518
455.58	0.785	22.522	-919.999	14	17.8344
455.78	0.796	22.522	-923.914	9	11.3065
455.98	0.804	22.522	-919.999	12	14.9254
456.18	0.806	22.522	-919.999	11	13.6476
456.38	0.804	22.7392	-919.999	9	11.194
456.58	0.806	22.522	-923.914	14	17.3697
456.78	0.808	22.522	-919.999	9	11.1386
456.98	0.806	22.7392	-919.999	9	11.1663
457.18	0.803	22.7392	-919.999	10	12.4533
457.38	0.802	22.522	-923.914	13	16.2095
457.58	0.807	22.522	-919.999	15	18.5874
457.78	0.808	22.7392	-923.914	15	18.5644
457.98	0.803	22.522	-919.999	20	24.9066
458.18	0.803	22.522	-919.999	8	9.96264
458.38	0.81	22.522	-923.914	10	12.3457
458.58	0.808	22.522	-919.999	15	18.5644
458.78	0.796	22.522	-919.999	8	10.0503
458.98	0.788	22.7392	-927.829	15	19.0355
459.18	0.793	22.522	-919.999	15	18.9155
459.38	0.797	22.522	-919.999	10	12.5471
459.58	0.791	22.522	-919.999	16	20.2276
459.78	0.789	22.522	-919.999	10	12.6743
459.98	0.791	22.522	-923.914	8	10.1138
460.18	0.796	22.522	-923.914	13	16.3317
460.38	0.799	22.522	-923.914	13	16.2703

460.58	0.802	22.7392	-923.914	9	11.2219
460.78	0.803	22.7392	-919.999	16	19.9253
460.98	0.803	22.522	-919.999	14	17.4346
461.18	0.807	22.522	-919.999	16	19.8265
461.38	0.804	22.522	-923.914	11	13.6816
461.58	0.804	22.522	-919.999	11	13.6816
461.79	0.806	22.522	-927.829	16	19.8511
461.99	0.813	22.522	-923.914	12	14.7601
462.19	0.808	22.522	-923.914	12	14.8515
462.39	0.802	22.522	-919.999	14	17.4564
462.59	0.807	22.7392	-919.999	13	16.109
462.79	0.807	22.522	-923.914	16	19.8265
462.99	0.804	22.522	-919.999	7	8.70647
463.19	0.798	22.522	-919.999	9	11.2782
463.39	0.792	22.522	-919.999	10	12.6263
463.59	0.796	22.7392	-927.829	22	27.6382
463.79	0.798	22.522	-919.999	9	11.2782
463.99	0.791	22.522	-919.999	13	16.4349
464.19	0.785	22.522	-919.999	8	10.1911
464.39	0.785	22.522	-919.999	16	20.3822
464.59	0.794	22.7392	-919.999	18	22.67
464.79	0.794	22.522	-923.914	14	17.6322
464.99	0.794	22.7392	-923.914	13	16.3728
465.19	0.805	22.9565	-919.999	12	14.9068
465.39	0.811	22.522	-916.084	11	13.5635
465.59	0.804	22.7392	-919.999	15	18.6567
465.79	0.8	22.7392	-919.999	17	21.25
465.99	0.801	22.522	-919.999	18	22.4719
466.19	0.807	22.522	-919.999	19	23.544
466.39	0.804	22.522	-923.914	10	12.4378
466.59	0.801	22.7392	-923.914	9	11.236
466.79	0.804	22.7392	-923.914	8	9.95025
466.99	0.81	22.3048	-919.999	3	3.7037
467.19	0.81	22.522	-916.084	6	7.40741
467.39	0.807	22.522	-919.999	17	21.0657
467.59	0.803	22.522	-919.999	25	31.1333
467.79	0.8	22.522	-923.914	10	12.5
467.99	0.797	22.522	-919.999	13	16.3112
468.19	0.789	22.522	-919.999	13	16.4766
468.39	0.786	22.522	-923.914	16	20.3562
468.59	0.79	22.522	-923.914	11	13.9241
468.79	0.792	22.522	-923.914	6	7.57576
468.99	0.789	22.7392	-927.829	9	11.4068
469.19	0.791	22.7392	-919.999	9	11.378
469.39	0.797	22.522	-919.999	9	11.2923
469.59	0.806	22.522	-919.999	10	12.4069
469.79	0.801	22.522	-919.999	10	12.4844

469.99	0.8	22.522	-919.999	9	11.25
470.19	0.802	22.7392	-927.829	9	11.2219
470.39	0.804	22.522	-923.914	13	16.1692
470.59	0.808	22.522	-919.999	11	13.6139
470.79	0.806	22.7392	-923.914	12	14.8883
470.99	0.803	22.522	-919.999	10	12.4533
471.19	0.806	22.522	-919.999	10	12.4069
471.39	0.807	22.522	-919.999	12	14.8699
471.59	0.804	22.522	-923.914	12	14.9254
471.79	0.802	22.7392	-923.914	13	16.2095
471.99	0.803	22.7392	-923.914	9	11.208
472.19	0.807	22.522	-923.914	21	26.0223
472.39	0.799	22.522	-919.999	13	16.2703
472.59	0.794	22.7392	-923.914	9	11.335
472.79	0.793	22.522	-916.084	8	10.0883
472.99	0.798	22.7392	-923.914	12	15.0376
473.19	0.792	22.522	-919.999	10	12.6263
473.39	0.787	22.522	-923.914	15	19.0597
473.59	0.785	22.522	-923.914	14	17.8344
473.79	0.793	22.522	-923.914	10	12.6103
473.99	0.803	22.522	-919.999	15	18.68
474.19	0.803	22.522	-923.914	16	19.9253
474.39	0.799	22.7392	-919.999	5	6.25782
474.59	0.804	22.7392	-923.914	7	8.70647
474.79	0.806	22.522	-923.914	8	9.92556
474.99	0.805	22.522	-923.914	10	12.4224
475.19	0.794	22.7392	-916.084	11	13.8539
475.39	0.802	22.522	-923.914	11	13.7157
475.59	0.81	22.522	-919.999	15	18.5185
475.79	0.805	22.522	-919.999	11	13.6646
475.99	0.806	22.7392	-916.084	15	18.6104
476.19	0.807	22.522	-919.999	11	13.6307
476.39	0.808	22.7392	-923.914	17	21.0396
476.59	0.807	22.522	-919.999	13	16.109
476.79	0.797	22.522	-919.999	12	15.0565
476.99	0.792	22.522	-927.829	12	15.1515
477.19	0.79	22.522	-927.829	13	16.4557
477.39	0.797	22.522	-916.084	14	17.5659
477.59	0.793	22.7392	-923.914	6	7.5662
477.79	0.788	22.7392	-927.829	9	11.4213
477.99	0.79	22.522	-919.999	10	12.6582
478.19	0.796	22.7392	-919.999	13	16.3317
478.39	0.801	22.7392	-919.999	13	16.2297
478.59	0.802	22.7392	-923.914	9	11.2219
478.79	0.8	22.522	-923.914	13	16.25
478.99	0.804	22.522	-919.999	17	21.1443
479.19	0.804	22.7392	-923.914	7	8.70647

479.39	0.802	22.522	-919.999	14	17.4564
479.59	0.799	22.522	-919.999	7	8.76095
479.79	0.802	22.522	-923.914	9	11.2219
479.99	0.808	22.7392	-919.999	10	12.3762
480.19	0.807	22.522	-919.999	11	13.6307
480.39	0.803	22.7392	-923.914	12	14.944
480.59	0.8	22.522	-919.999	10	12.5
480.79	0.809	22.7392	-923.914	14	17.3053
480.99	0.807	22.7392	-923.914	10	12.3916
481.19	0.798	22.7392	-919.999	12	15.0376
481.39	0.796	22.522	-923.914	8	10.0503
481.59	0.801	22.7392	-919.999	6	7.49064
481.8	0.797	22.9565	-927.829	15	18.8206
482	0.789	22.522	-923.914	11	13.9417
482.2	0.788	22.7392	-923.914	14	17.7665
482.4	0.792	22.522	-919.999	10	12.6263
482.6	0.791	22.7392	-923.914	8	10.1138
482.8	0.795	22.522	-923.914	9	11.3208
483	0.799	22.522	-919.999	18	22.5282
483.2	0.804	22.522	-923.914	9	11.194
483.4	0.809	22.7392	-919.999	19	23.4858
483.6	0.807	22.7392	-916.084	14	17.3482
483.8	0.803	22.7392	-919.999	14	17.4346
484	0.806	22.522	-919.999	10	12.4069
484.2	0.805	22.522	-919.999	15	18.6335
484.4	0.804	22.7392	-923.914	11	13.6816
484.6	0.799	22.7392	-923.914	5	6.25782
484.8	0.802	22.522	-927.829	5	6.23441
485	0.807	22.522	-923.914	10	12.3916
485.2	0.808	22.522	-919.999	15	18.5644
485.4	0.804	22.522	-919.999	7	8.70647
485.6	0.802	22.7392	-927.829	12	14.9626
485.8	0.801	22.522	-923.914	13	16.2297
486	0.794	22.7392	-923.914	11	13.8539
486.2	0.791	22.7392	-919.999	13	16.4349
486.4	0.789	22.7392	-923.914	11	13.9417
486.6	0.79	22.7392	-919.999	16	20.2532
486.8	0.795	22.7392	-919.999	13	16.3522
487	0.796	22.522	-919.999	13	16.3317
487.2	0.793	22.7392	-916.084	15	18.9155
487.4	0.795	22.522	-919.999	9	11.3208
487.6	0.803	22.522	-927.829	15	18.68
487.8	0.804	22.522	-919.999	8	9.95025
488	0.801	22.7392	-916.084	8	9.98752
488.2	0.803	22.7392	-919.999	14	17.4346
488.4	0.808	22.522	-923.914	16	19.802
488.6	0.808	22.7392	-923.914	8	9.90099

488.8	0.806	22.7392	-927.829	10	12.4069
489	0.806	22.7392	-923.914	15	18.6104
489.2	0.809	22.7392	-919.999	12	14.8331
489.4	0.812	22.7392	-923.914	8	9.85222
489.6	0.805	22.7392	-923.914	17	21.118
489.8	0.8	22.7392	-923.914	9	11.25
490	0.8	22.7392	-919.999	14	17.5
490.2	0.806	22.7392	-919.999	10	12.4069
490.4	0.799	22.7392	-916.084	11	13.7672
490.6	0.789	22.7392	-919.999	19	24.0811
490.8	0.79	22.7392	-919.999	12	15.1899
491	0.796	22.7392	-919.999	13	16.3317
491.2	0.794	22.7392	-919.999	8	10.0756
491.4	0.783	22.7392	-923.914	10	12.7714
491.6	0.789	22.522	-923.914	19	24.0811
491.8	0.797	22.7392	-919.999	18	22.5847
492	0.802	22.7392	-923.914	5	6.23441
492.2	0.805	22.7392	-919.999	14	17.3913
492.4	0.804	22.7392	-919.999	12	14.9254
492.6	0.806	22.7392	-919.999	8	9.92556
492.8	0.81	22.522	-919.999	13	16.0494
493	0.803	22.7392	-916.084	11	13.6986
493.2	0.798	22.7392	-923.914	7	8.77193
493.4	0.803	22.7392	-919.999	10	12.4533
493.6	0.81	22.7392	-916.084	17	20.9877
493.8	0.812	22.522	-919.999	6	7.38916
494	0.804	22.522	-916.084	15	18.6567
494.2	0.805	22.7392	-927.829	15	18.6335
494.4	0.812	22.7392	-923.914	11	13.5468
494.6	0.81	22.7392	-923.914	9	11.1111
494.8	0.802	22.7392	-919.999	5	6.23441
495	0.792	22.9565	-919.999	12	15.1515
495.2	0.791	22.7392	-919.999	16	20.2276
495.4	0.792	22.7392	-923.914	10	12.6263
495.6	0.792	22.522	-923.914	10	12.6263
495.8	0.787	22.9565	-919.999	10	12.7065
496	0.787	22.7392	-919.999	12	15.2478
496.2	0.796	22.7392	-923.914	12	15.0754
496.4	0.799	22.7392	-923.914	15	18.7735
496.6	0.801	22.7392	-923.914	7	8.73908
496.8	0.797	22.7392	-916.084	14	17.5659
497	0.807	22.522	-923.914	14	17.3482
497.2	0.81	22.7392	-916.084	14	17.284
497.4	0.801	22.7392	-919.999	16	19.975
497.6	0.802	22.7392	-919.999	22	27.4314
497.8	0.809	22.7392	-927.829	11	13.597
498	0.811	22.522	-919.999	11	13.5635

498.2	0.808	22.7392	-919.999	9	11.1386
498.4	0.802	22.7392	-923.914	10	12.4688
498.6	0.804	22.7392	-919.999	8	9.95025
498.8	0.81	22.7392	-919.999	15	18.5185
499	0.808	22.7392	-923.914	13	16.0891
499.2	0.803	22.7392	-923.914	14	17.4346
499.4	0.797	22.7392	-919.999	15	18.8206
499.6	0.798	22.7392	-919.999	18	22.5564
499.8	0.798	22.7392	-919.999	15	18.797
500	0.793	22.7392	-919.999	7	8.82724
500.2	0.79	22.7392	-919.999	13	16.4557
500.4	0.79	22.7392	-927.829	7	8.86076
500.6	0.791	22.7392	-919.999	9	11.378
500.8	0.79	22.7392	-923.914	20	25.3165
501	0.797	22.7392	-919.999	11	13.8018
501.2	0.806	22.7392	-919.999	18	22.3325
501.4	0.808	22.7392	-919.999	13	16.0891
501.6	0.804	22.7392	-919.999	13	16.1692
501.8	0.802	22.7392	-927.829	14	17.4564
502.01	0.804	22.7392	-919.999	15	18.6567
502.21	0.802	22.7392	-919.999	14	17.4564
502.41	0.807	22.7392	-919.999	13	16.109
502.61	0.804	22.7392	-923.914	17	21.1443
502.81	0.802	22.7392	-916.084	9	11.2219
503.01	0.811	22.7392	-919.999	10	12.3305
503.21	0.813	22.7392	-919.999	14	17.2202
503.41	0.808	22.522	-923.914	11	13.6139
503.61	0.805	22.7392	-923.914	11	13.6646
503.81	0.803	22.7392	-919.999	7	8.71731
504.01	0.795	22.7392	-919.999	14	17.6101
504.21	0.791	22.7392	-919.999	13	16.4349
504.41	0.79	22.9565	-919.999	13	16.4557
504.61	0.795	22.7392	-923.914	12	15.0943
504.81	0.796	22.7392	-923.914	15	18.8442
505.01	0.789	22.522	-919.999	20	25.3485
505.21	0.792	22.7392	-919.999	13	16.4141
505.41	0.798	22.7392	-927.829	10	12.5313
505.61	0.809	22.7392	-923.914	16	19.7775
505.81	0.806	22.7392	-919.999	13	16.129
506.01	0.801	22.7392	-916.084	12	14.9813
506.21	0.798	22.7392	-916.084	11	13.7845
506.41	0.806	22.7392	-919.999	13	16.129
506.61	0.808	22.7392	-919.999	20	24.7525
506.81	0.804	22.7392	-919.999	14	17.4129
507.01	0.803	22.7392	-927.829	14	17.4346
507.21	0.807	22.7392	-919.999	21	26.0223
507.41	0.811	22.7392	-927.829	18	22.1948

507.61	0.801	22.7392	-923.914	15	18.7266
507.81	0.803	22.7392	-919.999	11	13.6986
508.01	0.809	22.7392	-919.999	11	13.597
508.21	0.803	22.9565	-919.999	26	32.3786
508.41	0.799	22.7392	-916.084	20	25.0313
508.61	0.794	22.7392	-923.914	16	20.1511
508.81	0.792	22.9565	-919.999	11	13.8889
509.01	0.797	22.7392	-923.914	20	25.0941
509.21	0.792	22.7392	-919.999	16	20.202
509.41	0.787	22.9565	-923.914	13	16.5184
509.61	0.786	22.7392	-919.999	8	10.1781
509.81	0.796	22.7392	-923.914	10	12.5628
510.01	0.806	22.7392	-923.914	12	14.8883
510.21	0.806	22.7392	-919.999	16	19.8511
510.41	0.803	22.7392	-916.084	16	19.9253
510.61	0.804	22.9565	-919.999	23	28.607
510.81	0.81	22.7392	-919.999	9	11.1111
511.01	0.808	22.7392	-919.999	19	23.5149
511.21	0.803	22.7392	-919.999	31	38.6052
511.41	0.802	22.9565	-916.084	10	12.4688
511.61	0.807	22.7392	-919.999	17	21.0657
511.81	0.808	22.7392	-919.999	16	19.802
512.01	0.804	22.7392	-919.999	14	17.4129
512.21	0.804	22.7392	-923.914	9	11.194
512.41	0.809	22.7392	-923.914	11	13.597
512.61	0.81	22.7392	-923.914	16	19.7531
512.81	0.799	22.9565	-923.914	7	8.76095
513.01	0.786	22.7392	-919.999	13	16.5394
513.21	0.795	22.7392	-923.914	17	21.3836
513.41	0.8	22.7392	-923.914	14	17.5
513.61	0.791	22.9565	-919.999	10	12.6422
513.81	0.786	22.7392	-919.999	19	24.173
514.01	0.791	22.7392	-919.999	23	29.0771
514.21	0.799	22.7392	-919.999	17	21.2766
514.41	0.8	22.7392	-919.999	16	20
514.61	0.8	22.7392	-923.914	21	26.25
514.81	0.802	22.7392	-923.914	26	32.419
515.01	0.804	22.7392	-923.914	23	28.607
515.21	0.806	22.7392	-919.999	19	23.5732
515.41	0.805	22.9565	-919.999	12	14.9068
515.61	0.805	22.7392	-919.999	20	24.8447
515.81	0.807	22.7392	-916.084	13	16.109
516.01	0.81	22.9565	-927.829	15	18.5185
516.21	0.809	22.7392	-927.829	11	13.597
516.41	0.807	22.7392	-923.914	16	19.8265
516.61	0.807	22.7392	-923.914	8	9.91326
516.81	0.81	22.7392	-919.999	24	29.6296

517.01	0.802	22.7392	-919.999	16	19.9501
517.21	0.797	22.7392	-923.914	9	11.2923
517.41	0.797	22.7392	-919.999	16	20.0753
517.61	0.796	22.7392	-919.999	18	22.6131
517.81	0.796	22.7392	-923.914	11	13.8191
518.01	0.79	22.9565	-923.914	15	18.9873
518.21	0.788	22.7392	-923.914	13	16.4975
518.41	0.786	22.7392	-923.914	15	19.084
518.61	0.794	22.7392	-923.914	20	25.1889
518.81	0.796	22.522	-919.999	15	18.8442
519.01	0.797	22.7392	-923.914	22	27.6035
519.21	0.804	22.9565	-919.999	15	18.6567
519.41	0.811	22.9565	-923.914	16	19.7287
519.61	0.806	22.7392	-916.084	14	17.3697
519.81	0.804	22.7392	-919.999	13	16.1692
520.01	0.805	22.7392	-919.999	13	16.1491
520.21	0.806	22.7392	-923.914	18	22.3325
520.41	0.803	22.9565	-923.914	16	19.9253
520.61	0.803	22.7392	-923.914	19	23.6613
520.81	0.808	22.9565	-923.914	20	24.7525
521.01	0.814	22.7392	-919.999	18	22.113
521.21	0.81	22.7392	-919.999	18	22.2222
521.41	0.807	22.7392	-919.999	16	19.8265
521.61	0.805	22.9565	-919.999	9	11.1801
521.82	0.804	22.7392	-923.914	19	23.6318
522.02	0.799	22.7392	-919.999	20	25.0313
522.22	0.791	22.7392	-923.914	14	17.6991
522.42	0.785	22.7392	-919.999	22	28.0255
522.62	0.793	22.9565	-923.914	14	17.6545
522.82	0.793	22.7392	-923.914	18	22.6986
523.02	0.793	22.7392	-923.914	9	11.3493
523.22	0.791	22.7392	-919.999	14	17.6991
523.42	0.796	22.7392	-919.999	16	20.1005
523.62	0.805	22.7392	-919.999	18	22.3602
523.82	0.799	22.7392	-919.999	14	17.5219
524.02	0.803	22.9565	-919.999	13	16.1893
524.22	0.804	22.7392	-916.084	22	27.3632
524.42	0.806	22.9565	-916.084	13	16.129
524.62	0.807	22.7392	-916.084	17	21.0657
524.82	0.805	22.9565	-923.914	14	17.3913
525.02	0.805	22.7392	-919.999	15	18.6335
525.22	0.809	22.9565	-923.914	15	18.5414
525.42	0.812	22.7392	-931.744	12	14.7783
525.62	0.808	22.7392	-923.914	17	21.0396
525.82	0.803	22.7392	-919.999	14	17.4346
526.02	0.805	22.7392	-927.829	17	21.118
526.22	0.81	22.7392	-923.914	16	19.7531

526.42	0.803	22.7392	-919.999	14	17.4346
526.62	0.791	22.7392	-919.999	17	21.4918
526.82	0.792	22.7392	-923.914	13	16.4141
527.02	0.798	22.7392	-923.914	15	18.797
527.22	0.795	22.7392	-923.914	12	15.0943
527.42	0.789	22.9565	-919.999	17	21.5463
527.62	0.79	22.7392	-923.914	20	25.3165
527.82	0.795	22.7392	-923.914	20	25.1572
528.02	0.801	22.9565	-916.084	15	18.7266
528.22	0.804	22.7392	-919.999	15	18.6567
528.42	0.802	22.7392	-923.914	26	32.419
528.62	0.805	22.7392	-919.999	22	27.3292
528.82	0.809	22.9565	-919.999	14	17.3053
529.02	0.804	22.7392	-919.999	25	31.0945
529.22	0.794	22.7392	-919.999	19	23.9295
529.42	0.806	22.7392	-919.999	20	24.8139
529.62	0.812	22.7392	-919.999	19	23.399
529.82	0.809	22.7392	-919.999	14	17.3053
530.02	0.804	22.7392	-919.999	8	9.95025
530.22	0.807	22.7392	-923.914	27	33.4572
530.42	0.816	22.9565	-919.999	18	22.0588
530.62	0.809	22.9565	-923.914	19	23.4858
530.82	0.8	22.7392	-919.999	18	22.5
531.02	0.793	22.7392	-919.999	14	17.6545
531.22	0.792	22.7392	-923.914	13	16.4141
531.42	0.795	22.9565	-923.914	11	13.8365
531.62	0.794	22.9565	-919.999	13	16.3728
531.82	0.79	22.9565	-916.084	14	17.7215
532.02	0.793	22.7392	-923.914	17	21.4376
532.22	0.799	22.7392	-916.084	17	21.2766
532.42	0.802	22.7392	-919.999	19	23.6908
532.62	0.803	22.9565	-919.999	24	29.8879
532.82	0.805	22.9565	-919.999	15	18.6335
533.02	0.808	22.7392	-919.999	10	12.3762
533.22	0.805	22.9565	-923.914	20	24.8447
533.42	0.798	22.9565	-919.999	19	23.8095
533.62	0.802	22.7392	-923.914	16	19.9501
533.82	0.806	22.9565	-919.999	15	18.6104
534.02	0.81	22.9565	-919.999	12	14.8148
534.22	0.806	22.7392	-923.914	15	18.6104
534.42	0.805	22.9565	-927.829	10	12.4224
534.62	0.804	22.9565	-923.914	24	29.8507
534.82	0.812	22.9565	-927.829	14	17.2414
535.02	0.808	22.7392	-919.999	21	25.9901
535.22	0.798	22.7392	-923.914	14	17.5439
535.42	0.799	22.9565	-919.999	13	16.2703
535.62	0.799	22.9565	-919.999	17	21.2766

535.82	0.796	22.9565	-919.999	22	27.6382
536.02	0.792	22.9565	-919.999	19	23.9899
536.22	0.791	22.9565	-919.999	18	22.756
536.42	0.792	22.7392	-919.999	19	23.9899
536.62	0.792	22.7392	-919.999	22	27.7778
536.82	0.794	22.9565	-923.914	17	21.4106
537.02	0.802	22.7392	-919.999	19	23.6908
537.22	0.808	22.7392	-916.084	18	22.2772
537.42	0.81	22.7392	-923.914	15	18.5185
537.62	0.807	22.9565	-923.914	21	26.0223
537.82	0.804	22.7392	-919.999	18	22.3881
538.02	0.805	22.9565	-916.084	17	21.118
538.22	0.808	22.9565	-923.914	17	21.0396
538.42	0.807	22.7392	-923.914	20	24.7831
538.62	0.802	22.9565	-919.999	19	23.6908
538.82	0.803	22.7392	-916.084	23	28.6426
539.02	0.811	23.1737	-919.999	21	25.894
539.22	0.809	22.7392	-919.999	13	16.0692
539.42	0.807	22.9565	-919.999	13	16.109
539.62	0.803	22.9565	-916.084	20	24.9066
539.82	0.802	22.9565	-919.999	18	22.4439
540.02	0.791	22.9565	-919.999	14	17.6991
540.22	0.793	22.7392	-919.999	17	21.4376
540.42	0.792	22.9565	-919.999	17	21.4646
540.62	0.794	22.9565	-916.084	20	25.1889
540.82	0.795	22.7392	-923.914	10	12.5786
541.02	0.794	22.9565	-919.999	17	21.4106
541.22	0.793	22.7392	-919.999	13	16.3934
541.42	0.798	22.7392	-916.084	17	21.3033
541.62	0.808	22.9565	-919.999	20	24.7525
541.83	0.806	22.7392	-919.999	14	17.3697
542.03	0.8	22.9565	-916.084	18	22.5
542.23	0.801	22.7392	-919.999	13	16.2297
542.43	0.81	22.9565	-919.999	13	16.0494
542.63	0.808	22.9565	-919.999	14	17.3267
542.83	0.806	22.9565	-919.999	17	21.0918
543.03	0.805	22.7392	-919.999	14	17.3913
543.23	0.812	22.9565	-919.999	10	12.3153
543.43	0.813	22.9565	-919.999	31	38.1304
543.63	0.809	22.9565	-923.914	16	19.7775
543.83	0.805	22.7392	-919.999	21	26.087
544.03	0.807	22.9565	-919.999	14	17.3482
544.23	0.804	22.7392	-919.999	18	22.3881
544.43	0.796	22.9565	-919.999	16	20.1005
544.63	0.79	22.9565	-919.999	16	20.2532
544.83	0.792	22.9565	-919.999	20	25.2525
545.03	0.798	22.7392	-923.914	12	15.0376

545.23	0.794	22.9565	-919.999	21	26.4484
545.43	0.782	23.1737	-923.914	12	15.3453
545.63	0.79	22.9565	-919.999	13	16.4557
545.83	0.803	22.7392	-919.999	20	24.9066
546.03	0.803	22.7392	-923.914	13	16.1893
546.23	0.804	22.9565	-919.999	20	24.8756
546.43	0.803	22.9565	-919.999	13	16.1893
546.63	0.808	22.9565	-927.829	16	19.802
546.83	0.808	22.7392	-919.999	12	14.8515
547.03	0.805	22.9565	-919.999	18	22.3602
547.23	0.8	23.1737	-919.999	11	13.75
547.43	0.804	22.9565	-919.999	19	23.6318
547.63	0.809	22.9565	-919.999	18	22.2497
547.83	0.811	22.7392	-919.999	20	24.6609
548.03	0.807	22.9565	-919.999	17	21.0657
548.23	0.809	22.7392	-923.914	14	17.3053
548.43	0.815	22.9565	-916.084	14	17.1779
548.63	0.809	22.9565	-919.999	17	21.0136
548.83	0.799	22.9565	-919.999	19	23.7797
549.03	0.795	22.9565	-923.914	16	20.1258
549.23	0.795	23.1737	-919.999	15	18.8679
549.43	0.793	22.9565	-919.999	16	20.1765
549.63	0.79	22.9565	-919.999	15	18.9873
549.83	0.786	22.7392	-919.999	12	15.2672
550.03	0.793	22.9565	-919.999	15	18.9155
550.23	0.798	22.9565	-923.914	17	21.3033
550.43	0.802	22.7392	-923.914	21	26.1845
550.63	0.803	22.9565	-923.914	22	27.3973
550.83	0.796	22.9565	-923.914	21	26.3819
551.03	0.806	22.9565	-923.914	16	19.8511
551.23	0.807	22.9565	-919.999	13	16.109
551.43	0.802	22.9565	-923.914	19	23.6908
551.63	0.802	22.7392	-919.999	16	19.9501
551.83	0.807	22.9565	-919.999	27	33.4572
552.03	0.812	22.7392	-919.999	24	29.5567
552.23	0.808	22.9565	-919.999	16	19.802
552.43	0.806	23.1737	-919.999	14	17.3697
552.63	0.809	22.9565	-923.914	22	27.1941
552.83	0.812	22.9565	-923.914	12	14.7783
553.03	0.806	22.9565	-923.914	24	29.7767
553.23	0.8	22.9565	-923.914	19	23.75
553.43	0.8	23.1737	-919.999	15	18.75
553.63	0.802	22.9565	-919.999	13	16.2095
553.83	0.796	23.1737	-923.914	29	36.4322
554.03	0.793	22.9565	-923.914	18	22.6986
554.23	0.791	22.9565	-923.914	8	10.1138
554.43	0.794	22.9565	-919.999	18	22.67

554.63	0.796	22.7392	-923.914	15	18.8442
554.83	0.793	22.9565	-919.999	10	12.6103
555.03	0.799	22.7392	-923.914	17	21.2766
555.23	0.807	22.9565	-919.999	20	24.7831
555.43	0.806	22.9565	-919.999	18	22.3325
555.63	0.802	22.9565	-919.999	17	21.197
555.83	0.801	23.1737	-923.914	18	22.4719
556.03	0.807	22.9565	-923.914	20	24.7831
556.23	0.8	22.9565	-919.999	20	25
556.43	0.804	22.7392	-912.169	13	16.1692
556.63	0.806	22.9565	-919.999	19	23.5732
556.83	0.806	22.9565	-923.914	27	33.4988
557.03	0.814	22.9565	-931.744	21	25.7985
557.23	0.813	22.9565	-923.914	16	19.6802
557.43	0.807	22.9565	-919.999	21	26.0223
557.63	0.803	23.1737	-919.999	17	21.1706
557.83	0.804	22.9565	-919.999	14	17.4129
558.03	0.797	22.9565	-919.999	17	21.33
558.23	0.792	22.9565	-919.999	12	15.1515
558.43	0.789	22.9565	-923.914	16	20.2788
558.63	0.796	22.9565	-919.999	18	22.6131
558.83	0.798	22.9565	-916.084	27	33.8346
559.03	0.795	22.9565	-919.999	9	11.3208
559.23	0.796	22.7392	-919.999	14	17.5879
559.43	0.803	22.9565	-927.829	19	23.6613
559.63	0.81	22.9565	-923.914	13	16.0494
559.83	0.806	22.7392	-923.914	19	23.5732
560.03	0.804	22.9565	-923.914	21	26.1194
560.23	0.801	22.9565	-923.914	19	23.7204
560.43	0.807	22.9565	-923.914	18	22.3048
560.63	0.804	22.9565	-923.914	16	19.9005
560.83	0.802	22.7392	-923.914	22	27.4314
561.03	0.803	22.9565	-916.084	14	17.4346
561.23	0.812	22.9565	-923.914	18	22.1675
561.43	0.813	22.9565	-919.999	11	13.5301
561.63	0.802	22.9565	-923.914	18	22.4439
561.84	0.804	22.9565	-927.829	12	14.9254
562.04	0.811	22.9565	-919.999	19	23.4279
562.24	0.805	22.9565	-919.999	14	17.3913
562.44	0.798	22.9565	-919.999	17	21.3033
562.64	0.793	23.1737	-923.914	20	25.2207
562.84	0.797	22.9565	-923.914	26	32.6223
563.04	0.797	23.1737	-919.999	19	23.8394
563.24	0.794	22.9565	-923.914	13	16.3728
563.44	0.79	22.9565	-919.999	24	30.3797
563.64	0.794	22.9565	-923.914	13	16.3728
563.84	0.798	22.9565	-919.999	19	23.8095

564.04	0.805	23.1737	-919.999	7	8.69565
564.24	0.807	22.9565	-923.914	13	16.109
564.44	0.806	23.1737	-919.999	18	22.3325
564.64	0.809	22.9565	-923.914	22	27.1941
564.84	0.81	22.9565	-916.084	17	20.9877
565.04	0.806	22.9565	-919.999	18	22.3325
565.24	0.803	22.9565	-919.999	12	14.944
565.44	0.803	22.9565	-923.914	15	18.68
565.64	0.808	23.1737	-923.914	13	16.0891
565.84	0.808	22.9565	-923.914	12	14.8515
566.04	0.804	22.9565	-919.999	14	17.4129
566.24	0.807	22.9565	-919.999	21	26.0223
566.44	0.811	22.9565	-916.084	15	18.4957
566.64	0.808	22.9565	-923.914	14	17.3267
566.84	0.799	22.9565	-923.914	12	15.0188
567.04	0.786	22.9565	-919.999	21	26.7176
567.24	0.795	22.9565	-919.999	24	30.1887
567.44	0.799	23.1737	-919.999	16	20.025
567.64	0.793	22.9565	-923.914	15	18.9155
567.84	0.789	22.9565	-916.084	19	24.0811
568.04	0.798	23.1737	-919.999	22	27.5689
568.24	0.803	22.9565	-919.999	16	19.9253
568.44	0.802	22.9565	-923.914	8	9.97506
568.64	0.801	22.9565	-919.999	16	19.975
568.84	0.806	22.9565	-919.999	13	16.129
569.04	0.809	23.1737	-927.829	17	21.0136
569.24	0.804	23.1737	-923.914	14	17.4129
569.44	0.803	22.9565	-919.999	20	24.9066
569.64	0.805	22.9565	-923.914	22	27.3292
569.84	0.81	22.9565	-919.999	12	14.8148
570.04	0.812	22.9565	-923.914	19	23.399
570.24	0.808	22.9565	-923.914	16	19.802
570.44	0.807	22.9565	-919.999	13	16.109
570.64	0.81	23.1737	-919.999	14	17.284
570.84	0.813	23.1737	-923.914	17	20.9102
571.04	0.804	22.7392	-919.999	10	12.4378
571.24	0.798	22.9565	-919.999	20	25.0627
571.44	0.797	23.1737	-919.999	27	33.877
571.64	0.799	22.9565	-919.999	15	18.7735
571.84	0.792	22.9565	-916.084	12	15.1515
572.04	0.791	22.9565	-919.999	13	16.4349
572.24	0.795	22.9565	-923.914	11	13.8365
572.44	0.791	22.9565	-919.999	16	20.2276
572.64	0.798	23.1737	-927.829	18	22.5564
572.84	0.798	22.9565	-923.914	14	17.5439
573.04	0.8	22.9565	-916.084	13	16.25
573.24	0.808	22.9565	-923.914	15	18.5644

573.44	0.811	22.9565	-919.999	18	22.1948
573.64	0.805	22.9565	-919.999	25	31.0559
573.84	0.802	22.9565	-919.999	11	13.7157
574.04	0.804	22.9565	-919.999	22	27.3632
574.24	0.808	23.1737	-919.999	12	14.8515
574.44	0.805	22.9565	-923.914	14	17.3913
574.64	0.803	22.9565	-923.914	20	24.9066
574.84	0.809	23.1737	-919.999	17	21.0136
575.04	0.814	22.9565	-919.999	13	15.9705
575.24	0.81	23.1737	-923.914	13	16.0494
575.44	0.808	23.1737	-919.999	22	27.2277
575.64	0.806	22.9565	-923.914	12	14.8883
575.84	0.806	22.9565	-919.999	15	18.6104
576.04	0.796	22.9565	-919.999	14	17.5879
576.24	0.791	23.1737	-923.914	14	17.6991
576.44	0.788	22.9565	-919.999	14	17.7665
576.64	0.794	22.9565	-919.999	10	12.5945
576.84	0.796	22.9565	-916.084	11	13.8191
577.04	0.793	22.9565	-923.914	15	18.9155
577.24	0.793	23.1737	-923.914	14	17.6545
577.44	0.804	22.9565	-923.914	12	14.9254
577.64	0.811	22.9565	-923.914	15	18.4957
577.84	0.801	23.1737	-919.999	16	19.975
578.04	0.803	22.9565	-923.914	17	21.1706
578.24	0.802	23.1737	-919.999	12	14.9626
578.44	0.807	23.1737	-919.999	12	14.8699
578.64	0.805	22.9565	-923.914	16	19.8758
578.84	0.805	22.9565	-919.999	17	21.118
579.04	0.809	23.1737	-923.914	14	17.3053
579.24	0.811	22.9565	-919.999	13	16.0296
579.44	0.809	22.9565	-919.999	17	21.0136
579.64	0.808	23.1737	-919.999	18	22.2772
579.84	0.804	23.1737	-923.914	13	16.1692
580.04	0.81	23.1737	-923.914	17	20.9877
580.24	0.805	23.1737	-923.914	12	14.9068
580.44	0.799	22.9565	-919.999	10	12.5156
580.64	0.795	23.1737	-916.084	15	18.8679
580.84	0.798	23.1737	-919.999	29	36.3409
581.04	0.8	23.1737	-923.914	15	18.75
581.24	0.798	22.9565	-919.999	18	22.5564
581.44	0.79	23.1737	-919.999	13	16.4557
581.64	0.794	22.9565	-919.999	12	15.1133
581.85	0.803	23.1737	-919.999	18	22.4159
582.05	0.806	23.1737	-927.829	15	18.6104
582.25	0.804	22.9565	-919.999	20	24.8756
582.45	0.803	22.9565	-916.084	12	14.944
582.65	0.805	23.1737	-923.914	9	11.1801

582.85	0.806	22.9565	-923.914	12	14.8883
583.05	0.803	23.1737	-919.999	10	12.4533
583.25	0.795	22.9565	-919.999	23	28.9308
583.45	0.807	22.9565	-923.914	18	22.3048
583.65	0.812	23.1737	-923.914	13	16.0099
583.85	0.806	22.9565	-919.999	16	19.8511
584.05	0.805	23.1737	-923.914	7	8.69565
584.25	0.812	23.1737	-923.914	13	16.0099
584.45	0.815	22.9565	-919.999	11	13.4969
584.65	0.804	23.1737	-919.999	17	21.1443
584.85	0.796	22.9565	-923.914	16	20.1005
585.05	0.791	22.9565	-923.914	15	18.9633
585.25	0.797	22.9565	-923.914	15	18.8206
585.45	0.795	23.1737	-923.914	13	16.3522
585.65	0.794	22.9565	-919.999	17	21.4106
585.85	0.794	22.9565	-919.999	19	23.9295
586.05	0.8	22.9565	-919.999	10	12.5
586.25	0.803	23.1737	-916.084	23	28.6426
586.45	0.805	23.1737	-923.914	17	21.118
586.65	0.808	22.9565	-923.914	12	14.8515
586.85	0.806	22.9565	-923.914	12	14.8883
587.05	0.808	22.9565	-916.084	17	21.0396
587.25	0.802	23.1737	-923.914	16	19.9501
587.45	0.8	22.9565	-923.914	19	23.75
587.65	0.803	23.3909	-923.914	19	23.6613
587.85	0.807	23.1737	-919.999	12	14.8699
588.05	0.805	23.1737	-923.914	14	17.3913
588.25	0.806	23.1737	-919.999	16	19.8511
588.45	0.807	22.9565	-923.914	15	18.5874
588.65	0.806	23.1737	-923.914	13	16.129
588.85	0.81	22.9565	-923.914	13	16.0494
589.05	0.807	22.9565	-919.999	22	27.2615
589.25	0.796	23.1737	-923.914	8	10.0503
589.45	0.789	22.9565	-919.999	14	17.744
589.65	0.782	23.1737	-919.999	15	19.1816
589.85	0.779	23.1737	-919.999	18	23.1065
590.05	0.772	23.1737	-919.999	20	25.9067
590.25	0.773	23.1737	-923.914	22	28.4605
590.45	0.778	23.1737	-919.999	17	21.8509
590.65	0.779	22.9565	-919.999	19	24.3902
590.85	0.78	22.9565	-919.999	18	23.0769
591.05	0.787	22.9565	-919.999	18	22.8717
591.25	0.791	22.9565	-923.914	15	18.9633
591.45	0.788	22.9565	-923.914	16	20.3046
591.65	0.785	23.1737	-923.914	21	26.7516
591.85	0.783	23.1737	-923.914	15	19.1571
592.05	0.79	22.9565	-923.914	10	12.6582

592.25	0.788	22.9565	-919.999	15	19.0355
592.45	0.784	22.9565	-919.999	15	19.1327
592.65	0.78	22.9565	-919.999	17	21.7949
592.85	0.787	23.1737	-919.999	19	24.1423
593.05	0.793	23.1737	-919.999	14	17.6545
593.25	0.79	23.1737	-919.999	13	16.4557
593.45	0.782	22.9565	-916.084	17	21.7391
593.65	0.785	23.1737	-919.999	17	21.6561
593.85	0.785	23.1737	-923.914	15	19.1083
594.05	0.77	23.1737	-919.999	20	25.974
594.25	0.772	22.9565	-919.999	14	18.1347
594.45	0.772	23.3909	-919.999	12	15.544
594.65	0.776	23.3909	-919.999	17	21.9072
594.85	0.776	23.1737	-923.914	14	18.0412
595.05	0.778	23.1737	-923.914	20	25.7069
595.25	0.783	23.1737	-927.829	21	26.8199
595.45	0.787	23.1737	-919.999	23	29.2249
595.65	0.79	22.9565	-923.914	17	21.519
595.85	0.783	22.9565	-919.999	16	20.4342
596.05	0.782	23.1737	-923.914	15	19.1816
596.25	0.783	23.1737	-919.999	13	16.6028
596.45	0.79	23.3909	-919.999	20	25.3165
596.65	0.789	23.1737	-923.914	21	26.616
596.85	0.784	22.9565	-919.999	12	15.3061
597.05	0.786	22.9565	-923.914	19	24.173
597.25	0.795	23.1737	-919.999	18	22.6415
597.45	0.793	23.1737	-919.999	24	30.2648
597.65	0.788	23.1737	-923.914	22	27.9188
597.85	0.786	23.1737	-927.829	17	21.6285
598.05	0.786	23.1737	-927.829	19	24.173
598.25	0.784	23.1737	-919.999	20	25.5102
598.45	0.776	23.1737	-923.914	16	20.6186
598.65	0.774	22.9565	-919.999	9	11.6279
598.85	0.776	23.1737	-919.999	17	21.9072
599.05	0.779	23.1737	-916.084	15	19.2555
599.25	0.774	22.9565	-923.914	19	24.5478
599.45	0.769	23.1737	-923.914	20	26.0078
599.65	0.779	22.9565	-923.914	17	21.8228
599.85	0.789	23.3909	-916.084	12	15.2091
600.05	0.787	23.1737	-923.914	18	22.8717
600.25	0.784	22.9565	-916.084	9	11.4796
600.45	0.785	22.9565	-919.999	16	20.3822
600.65	0.793	23.1737	-923.914	14	17.6545
600.85	0.786	22.9565	-919.999	19	24.173
601.05	0.783	23.1737	-919.999	16	20.4342
601.25	0.781	23.1737	-923.914	13	16.6453
601.45	0.788	23.1737	-919.999	14	17.7665

601.65	0.789	22.9565	-923.914	13	16.4766
601.85	0.791	23.1737	-916.084	10	12.6422
602.06	0.788	23.1737	-923.914	20	25.3807
602.26	0.791	23.1737	-919.999	14	17.6991
602.46	0.794	23.1737	-923.914	15	18.8917
602.66	0.787	23.1737	-919.999	21	26.6836
602.86	0.778	23.1737	-923.914	23	29.563
603.06	0.777	22.9565	-919.999	18	23.166
603.26	0.778	23.3909	-919.999	19	24.4216
603.46	0.773	22.9565	-919.999	16	20.6986
603.66	0.771	23.1737	-919.999	14	18.1582
603.86	0.775	23.1737	-919.999	16	20.6452
604.06	0.78	23.1737	-919.999	19	24.359
604.26	0.784	22.9565	-923.914	15	19.1327
604.46	0.787	22.9565	-919.999	10	12.7065
604.66	0.787	23.1737	-923.914	10	12.7065
604.86	0.785	23.1737	-923.914	20	25.4777
605.06	0.789	23.1737	-919.999	22	27.8834
605.26	0.787	22.9565	-916.084	15	19.0597
605.46	0.78	23.1737	-919.999	17	21.7949
605.66	0.782	23.1737	-919.999	13	16.624
605.86	0.791	23.1737	-919.999	18	22.756
606.06	0.792	23.1737	-923.914	21	26.5152
606.26	0.788	22.9565	-916.084	12	15.2284
606.46	0.788	23.3909	-919.999	12	15.2284
606.66	0.792	22.9565	-923.914	25	31.5657
606.86	0.791	22.9565	-919.999	20	25.2845
607.06	0.785	23.1737	-919.999	15	19.1083
607.26	0.781	23.1737	-919.999	18	23.0474
607.46	0.782	23.1737	-919.999	14	17.9028
607.66	0.781	23.3909	-919.999	13	16.6453
607.86	0.777	23.1737	-923.914	20	25.74
608.06	0.774	22.9565	-919.999	22	28.4238
608.26	0.78	23.1737	-919.999	19	24.359
608.46	0.781	23.1737	-919.999	13	16.6453
608.66	0.78	22.9565	-923.914	22	28.2051
608.86	0.778	23.1737	-919.999	13	16.7095
609.06	0.784	23.1737	-919.999	20	25.5102
609.26	0.792	23.3909	-919.999	23	29.0404
609.46	0.787	23.3909	-919.999	13	16.5184
609.66	0.782	22.9565	-923.914	23	29.4118
609.86	0.785	23.1737	-919.999	14	17.8344
610.06	0.789	23.1737	-919.999	18	22.8137
610.26	0.781	23.1737	-919.999	21	26.8886
610.46	0.785	23.1737	-923.914	18	22.9299
610.66	0.788	23.3909	-916.084	24	30.4569
610.86	0.79	23.1737	-919.999	20	25.3165

611.06	0.792	23.1737	-919.999	18	22.7273
611.26	0.794	23.1737	-919.999	20	25.1889
611.46	0.79	22.9565	-923.914	19	24.0506
611.66	0.787	23.1737	-919.999	17	21.601
611.86	0.784	23.1737	-919.999	14	17.8571
612.06	0.777	23.1737	-919.999	20	25.74
612.26	0.772	23.1737	-919.999	16	20.7254
612.46	0.773	22.9565	-923.914	15	19.4049
612.66	0.78	23.1737	-919.999	22	28.2051
612.86	0.781	23.1737	-919.999	17	21.767
613.06	0.779	23.1737	-927.829	16	20.5392
613.26	0.783	23.1737	-919.999	21	26.8199
613.46	0.791	23.1737	-923.914	14	17.6991
613.66	0.794	23.1737	-919.999	25	31.4861
613.86	0.788	23.3909	-919.999	14	17.7665
614.06	0.783	23.1737	-919.999	19	24.2656
614.26	0.783	22.9565	-923.914	16	20.4342
614.46	0.786	23.1737	-919.999	14	17.8117
614.66	0.786	23.1737	-919.999	25	31.8066
614.86	0.784	23.1737	-923.914	17	21.6837
615.06	0.788	23.1737	-923.914	10	12.6904
615.26	0.794	23.1737	-919.999	24	30.2267
615.46	0.791	23.1737	-919.999	14	17.6991
615.66	0.78	23.1737	-923.914	20	25.641
615.86	0.788	23.3909	-919.999	24	30.4569
616.06	0.794	23.1737	-927.829	15	18.8917
616.26	0.786	23.3909	-923.914	14	17.8117
616.46	0.777	23.3909	-923.914	16	20.592
616.66	0.776	23.1737	-919.999	19	24.4845
616.86	0.783	23.1737	-923.914	21	26.8199
617.06	0.78	23.3909	-923.914	15	19.2308
617.26	0.776	23.1737	-916.084	21	27.0619
617.46	0.774	23.1737	-923.914	25	32.2997
617.66	0.781	23.1737	-923.914	11	14.0845
617.86	0.786	23.1737	-919.999	24	30.5344
618.06	0.792	23.3909	-916.084	11	13.8889
618.26	0.788	23.1737	-919.999	19	24.1117
618.46	0.789	23.1737	-919.999	16	20.2788
618.66	0.791	23.3909	-919.999	20	25.2845
618.86	0.786	23.1737	-927.829	19	24.173
619.06	0.786	23.1737	-919.999	16	20.3562
619.26	0.785	23.1737	-923.914	21	26.7516
619.46	0.791	23.1737	-919.999	25	31.6056
619.66	0.788	23.3909	-923.914	23	29.1878
619.86	0.785	23.1737	-919.999	25	31.8471
620.06	0.787	23.1737	-919.999	32	40.6607
620.26	0.793	23.1737	-919.999	19	23.9596

620.46	0.794	23.1737	-919.999	16	20.1511
620.66	0.798	23.1737	-923.914	13	16.2907
620.86	0.803	23.1737	-919.999	20	24.9066
621.06	0.792	23.1737	-923.914	17	21.4646
621.26	0.801	23.1737	-923.914	24	29.9625
621.46	0.798	22.9565	-919.999	15	18.797
621.66	0.792	23.1737	-919.999	22	27.7778
621.87	0.796	23.1737	-927.829	13	16.3317
622.07	0.807	23.1737	-919.999	20	24.7831
622.27	0.806	23.3909	-923.914	16	19.8511
622.47	0.811	23.1737	-919.999	25	30.8261
622.67	0.809	23.1737	-919.999	20	24.7219
622.87	0.81	23.1737	-919.999	15	18.5185
623.07	0.804	23.3909	-923.914	22	27.3632
623.27	0.804	23.3909	-919.999	20	24.8756
623.47	0.807	23.1737	-919.999	21	26.0223
623.67	0.813	23.1737	-919.999	22	27.0603
623.87	0.812	23.1737	-919.999	13	16.0099
624.07	0.809	23.3909	-923.914	19	23.4858
624.27	0.811	23.1737	-919.999	27	33.2922
624.47	0.815	23.1737	-927.829	19	23.3129
624.67	0.813	23.1737	-923.914	18	22.1402
624.87	0.808	23.1737	-923.914	24	29.703
625.07	0.799	23.1737	-923.914	19	23.7797
625.27	0.801	23.3909	-919.999	17	21.2235
625.47	0.8	23.1737	-919.999	15	18.75
625.67	0.795	23.3909	-923.914	15	18.8679
625.87	0.793	23.1737	-919.999	15	18.9155
626.07	0.799	23.1737	-916.084	21	26.2829
626.27	0.797	23.3909	-916.084	12	15.0565
626.47	0.799	23.3909	-919.999	26	32.5407
626.67	0.805	23.3909	-923.914	14	17.3913
626.87	0.808	23.3909	-923.914	17	21.0396
627.07	0.812	23.1737	-923.914	25	30.7882
627.27	0.81	23.1737	-919.999	19	23.4568
627.47	0.805	23.1737	-927.829	19	23.6025
627.67	0.807	23.1737	-923.914	17	21.0657
627.87	0.81	23.1737	-919.999	14	17.284
628.07	0.808	23.1737	-919.999	15	18.5644
628.27	0.805	23.3909	-916.084	21	26.087
628.47	0.806	23.1737	-919.999	23	28.536
628.67	0.815	23.3909	-919.999	20	24.5399
628.87	0.816	23.3909	-919.999	16	19.6078
629.07	0.811	23.1737	-923.914	25	30.8261
629.27	0.813	23.1737	-919.999	22	27.0603
629.47	0.81	23.3909	-927.829	19	23.4568
629.67	0.803	23.3909	-919.999	13	16.1893

629.87	0.793	23.1737	-923.914	13	16.3934
630.07	0.792	23.3909	-919.999	22	27.7778
630.27	0.795	23.1737	-923.914	15	18.8679
630.47	0.798	23.1737	-919.999	23	28.8221
630.67	0.796	23.1737	-923.914	20	25.1256
630.87	0.797	23.1737	-923.914	19	23.8394
631.07	0.809	23.1737	-923.914	20	24.7219
631.27	0.813	23.3909	-919.999	17	20.9102
631.47	0.808	23.1737	-919.999	16	19.802
631.67	0.797	23.1737	-923.914	24	30.1129
631.87	0.805	23.1737	-916.084	26	32.2981
632.07	0.81	23.3909	-919.999	25	30.8642
632.27	0.807	23.3909	-919.999	26	32.2181
632.47	0.806	23.3909	-923.914	13	16.129
632.67	0.811	23.3909	-919.999	15	18.4957
632.87	0.816	23.1737	-919.999	26	31.8627
633.07	0.812	23.1737	-919.999	22	27.0936
633.27	0.808	23.1737	-919.999	28	34.6535
633.47	0.808	23.1737	-923.914	18	22.2772
633.67	0.813	23.1737	-919.999	20	24.6002
633.87	0.808	23.1737	-923.914	14	17.3267
634.07	0.798	23.1737	-919.999	14	17.5439
634.27	0.796	23.1737	-919.999	15	18.8442
634.47	0.8	23.3909	-919.999	14	17.5
634.67	0.801	23.1737	-919.999	31	38.7016
634.87	0.796	23.1737	-923.914	21	26.3819
635.07	0.795	23.3909	-919.999	13	16.3522
635.27	0.803	23.1737	-916.084	31	38.6052
635.47	0.809	23.1737	-927.829	14	17.3053
635.67	0.808	23.1737	-919.999	17	21.0396
635.87	0.805	23.3909	-923.914	21	26.087
636.07	0.808	23.3909	-923.914	23	28.4653
636.27	0.809	23.1737	-919.999	16	19.7775
636.47	0.807	23.1737	-919.999	21	26.0223
636.67	0.803	23.3909	-923.914	32	39.8506
636.87	0.803	23.1737	-919.999	18	22.4159
637.07	0.812	23.3909	-919.999	17	20.936
637.27	0.811	23.6081	-927.829	20	24.6609
637.47	0.807	23.1737	-919.999	22	27.2615
637.67	0.812	23.1737	-923.914	12	14.7783
637.87	0.82	23.3909	-935.659	22	26.8293
638.07	0.813	23.1737	-916.084	26	31.9803
638.27	0.8	23.1737	-919.999	23	28.75
638.47	0.795	23.3909	-923.914	28	35.2201
638.67	0.799	23.3909	-919.999	18	22.5282
638.87	0.796	23.1737	-923.914	16	20.1005
639.07	0.796	23.3909	-919.999	21	26.3819

639.27	0.795	23.1737	-923.914	12	15.0943
639.47	0.804	23.1737	-919.999	16	19.9005
639.67	0.805	23.3909	-919.999	17	21.118
639.87	0.807	23.1737	-923.914	18	22.3048
640.07	0.809	23.1737	-919.999	10	12.3609
640.27	0.811	23.3909	-916.084	20	24.6609
640.47	0.807	23.3909	-919.999	12	14.8699
640.67	0.805	23.3909	-919.999	9	11.1801
640.87	0.799	23.1737	-919.999	13	16.2703
641.07	0.808	23.1737	-919.999	14	17.3267
641.27	0.813	23.3909	-919.999	13	15.9902
641.47	0.815	23.1737	-923.914	21	25.7669
641.67	0.817	23.1737	-919.999	9	11.0159
641.88	0.824	23.3909	-919.999	16	19.4175
642.08	0.819	23.3909	-923.914	17	20.757
642.28	0.809	23.3909	-919.999	19	23.4858
642.48	0.792	23.1737	-919.999	8	10.101
642.68	0.788	23.3909	-919.999	13	16.4975
642.88	0.785	23.1737	-919.999	14	17.8344
643.08	0.786	23.6081	-919.999	14	17.8117
643.28	0.78	23.1737	-923.914	14	17.9487
643.48	0.781	23.1737	-923.914	17	21.767
643.68	0.786	23.6081	-919.999	15	19.084
643.88	0.785	23.3909	-919.999	16	20.3822
644.08	0.787	23.3909	-923.914	24	30.4956
644.28	0.792	23.3909	-916.084	14	17.6768
644.48	0.801	23.1737	-919.999	13	16.2297
644.68	0.797	23.1737	-923.914	19	23.8394
644.88	0.791	23.1737	-923.914	15	18.9633
645.08	0.793	23.3909	-923.914	20	25.2207
645.28	0.796	23.1737	-923.914	20	25.1256
645.48	0.799	23.1737	-923.914	21	26.2829
645.68	0.795	23.1737	-919.999	10	12.5786
645.88	0.791	23.3909	-923.914	16	20.2276
646.08	0.796	23.3909	-919.999	17	21.3568
646.28	0.801	23.1737	-923.914	12	14.9813
646.48	0.795	23.3909	-919.999	8	10.0629
646.68	0.794	23.3909	-919.999	29	36.5239
646.88	0.795	23.3909	-923.914	17	21.3836
647.08	0.792	23.3909	-927.829	15	18.9394
647.28	0.779	23.1737	-923.914	10	12.837
647.48	0.774	23.3909	-916.084	16	20.6718
647.68	0.784	23.1737	-919.999	20	25.5102
647.88	0.787	23.1737	-923.914	13	16.5184
648.08	0.782	23.1737	-919.999	14	17.9028
648.28	0.783	23.3909	-919.999	18	22.9885
648.48	0.794	23.3909	-919.999	15	18.8917

648.68	0.798	23.3909	-919.999	16	20.0501
648.88	0.797	23.3909	-916.084	19	23.8394
649.08	0.791	23.1737	-919.999	21	26.5487
649.28	0.789	23.1737	-923.914	16	20.2788
649.48	0.793	23.3909	-919.999	16	20.1765
649.68	0.795	23.3909	-923.914	19	23.8994
649.88	0.793	23.1737	-927.829	15	18.9155
650.08	0.794	23.3909	-923.914	19	23.9295
650.28	0.801	23.1737	-923.914	15	18.7266
650.48	0.8	23.3909	-919.999	21	26.25
650.68	0.8	23.3909	-923.914	15	18.75
650.88	0.793	23.1737	-919.999	18	22.6986
651.08	0.799	23.3909	-923.914	20	25.0313
651.28	0.791	23.1737	-919.999	16	20.2276
651.48	0.785	23.1737	-923.914	10	12.7389
651.68	0.777	23.1737	-919.999	16	20.592
651.88	0.782	23.3909	-923.914	18	23.0179
652.08	0.787	23.3909	-919.999	19	24.1423
652.28	0.783	23.3909	-919.999	18	22.9885
652.48	0.78	23.3909	-919.999	12	15.3846
652.68	0.78	23.1737	-923.914	24	30.7692
652.88	0.795	23.3909	-919.999	25	31.4465
653.08	0.796	23.3909	-923.914	17	21.3568
653.28	0.791	23.3909	-927.829	17	21.4918
653.48	0.791	23.3909	-923.914	20	25.2845
653.68	0.798	23.3909	-927.829	18	22.5564
653.88	0.795	23.6081	-919.999	21	26.4151
654.08	0.792	23.3909	-919.999	18	22.7273
654.28	0.791	23.3909	-923.914	18	22.756
654.48	0.797	23.1737	-923.914	18	22.5847
654.68	0.795	23.3909	-923.914	21	26.4151
654.88	0.796	23.3909	-919.999	16	20.1005
655.08	0.796	23.3909	-923.914	23	28.8945
655.28	0.803	23.1737	-923.914	18	22.4159
655.48	0.802	23.3909	-923.914	23	28.6783
655.68	0.791	23.3909	-919.999	20	25.2845
655.88	0.786	23.1737	-919.999	21	26.7176
656.08	0.782	23.3909	-923.914	25	31.9693
656.28	0.784	23.3909	-919.999	16	20.4082
656.48	0.779	23.3909	-919.999	24	30.8087
656.68	0.777	23.3909	-919.999	21	27.027
656.88	0.783	23.1737	-919.999	19	24.2656
657.08	0.788	23.3909	-919.999	21	26.6497
657.28	0.79	23.3909	-919.999	20	25.3165
657.48	0.793	23.3909	-923.914	26	32.7869
657.68	0.795	23.3909	-923.914	13	16.3522
657.88	0.789	23.1737	-919.999	16	20.2788

658.08	0.79	23.3909	-923.914	23	29.1139
658.28	0.79	23.3909	-919.999	23	29.1139
658.48	0.791	23.3909	-916.084	17	21.4918
658.68	0.796	23.1737	-916.084	22	27.6382
658.88	0.8	23.1737	-923.914	21	26.25
659.08	0.795	23.6081	-919.999	17	21.3836
659.28	0.795	23.1737	-923.914	18	22.6415
659.48	0.799	23.3909	-923.914	24	30.0375
659.68	0.798	23.3909	-919.999	19	23.8095
659.88	0.793	23.3909	-916.084	13	16.3934
660.08	0.788	23.3909	-919.999	33	41.8782
660.28	0.79	23.1737	-919.999	22	27.8481
660.48	0.786	23.3909	-919.999	23	29.2621
660.68	0.783	23.3909	-923.914	26	33.2056
660.88	0.782	23.1737	-919.999	13	16.624
661.08	0.784	23.3909	-919.999	18	22.9592
661.28	0.785	23.3909	-916.084	16	20.3822
661.48	0.786	23.3909	-919.999	26	33.0789
661.68	0.785	23.3909	-919.999	24	30.5732
661.89	0.791	23.3909	-919.999	11	13.9064
662.09	0.797	23.3909	-927.829	28	35.1317
662.29	0.791	23.1737	-923.914	21	26.5487
662.49	0.788	23.3909	-919.999	30	38.0711
662.69	0.791	23.3909	-919.999	23	29.0771
662.89	0.797	23.1737	-927.829	21	26.3488
663.09	0.792	23.3909	-919.999	31	39.1414
663.29	0.788	23.1737	-923.914	20	25.3807
663.49	0.795	23.1737	-919.999	17	21.3836
663.69	0.801	23.3909	-923.914	19	23.7204
663.89	0.798	23.3909	-919.999	28	35.0877
664.09	0.797	23.3909	-919.999	14	17.5659
664.29	0.798	23.3909	-927.829	17	21.3033
664.49	0.791	23.3909	-923.914	21	26.5487
664.69	0.788	23.3909	-923.914	17	21.5736
664.89	0.778	23.3909	-919.999	10	12.8535
665.09	0.778	23.3909	-927.829	22	28.2776
665.29	0.785	23.3909	-916.084	22	28.0255
665.49	0.784	23.3909	-923.914	17	21.6837
665.69	0.784	23.3909	-919.999	22	28.0612
665.89	0.784	23.3909	-923.914	17	21.6837
666.09	0.794	23.1737	-919.999	18	22.67
666.29	0.798	23.3909	-923.914	18	22.5564
666.49	0.797	23.3909	-923.914	19	23.8394
666.69	0.789	23.3909	-919.999	22	27.8834
666.89	0.792	23.3909	-923.914	14	17.6768
667.09	0.792	23.3909	-923.914	26	32.8283
667.29	0.794	23.3909	-919.999	11	13.8539

667.49	0.79	23.3909	-923.914	13	16.4557
667.69	0.793	23.3909	-919.999	18	22.6986
667.89	0.799	23.6081	-923.914	19	23.7797
668.09	0.799	23.3909	-923.914	22	27.5344
668.29	0.793	23.3909	-919.999	13	16.3934
668.49	0.79	23.3909	-919.999	20	25.3165
668.69	0.8	23.3909	-919.999	23	28.75
668.89	0.792	23.3909	-919.999	22	27.7778
669.09	0.782	23.3909	-919.999	22	28.133
669.29	0.779	23.3909	-919.999	25	32.0924
669.49	0.788	23.3909	-919.999	16	20.3046
669.69	0.786	23.1737	-923.914	22	27.9898
669.89	0.78	23.3909	-919.999	18	23.0769
670.09	0.779	23.3909	-923.914	22	28.2413
670.29	0.786	23.3909	-923.914	21	26.7176
670.49	0.79	23.3909	-919.999	21	26.5823
670.69	0.795	23.3909	-919.999	13	16.3522
670.89	0.794	23.3909	-919.999	21	26.4484
671.09	0.793	23.3909	-919.999	22	27.7427
671.29	0.797	23.3909	-916.084	23	28.8582
671.49	0.795	23.6081	-927.829	26	32.7044
671.69	0.791	23.3909	-919.999	22	27.8129
671.89	0.796	23.3909	-923.914	24	30.1508
672.09	0.798	23.3909	-919.999	27	33.8346
672.29	0.795	23.3909	-923.914	20	25.1572
672.49	0.79	23.3909	-923.914	20	25.3165
672.69	0.796	23.1737	-919.999	17	21.3568
672.89	0.801	23.3909	-919.999	30	37.4532
673.09	0.797	23.3909	-919.999	17	21.33
673.29	0.786	23.3909	-923.914	17	21.6285
673.49	0.784	23.3909	-923.914	17	21.6837
673.69	0.777	23.3909	-919.999	22	28.314
673.89	0.784	23.3909	-919.999	29	36.9898
674.09	0.781	23.3909	-919.999	25	32.0102
674.29	0.776	23.1737	-919.999	21	27.0619
674.49	0.784	23.3909	-919.999	25	31.8878
674.69	0.792	23.1737	-919.999	14	17.6768
674.89	0.791	23.3909	-923.914	14	17.6991
675.09	-999	-999	-999	-999	-999
675.29	0.795	23.1737	-923.914	16	20.1258
675.49	0.791	23.1737	-919.999	24	30.3413
675.69	0.79	23.3909	-919.999	23	29.1139
675.89	0.791	23.3909	-923.914	23	29.0771
676.09	0.797	23.3909	-923.914	24	30.1129
676.29	0.802	23.3909	-919.999	12	14.9626
676.49	0.798	23.3909	-919.999	23	28.8221
676.69	0.794	23.3909	-927.829	19	23.9295

676.89	0.8	23.1737	-923.914	11	13.75
677.09	0.805	23.3909	-923.914	19	23.6025
677.29	0.798	23.3909	-923.914	15	18.797
677.49	0.788	23.3909	-919.999	10	12.6904
677.69	0.784	23.3909	-923.914	24	30.6122
677.89	0.788	23.6081	-919.999	17	21.5736
678.09	0.781	23.1737	-919.999	17	21.767
678.29	0.778	23.3909	-916.084	27	34.7044
678.49	0.782	23.1737	-923.914	22	28.133
678.69	0.785	23.6081	-919.999	20	25.4777
678.89	0.781	23.3909	-923.914	15	19.2061
679.09	0.783	23.6081	-919.999	15	19.1571
679.29	0.79	23.3909	-919.999	19	24.0506
679.49	0.798	23.1737	-919.999	21	26.3158
679.69	0.796	23.1737	-923.914	22	27.6382
679.89	0.792	23.3909	-916.084	29	36.6162
680.09	0.794	23.3909	-919.999	19	23.9295
680.29	0.795	23.3909	-927.829	21	26.4151
680.49	0.796	23.6081	-923.914	17	21.3568
680.69	0.794	23.3909	-919.999	13	16.3728
680.89	0.79	23.3909	-919.999	24	30.3797
681.09	0.796	23.6081	-919.999	32	40.201
681.29	0.804	23.6081	-919.999	19	23.6318
681.49	0.801	23.3909	-919.999	20	24.9688
681.69	0.797	23.3909	-919.999	20	25.0941
681.9	0.797	23.1737	-923.914	18	22.5847
682.1	0.794	23.3909	-919.999	17	21.4106
682.3	0.786	23.3909	-919.999	20	25.4453
682.5	0.775	23.1737	-923.914	19	24.5161
682.7	0.781	23.3909	-916.084	14	17.9257
682.9	0.78	23.1737	-919.999	19	24.359
683.1	0.782	23.3909	-919.999	11	14.0665
683.3	0.78	23.3909	-916.084	25	32.0513
683.5	0.784	23.3909	-919.999	19	24.2347
683.7	0.797	23.3909	-923.914	16	20.0753
683.9	0.798	23.3909	-919.999	20	25.0627
684.1	0.789	23.3909	-919.999	24	30.4183
684.3	0.782	23.6081	-919.999	13	16.624
684.5	0.796	23.1737	-923.914	17	21.3568
684.7	0.797	23.3909	-923.914	13	16.3112
684.9	0.791	23.3909	-919.999	18	22.756
685.1	0.793	23.3909	-923.914	22	27.7427
685.3	0.799	23.3909	-919.999	22	27.5344
685.5	0.802	23.3909	-919.999	17	21.197
685.7	0.797	23.1737	-923.914	23	28.8582
685.9	0.794	23.3909	-916.084	26	32.7456
686.1	0.798	23.6081	-923.914	20	25.0627

686.3	0.794	23.3909	-923.914	16	20.1511
686.5	0.79	23.3909	-916.084	27	34.1772
686.7	0.781	23.3909	-923.914	20	25.6082
686.9	0.783	23.1737	-923.914	21	26.8199
687.1	0.789	23.3909	-916.084	25	31.6857
687.3	0.782	23.3909	-919.999	12	15.3453
687.5	0.778	23.3909	-923.914	15	19.2802
687.7	0.782	23.3909	-923.914	16	20.4604
687.9	0.79	23.3909	-923.914	17	21.519
688.1	0.792	23.3909	-923.914	15	18.9394
688.3	0.791	23.3909	-919.999	18	22.756
688.5	0.791	23.6081	-923.914	23	29.0771
688.7	0.795	23.3909	-919.999	21	26.4151
688.9	0.794	23.3909	-919.999	15	18.8917
689.1	0.791	23.3909	-923.914	20	25.2845
689.3	0.792	23.3909	-919.999	23	29.0404
689.5	0.791	23.1737	-923.914	25	31.6056
689.7	0.797	23.3909	-923.914	26	32.6223
689.9	0.798	23.3909	-919.999	31	38.8471
690.1	0.794	23.3909	-923.914	31	39.0428
690.3	0.8	23.6081	-919.999	35	43.75
690.5	0.805	23.3909	-923.914	33	40.9938
690.7	0.792	23.3909	-923.914	31	39.1414
690.9	0.785	23.3909	-923.914	39	49.6815
691.1	0.783	23.3909	-923.914	29	37.037
691.3	0.785	23.3909	-923.914	45	57.3248
691.5	0.779	23.3909	-919.999	39	50.0642
691.7	0.778	23.3909	-919.999	30	38.5604
691.9	0.785	23.3909	-919.999	37	47.1338
692.1	0.787	23.3909	-919.999	40	50.8259
692.3	0.792	23.3909	-919.999	40	50.5051
692.5	0.791	23.3909	-919.999	34	42.9836
692.7	0.796	23.3909	-916.084	50	62.8141
692.9	0.797	23.3909	-916.084	34	42.66
693.1	0.795	23.1737	-919.999	30	37.7358
693.3	0.789	23.3909	-919.999	31	39.2902
693.5	0.788	23.6081	-919.999	28	35.533
693.7	0.797	23.3909	-919.999	39	48.9335
693.9	0.797	23.3909	-916.084	40	50.1882
694.1	0.793	23.3909	-919.999	34	42.8752
694.3	0.793	23.3909	-919.999	25	31.5259
694.5	0.804	23.6081	-919.999	27	33.5821
694.7	0.796	23.3909	-919.999	41	51.5075
694.9	0.795	23.6081	-923.914	37	46.5409
695.1	0.793	23.3909	-923.914	31	39.0921
695.3	0.788	23.3909	-919.999	23	29.1878
695.5	0.785	23.3909	-919.999	30	38.2166

695.7	0.783	23.3909	-923.914	24	30.6513
695.9	0.782	23.3909	-919.999	34	43.4783
696.1	0.78	23.3909	-919.999	32	41.0256
696.3	0.784	23.3909	-923.914	31	39.5408
696.5	0.783	23.3909	-923.914	32	40.8685
696.7	0.785	23.3909	-919.999	30	38.2166
696.9	0.794	23.3909	-919.999	30	37.7834
697.1	0.799	23.3909	-919.999	33	41.3016
697.3	0.795	23.3909	-919.999	33	41.5094
697.5	0.791	23.3909	-927.829	34	42.9836
697.7	0.794	23.6081	-923.914	31	39.0428
697.9	0.801	23.1737	-919.999	25	31.211
698.1	0.8	23.3909	-919.999	33	41.25
698.3	0.793	23.3909	-919.999	35	44.1362
698.5	0.793	23.3909	-919.999	32	40.3531
698.7	0.796	23.3909	-923.914	26	32.6633
698.9	0.796	23.3909	-923.914	42	52.7638
699.1	0.792	23.3909	-919.999	25	31.5657
699.3	0.79	23.3909	-923.914	20	25.3165
699.5	0.792	23.3909	-919.999	34	42.9293
699.7	0.79	23.3909	-923.914	18	22.7848
699.9	0.78	23.3909	-923.914	38	48.7179
700.1	0.773	23.3909	-919.999	28	36.2225
700.3	0.785	23.3909	-919.999	38	48.4076
700.5	0.784	23.3909	-919.999	28	35.7143
700.7	0.779	23.3909	-919.999	27	34.6598
700.9	0.781	23.3909	-923.914	32	40.9731
701.1	0.793	23.6081	-927.829	36	45.3972
701.3	0.797	23.3909	-923.914	46	57.7164
701.5	0.794	23.6081	-919.999	33	41.5617
701.7	0.792	23.3909	-927.829	41	51.7677
701.9	0.79	23.3909	-923.914	38	48.1013
702.11	0.795	23.3909	-923.914	39	49.0566
702.31	0.795	23.3909	-923.914	42	52.8302
702.51	0.795	23.3909	-919.999	44	55.3459
702.71	0.795	23.3909	-923.914	41	51.5723
702.91	0.803	23.1737	-916.084	36	44.8319
703.11	0.801	23.3909	-923.914	26	32.4594
703.31	0.798	23.3909	-923.914	31	38.8471
703.51	0.796	23.3909	-916.084	36	45.2261
703.71	0.798	23.6081	-919.999	38	47.619
703.91	0.788	23.3909	-919.999	32	40.6091
704.11	0.783	23.3909	-916.084	50	63.857
704.31	0.779	23.3909	-919.999	35	44.9294
704.51	0.786	23.3909	-916.084	39	49.6183
704.71	0.784	23.3909	-919.999	35	44.6429
704.91	0.781	23.3909	-919.999	26	33.2907

705.11	0.778	23.3909	-919.999	31	39.8458
705.31	0.779	23.3909	-919.999	35	44.9294
705.51	0.793	23.3909	-919.999	28	35.309
705.71	0.795	23.6081	-923.914	26	32.7044
705.91	0.789	23.3909	-919.999	31	39.2902
706.11	0.794	23.3909	-919.999	40	50.3778
706.31	0.798	23.3909	-923.914	38	47.619
706.51	0.796	23.1737	-919.999	25	31.407
706.71	0.792	23.6081	-923.914	32	40.404
706.91	0.796	23.3909	-919.999	29	36.4322
707.11	0.797	23.3909	-919.999	37	46.4241
707.31	0.796	23.3909	-919.999	34	42.7136
707.51	0.794	23.3909	-919.999	33	41.5617
707.71	0.799	23.3909	-919.999	25	31.2891
707.91	0.804	23.3909	-916.084	25	31.0945
708.11	0.8	23.3909	-919.999	36	45
708.31	0.791	23.3909	-919.999	34	42.9836
708.51	0.787	23.3909	-919.999	28	35.5781
708.71	0.787	23.6081	-927.829	46	58.4498
708.91	0.783	23.3909	-919.999	37	47.2542
709.11	0.776	23.3909	-919.999	27	34.7938
709.31	0.774	23.3909	-923.914	47	60.7235
709.51	0.782	23.3909	-912.169	34	43.4783
709.71	0.787	23.3909	-919.999	37	47.014
709.91	0.789	23.3909	-919.999	28	35.488
710.11	0.794	23.3909	-923.914	39	49.1184
710.31	0.798	23.1737	-919.999	42	52.6316
710.51	0.789	23.3909	-923.914	29	36.7554
710.71	0.793	23.3909	-919.999	44	55.4855
710.91	0.791	23.3909	-919.999	32	40.4551
711.11	0.795	23.3909	-919.999	44	55.3459
711.31	0.798	23.3909	-919.999	30	37.594
711.51	0.798	23.3909	-923.914	32	40.1003
711.71	0.796	23.3909	-919.999	39	48.995
711.91	0.799	23.3909	-919.999	33	41.3016
712.11	0.801	23.3909	-923.914	33	41.1985
712.31	0.798	23.3909	-919.999	37	46.3659
712.51	0.79	23.3909	-916.084	36	45.5696
712.71	0.788	23.3909	-919.999	35	44.4162
712.91	0.791	23.3909	-919.999	39	49.3047
713.11	0.787	23.3909	-923.914	42	53.3672
713.31	0.781	23.3909	-919.999	40	51.2164
713.51	0.781	23.3909	-919.999	49	62.7401
713.71	0.784	23.3909	-923.914	27	34.4388
713.91	0.783	23.3909	-919.999	37	47.2542
714.11	0.784	23.6081	-919.999	30	38.2653
714.31	0.789	23.6081	-923.914	43	54.4994

714.51	0.793	23.3909	-923.914	34	42.8752
714.71	0.796	23.3909	-923.914	28	35.1759
714.91	0.791	23.1737	-919.999	43	54.3616
715.11	0.789	23.3909	-919.999	45	57.0342
715.31	0.796	23.3909	-923.914	34	42.7136
715.51	0.799	23.3909	-919.999	44	55.0688
715.71	0.795	23.3909	-923.914	33	41.5094
715.91	0.787	23.3909	-919.999	46	58.4498
716.11	0.8	23.3909	-919.999	39	48.75
716.31	0.802	23.3909	-919.999	34	42.394
716.51	0.798	23.3909	-919.999	34	42.6065
716.71	0.796	23.3909	-927.829	31	38.9447
716.91	0.797	23.3909	-923.914	52	65.2447
717.11	0.794	23.3909	-916.084	40	50.3778
717.31	0.787	23.3909	-919.999	43	54.6379
717.51	0.779	23.3909	-919.999	34	43.6457
717.71	0.78	23.3909	-919.999	43	55.1282
717.91	0.783	23.3909	-919.999	35	44.6999
718.11	0.782	23.3909	-919.999	37	47.3146
718.31	0.781	23.3909	-919.999	53	67.8617
718.51	0.786	23.6081	-916.084	45	57.2519
718.71	0.795	23.3909	-919.999	33	41.5094
718.91	0.799	23.3909	-919.999	49	61.3267
719.11	0.795	23.3909	-919.999	40	50.3145
719.31	0.793	23.3909	-919.999	33	41.6141
719.51	0.794	23.3909	-919.999	35	44.0806
719.71	0.795	23.3909	-916.084	27	33.9623
719.91	0.793	23.3909	-919.999	40	50.4414
720.11	0.792	23.3909	-919.999	46	58.0808
720.31	0.795	23.3909	-923.914	31	38.9937
720.51	0.8	23.1737	-916.084	36	45
720.71	0.799	23.3909	-923.914	41	51.3141
720.91	0.795	23.3909	-919.999	55	69.1824
721.11	0.792	23.3909	-923.914	26	32.8283
721.31	0.797	23.3909	-919.999	47	58.9711
721.51	0.791	23.3909	-919.999	44	55.6258
721.71	0.781	23.3909	-923.914	37	47.3752
721.92	0.781	23.3909	-916.084	45	57.6184
722.12	0.79	23.3909	-923.914	36	45.5696
722.32	0.783	23.3909	-919.999	34	43.4227
722.52	0.777	23.6081	-919.999	30	38.61
722.72	0.78	23.3909	-923.914	37	47.4359
722.92	0.791	23.3909	-919.999	31	39.1909
723.12	0.792	23.3909	-927.829	31	39.1414
723.32	0.796	23.3909	-919.999	27	33.9196
723.52	0.792	23.3909	-923.914	29	36.6162
723.72	0.798	23.3909	-919.999	18	22.5564

723.92	0.798	23.6081	-927.829	35	43.8596
724.12	0.795	23.3909	-919.999	30	37.7358
724.32	0.796	23.3909	-919.999	35	43.9698
724.52	0.798	23.3909	-927.829	25	31.3283
724.72	0.799	23.3909	-919.999	29	36.2954
724.92	0.795	23.3909	-923.914	28	35.2201
725.12	0.79	23.3909	-919.999	43	54.4304
725.32	0.798	23.3909	-923.914	34	42.6065
725.52	0.801	23.3909	-919.999	37	46.1923
725.72	0.794	23.3909	-923.914	43	54.1562
725.92	0.785	23.3909	-923.914	26	33.121
726.12	0.785	23.1737	-919.999	32	40.7643
726.32	0.781	23.3909	-923.914	28	35.8515
726.52	0.783	23.3909	-923.914	28	35.7599
726.72	0.778	23.3909	-923.914	31	39.8458
726.92	0.776	23.3909	-919.999	39	50.2577
727.12	0.785	23.3909	-919.999	26	33.121
727.32	0.791	23.1737	-919.999	38	48.0405
727.52	0.794	23.3909	-919.999	28	35.2645
727.72	0.796	23.6081	-919.999	21	26.3819
727.92	0.795	23.3909	-919.999	32	40.2516
728.12	0.795	23.3909	-923.914	27	33.9623
728.32	0.792	23.3909	-923.914	27	34.0909
728.52	0.791	23.6081	-923.914	25	31.6056
728.72	0.801	23.6081	-916.084	39	48.6891
728.92	0.802	23.3909	-919.999	33	41.1471
729.12	0.795	23.3909	-919.999	35	44.0252
729.32	0.799	23.3909	-923.914	26	32.5407
729.52	0.801	23.3909	-923.914	29	36.2047
729.72	0.804	23.3909	-919.999	29	36.0697
729.92	0.796	23.6081	-919.999	34	42.7136
730.12	0.787	23.3909	-923.914	25	31.7662
730.32	0.786	23.3909	-923.914	35	44.5293
730.52	0.788	23.3909	-923.914	36	45.6853
730.72	0.781	23.3909	-919.999	25	32.0102
730.92	0.777	23.3909	-923.914	32	41.184
731.12	0.78	23.3909	-919.999	31	39.7436
731.32	0.784	23.3909	-923.914	28	35.7143
731.52	0.784	23.3909	-923.914	20	25.5102
731.72	0.779	23.3909	-919.999	33	42.362
731.92	0.793	23.3909	-923.914	26	32.7869
732.12	0.8	23.3909	-919.999	24	30
732.32	0.795	23.3909	-923.914	30	37.7358
732.52	0.793	23.3909	-923.914	35	44.1362
732.72	0.795	23.6081	-916.084	37	46.5409
732.92	0.8	23.3909	-919.999	44	55
733.12	0.799	23.6081	-923.914	24	30.0375

733.32	0.792	23.1737	-916.084	30	37.8788
733.52	0.794	23.6081	-919.999	29	36.5239
733.72	0.797	23.3909	-927.829	37	46.4241
733.92	0.802	23.3909	-919.999	35	43.6409
734.12	0.799	23.3909	-923.914	45	56.3204
734.32	0.795	23.3909	-919.999	30	37.7358
734.52	0.796	23.3909	-919.999	27	33.9196
734.72	0.793	23.3909	-919.999	32	40.3531
734.92	0.784	23.3909	-919.999	26	33.1633
735.12	0.78	23.3909	-916.084	36	46.1538
735.32	0.782	23.3909	-919.999	35	44.757
735.52	0.78	23.3909	-919.999	29	37.1795
735.72	0.778	23.6081	-919.999	32	41.1311
735.92	0.781	23.3909	-923.914	36	46.0947
736.12	0.788	23.3909	-923.914	34	43.1472
736.32	0.8	23.3909	-923.914	32	40
736.52	0.797	23.3909	-923.914	44	55.207
736.72	0.789	23.3909	-919.999	36	45.6274
736.92	0.785	23.3909	-919.999	33	42.0382
737.12	0.798	23.3909	-919.999	33	41.3534
737.32	0.799	23.6081	-923.914	33	41.3016
737.52	0.793	23.3909	-923.914	23	29.0038
737.72	0.794	23.3909	-923.914	34	42.8212
737.92	0.802	23.6081	-916.084	40	49.8753
738.12	0.801	23.3909	-919.999	35	43.6954
738.32	0.795	23.3909	-919.999	35	44.0252
738.52	0.795	23.3909	-919.999	32	40.2516
738.72	0.798	23.3909	-919.999	33	41.3534
738.92	0.792	23.3909	-919.999	37	46.7172
739.12	0.787	23.6081	-919.999	40	50.8259
739.32	0.783	23.3909	-923.914	27	34.4828
739.52	0.785	23.3909	-927.829	29	36.9427
739.72	0.787	23.3909	-923.914	35	44.4727
739.92	0.78	23.3909	-923.914	38	48.7179
740.12	0.777	23.3909	-919.999	35	45.045
740.32	0.785	23.6081	-923.914	32	40.7643
740.52	0.792	23.3909	-919.999	30	37.8788
740.72	0.793	23.3909	-919.999	39	49.1803
740.92	0.79	23.6081	-919.999	34	43.038
741.12	0.793	23.3909	-919.999	29	36.57
741.32	0.794	23.6081	-919.999	29	36.5239
741.52	0.794	23.3909	-919.999	37	46.5995
741.72	0.793	23.6081	-919.999	39	49.1803
741.92	0.796	23.3909	-919.999	41	51.5075
742.13	0.794	23.1737	-919.999	37	46.5995
742.33	0.797	23.3909	-919.999	28	35.1317
742.53	0.796	23.3909	-923.914	36	45.2261

742.73	0.795	23.3909	-919.999	31	38.9937
742.93	0.799	23.3909	-919.999	26	32.5407
743.13	0.799	23.3909	-919.999	29	36.2954
743.33	0.792	23.6081	-919.999	36	45.4545
743.53	0.785	23.1737	-923.914	27	34.3949
743.73	0.787	23.3909	-919.999	25	31.7662
743.93	0.785	23.6081	-923.914	27	34.3949
744.13	0.779	23.3909	-919.999	21	26.9576
744.33	0.776	23.3909	-919.999	23	29.6392
744.53	0.781	23.3909	-923.914	21	26.8886
744.73	0.789	23.6081	-919.999	34	43.0925
744.93	0.792	23.3909	-923.914	33	41.6667
745.13	0.793	23.3909	-916.084	34	42.8752
745.33	0.797	23.6081	-923.914	42	52.6976
745.53	0.798	23.3909	-923.914	27	33.8346
745.73	0.794	23.3909	-927.829	44	55.4156
745.93	0.791	23.3909	-923.914	48	60.6827
746.13	0.79	23.3909	-919.999	27	34.1772
746.33	0.798	23.3909	-916.084	34	42.6065
746.53	0.794	23.3909	-919.999	21	26.4484
746.73	0.793	23.6081	-923.914	31	39.0921
746.93	0.796	23.3909	-923.914	25	31.407
747.13	0.802	23.3909	-923.914	30	37.4065
747.33	0.798	23.3909	-919.999	36	45.1128
747.53	0.788	23.3909	-923.914	35	44.4162
747.73	0.788	23.3909	-919.999	40	50.7614
747.93	0.789	23.3909	-919.999	46	58.3016
748.13	0.785	23.3909	-919.999	46	58.5987
748.33	0.783	23.3909	-919.999	55	70.2427
748.53	0.782	23.3909	-919.999	45	57.5448
748.73	0.782	23.3909	-919.999	33	42.1995
748.93	0.784	23.1737	-923.914	54	68.8775
749.13	0.784	23.3909	-919.999	29	36.9898
749.33	0.788	23.3909	-923.914	47	59.6447
749.53	0.792	23.3909	-916.084	40	50.5051
749.73	0.798	23.3909	-923.914	51	63.9098
749.93	0.795	23.6081	-923.914	50	62.8931
750.13	0.793	23.3909	-916.084	57	71.8789
750.33	0.795	23.3909	-919.999	40	50.3145
750.53	0.8	23.3909	-927.829	60	75
750.73	0.799	23.3909	-923.914	49	61.3267
750.93	0.793	23.3909	-919.999	49	61.7907
751.13	0.793	23.3909	-923.914	48	60.5296
751.33	0.797	23.6081	-919.999	52	65.2447
751.53	0.797	23.6081	-923.914	45	56.4617
751.73	0.794	23.6081	-919.999	55	69.2695
751.93	0.791	23.3909	-923.914	55	69.5322

752.13	0.793	23.3909	-919.999	53	66.8348
752.33	0.79	23.3909	-919.999	49	62.0253
752.53	0.781	23.3909	-923.914	56	71.7029
752.73	0.773	23.3909	-923.914	45	58.2147
752.93	0.783	23.3909	-923.914	50	63.857
753.13	0.783	23.6081	-919.999	60	76.6283
753.33	0.778	23.3909	-919.999	40	51.4139
753.53	0.782	23.1737	-923.914	38	48.5933
753.73	0.797	23.3909	-919.999	38	47.6788
753.93	0.799	23.1737	-923.914	41	51.3141
754.13	0.794	23.6081	-923.914	38	47.8589
754.33	0.79	23.3909	-919.999	48	60.7595
754.53	0.794	23.3909	-923.914	53	66.7506
754.73	0.793	23.3909	-919.999	56	70.6179
754.93	0.797	23.3909	-919.999	58	72.7729
755.13	0.795	23.3909	-923.914	70	88.0503
755.33	0.795	23.3909	-919.999	50	62.8931
755.53	0.801	23.3909	-923.914	65	81.1486
755.73	0.799	23.3909	-919.999	69	86.3579
755.93	0.795	23.3909	-919.999	66	83.0189
756.13	0.796	23.3909	-927.829	54	67.8392
756.33	0.797	23.3909	-919.999	66	82.8105
756.53	0.788	23.3909	-919.999	64	81.2183
756.73	0.782	23.3909	-919.999	64	81.8414
756.93	0.78	23.6081	-919.999	60	76.9231
757.13	0.786	23.3909	-919.999	64	81.4249
757.33	0.78	23.3909	-919.999	57	73.0769
757.53	0.778	23.3909	-919.999	74	95.1157
757.73	0.779	23.3909	-919.999	84	107.831
757.93	0.784	23.3909	-916.084	57	72.7041
758.13	0.791	23.3909	-919.999	55	69.5322
758.33	0.796	23.3909	-919.999	61	76.6332
758.53	0.79	23.3909	-919.999	69	87.3418
758.73	0.794	23.3909	-919.999	46	57.9345
758.93	0.797	23.3909	-919.999	58	72.7729
759.13	0.796	23.3909	-919.999	47	59.0452
759.33	0.792	23.3909	-923.914	56	70.7071
759.53	0.795	23.3909	-919.999	55	69.1824
759.73	0.798	23.3909	-919.999	59	73.9348
759.93	0.794	23.3909	-919.999	55	69.2695
760.13	0.793	23.3909	-923.914	52	65.5738
760.33	0.799	23.3909	-919.999	50	62.5782
760.53	0.8	23.3909	-923.914	59	73.75
760.73	0.796	23.3909	-919.999	56	70.3518
760.93	0.788	23.3909	-923.914	45	57.1066
761.13	0.788	23.3909	-919.999	50	63.4518
761.33	0.788	23.3909	-919.999	60	76.1421

761.53	0.783	23.1737	-919.999	58	74.0741
761.73	0.778	23.3909	-919.999	60	77.1208
761.93	0.773	23.3909	-923.914	42	54.3338
762.14	0.781	23.3909	-919.999	74	94.7503
762.34	0.788	23.3909	-916.084	56	71.066
762.54	0.79	23.3909	-923.914	51	64.557
762.74	0.792	23.6081	-923.914	65	82.0707
762.94	0.796	23.3909	-923.914	73	91.7085
763.14	0.797	23.3909	-919.999	52	65.2447
763.34	0.788	23.3909	-923.914	65	82.4873
763.54	0.792	23.3909	-919.999	61	77.0202
763.74	0.795	23.3909	-919.999	61	76.7296
763.94	0.798	23.3909	-919.999	46	57.6441
764.14	0.795	23.3909	-916.084	56	70.4403
764.34	0.795	23.3909	-919.999	49	61.6352
764.54	0.798	23.3909	-919.999	55	68.9223
764.74	0.801	23.3909	-919.999	60	74.9064
764.94	0.797	23.3909	-923.914	57	71.5182
765.14	0.791	23.3909	-923.914	53	67.0038
765.34	0.783	23.3909	-919.999	61	77.9055
765.54	0.791	23.3909	-923.914	65	82.1745
765.74	0.786	23.3909	-919.999	58	73.7914
765.94	0.783	23.3909	-919.999	57	72.7969
766.14	0.778	23.3909	-916.084	39	50.1285
766.34	0.784	23.3909	-919.999	47	59.949
766.54	0.784	23.3909	-919.999	59	75.2551
766.74	0.787	23.3909	-927.829	50	63.5324
766.94	0.788	23.3909	-919.999	50	63.4518
767.14	0.793	23.3909	-919.999	53	66.8348
767.34	0.794	23.3909	-923.914	56	70.529
767.54	0.791	23.3909	-919.999	46	58.1542
767.74	0.791	23.3909	-919.999	45	56.89
767.94	0.794	23.3909	-923.914	43	54.1562
768.14	0.799	23.3909	-919.999	44	55.0688
768.34	0.796	23.6081	-919.999	46	57.7889
768.54	0.784	23.3909	-923.914	48	61.2245
768.74	0.794	23.3909	-916.084	43	54.1562
768.94	0.802	23.3909	-919.999	50	62.3441
769.14	0.797	23.6081	-927.829	49	61.4806
769.34	0.792	23.3909	-923.914	39	49.2424
769.54	0.796	23.6081	-923.914	51	64.0704
769.74	0.795	23.3909	-923.914	33	41.5094
769.94	0.786	23.1737	-923.914	50	63.6132
770.14	0.78	23.1737	-923.914	50	64.1026
770.34	0.78	23.6081	-923.914	44	56.4103
770.54	0.782	23.3909	-923.914	45	57.5448
770.74	0.781	23.3909	-923.914	47	60.1793

770.94	0.781	23.3909	-923.914	44	56.338
771.14	0.788	23.3909	-919.999	71	90.1015
771.34	0.796	23.3909	-916.084	43	54.0201
771.54	0.797	23.3909	-923.914	52	65.2447
771.74	0.793	23.3909	-923.914	44	55.4855
771.94	0.794	23.3909	-919.999	57	71.7884
772.14	0.795	23.3909	-923.914	53	66.6667
772.34	0.795	23.1737	-919.999	57	71.6981
772.54	0.792	23.6081	-923.914	62	78.2828
772.74	0.791	23.6081	-919.999	46	58.1542
772.94	0.794	23.3909	-923.914	59	74.3073
773.14	0.798	23.3909	-927.829	55	68.9223
773.34	0.799	23.1737	-919.999	57	71.3392
773.54	0.795	23.3909	-919.999	62	77.9874
773.74	0.793	23.3909	-923.914	65	81.9672
773.94	0.792	23.3909	-919.999	55	69.4444
774.14	0.791	23.3909	-923.914	39	49.3047
774.34	0.783	23.3909	-919.999	44	56.1941
774.54	0.779	23.3909	-923.914	50	64.1849
774.74	0.787	23.6081	-919.999	51	64.803
774.94	0.784	23.6081	-919.999	57	72.7041
775.14	0.779	23.3909	-923.914	49	62.9012
775.34	0.779	23.3909	-923.914	59	75.7381
775.54	0.789	23.6081	-919.999	60	76.0456
775.74	0.795	23.3909	-923.914	50	62.8931
775.94	0.792	23.3909	-919.999	64	80.8081
776.14	0.793	23.3909	-919.999	54	68.0958
776.34	0.797	23.6081	-927.829	50	62.7353
776.54	0.796	23.3909	-919.999	47	59.0452
776.74	0.797	23.3909	-919.999	47	58.9711
776.94	0.795	23.3909	-919.999	46	57.8616
777.14	0.799	23.3909	-919.999	56	70.0876
777.34	0.798	23.6081	-919.999	58	72.6817
777.54	0.796	23.3909	-919.999	60	75.3769
777.74	0.79	23.3909	-923.914	51	64.557
777.94	0.794	23.3909	-919.999	51	64.2317
778.14	0.798	23.3909	-919.999	58	72.6817
778.34	0.794	23.3909	-919.999	53	66.7506
778.54	0.787	23.1737	-919.999	47	59.7205
778.74	0.786	23.3909	-919.999	48	61.0687
778.94	0.788	23.3909	-919.999	54	68.5279
779.14	0.779	23.3909	-919.999	50	64.1849
779.34	0.777	23.1737	-923.914	60	77.2201
779.54	0.778	23.3909	-923.914	61	78.4062
779.74	0.786	23.1737	-919.999	62	78.8804
779.94	0.791	23.3909	-919.999	48	60.6827
780.14	0.797	23.3909	-923.914	63	79.0464

780.34	0.794	23.3909	-923.914	50	62.9723
780.54	0.796	23.3909	-923.914	62	77.8895
780.74	0.796	23.3909	-916.084	57	71.608
780.94	0.793	23.3909	-919.999	56	70.6179
781.14	0.79	23.3909	-919.999	45	56.962
781.34	0.796	23.3909	-923.914	46	57.7889
781.54	0.8	23.6081	-923.914	50	62.5
781.74	0.797	23.3909	-923.914	40	50.1882
781.95	0.796	23.1737	-919.999	50	62.8141
782.15	0.8	23.3909	-919.999	39	48.75
782.35	0.803	23.3909	-923.914	50	62.2665
782.55	0.797	23.3909	-919.999	46	57.7164
782.75	0.789	23.3909	-919.999	46	58.3016
782.95	0.786	23.3909	-923.914	48	61.0687
783.15	0.784	23.3909	-923.914	42	53.5714
783.35	0.785	23.3909	-919.999	41	52.2293
783.55	0.78	23.3909	-919.999	36	46.1538
783.75	0.777	23.3909	-923.914	57	73.3591
783.95	0.783	23.3909	-923.914	46	58.7484
784.15	0.786	23.3909	-916.084	54	68.7023
784.35	0.783	23.1737	-919.999	40	51.0856
784.55	0.789	23.3909	-919.999	52	65.9062
784.75	0.798	23.3909	-919.999	40	50.1253
784.95	0.796	23.3909	-927.829	45	56.5327
785.15	0.791	23.3909	-919.999	36	45.512
785.35	0.794	23.3909	-919.999	44	55.4156
785.55	0.801	23.3909	-919.999	46	57.4282
785.75	0.801	23.3909	-919.999	49	61.1735
785.95	0.794	23.3909	-927.829	47	59.194
786.15	0.791	23.3909	-916.084	51	64.4753
786.35	0.796	23.1737	-919.999	46	57.7889
786.55	0.801	23.3909	-923.914	50	62.422
786.75	0.798	23.3909	-919.999	43	53.8847
786.95	0.795	23.3909	-923.914	47	59.1195
787.15	0.797	23.3909	-923.914	39	48.9335
787.35	0.793	23.6081	-919.999	29	36.57
787.55	0.787	23.6081	-919.999	41	52.0966
787.75	0.783	23.3909	-919.999	46	58.7484
787.95	0.781	23.1737	-927.829	45	57.6184
788.15	0.783	23.3909	-919.999	56	71.5198
788.35	0.778	23.3909	-919.999	45	57.8406
788.55	0.781	23.1737	-919.999	56	71.7029
788.75	0.787	23.3909	-919.999	45	57.1792
788.95	0.797	23.1737	-919.999	44	55.207
789.15	0.796	23.1737	-919.999	48	60.3015
789.35	0.792	23.3909	-919.999	41	51.7677
789.55	0.791	23.3909	-919.999	49	61.9469

789.75	0.789	23.3909	-919.999	47	59.5691
789.95	0.799	23.3909	-919.999	60	75.0939
790.15	0.794	23.3909	-923.914	56	70.529
790.35	0.791	23.3909	-927.829	64	80.9102
790.55	0.799	23.3909	-919.999	60	75.0939
790.75	0.802	23.3909	-919.999	62	77.3067
790.95	0.797	23.3909	-923.914	66	82.8105
791.15	0.795	23.3909	-919.999	54	67.9245
791.35	0.796	23.3909	-923.914	59	74.1206
791.55	0.795	23.6081	-916.084	63	79.2453
791.75	0.789	23.3909	-923.914	60	76.0456
791.95	0.787	23.1737	-919.999	77	97.8399
792.15	0.788	23.1737	-919.999	69	87.5635
792.35	0.785	23.3909	-927.829	64	81.5287
792.55	0.766	23.3909	-919.999	71	92.6893
792.75	0.756	23.3909	-919.999	75	99.2064
792.95	0.76	23.3909	-923.914	60	78.9474
793.15	0.768	23.3909	-919.999	73	95.0521
793.35	0.769	23.3909	-916.084	65	84.5254
793.55	0.765	23.3909	-923.914	75	98.0392
793.75	0.763	23.3909	-919.999	63	82.5688
793.95	0.773	23.3909	-919.999	55	71.1514
794.15	0.771	23.3909	-923.914	51	66.1479
794.35	0.768	23.3909	-923.914	50	65.1042
794.55	0.77	23.3909	-916.084	62	80.5195
794.75	0.776	23.6081	-919.999	63	81.1856
794.95	0.767	23.6081	-919.999	64	83.442
795.15	0.771	23.6081	-919.999	60	77.821
795.35	0.771	23.3909	-923.914	58	75.227
795.55	0.773	23.3909	-919.999	69	89.2626
795.75	0.771	23.1737	-919.999	71	92.0882
795.95	0.774	23.3909	-919.999	58	74.9354
796.15	0.779	23.3909	-919.999	65	83.4403
796.35	0.791	23.1737	-923.914	58	73.3249
796.55	0.785	23.3909	-923.914	60	76.4331
796.75	0.778	23.3909	-923.914	61	78.4062
796.95	0.769	23.1737	-919.999	61	79.3238
797.15	0.775	23.3909	-919.999	65	83.871
797.35	0.788	23.3909	-923.914	58	73.6041
797.55	0.789	23.3909	-923.914	53	67.1736
797.75	0.791	23.3909	-919.999	62	78.3818
797.95	0.795	23.3909	-919.999	64	80.5031
798.15	0.797	23.1737	-919.999	73	91.5935
798.35	0.794	23.3909	-923.914	66	83.1234
798.55	0.788	23.3909	-919.999	64	81.2183
798.75	0.789	23.3909	-919.999	69	87.4525
798.95	0.794	23.3909	-919.999	65	81.864

799.15	0.792	23.3909	-919.999	78	98.4848
799.35	0.79	23.3909	-919.999	74	93.6709
799.55	0.792	23.3909	-919.999	59	74.4949
799.75	0.8	23.3909	-919.999	55	68.75
799.95	0.793	23.3909	-919.999	61	76.9231
800.15	0.78	23.3909	-923.914	75	96.1538
800.35	0.787	23.3909	-923.914	78	99.1105
800.55	0.788	23.3909	-919.999	70	88.8325
800.75	0.78	23.3909	-912.169	78	100
800.95	0.779	23.3909	-923.914	59	75.7381
801.15	0.78	23.3909	-923.914	59	75.641
801.35	0.782	23.3909	-923.914	60	76.7263
801.55	0.78	23.3909	-919.999	73	93.5897
801.75	0.784	23.1737	-919.999	82	104.592
801.96	0.788	23.3909	-927.829	68	86.2944
802.16	0.793	23.3909	-923.914	57	71.8789
802.36	0.791	23.3909	-927.829	54	68.268
802.56	0.793	23.3909	-919.999	73	92.0555
802.76	0.791	23.3909	-919.999	54	68.268
802.96	0.797	23.3909	-923.914	67	84.0652
803.16	0.795	23.1737	-919.999	66	83.0189
803.36	0.793	23.3909	-923.914	61	76.9231
803.56	0.789	23.3909	-919.999	64	81.1153
803.76	0.795	23.3909	-923.914	67	84.2767
803.96	0.793	23.3909	-923.914	62	78.1841
804.16	0.794	23.1737	-919.999	71	89.4207
804.36	0.787	23.3909	-919.999	57	72.4269
804.56	0.79	23.3909	-927.829	72	91.1392
804.76	0.786	23.3909	-916.084	52	66.1578
804.96	0.78	23.3909	-919.999	63	80.7692
805.16	0.774	23.3909	-919.999	56	72.3514
805.36	0.776	23.3909	-923.914	47	60.567
805.56	0.78	23.3909	-919.999	54	69.2308
805.76	0.776	23.3909	-919.999	42	54.1237
805.96	0.778	23.3909	-919.999	42	53.9846
806.16	0.79	23.3909	-919.999	44	55.6962
806.36	0.796	23.3909	-919.999	37	46.4824
806.56	0.794	23.3909	-919.999	30	37.7834
806.76	0.788	23.6081	-916.084	36	45.6853
806.96	0.79	23.1737	-919.999	39	49.3671
807.16	0.792	23.3909	-919.999	32	40.404
807.36	0.792	23.3909	-919.999	39	49.2424
807.56	0.792	23.3909	-923.914	36	45.4545
807.76	0.796	23.1737	-923.914	29	36.4322
807.96	0.798	23.3909	-916.084	38	47.619
808.16	0.794	23.1737	-919.999	29	36.5239
808.36	0.792	23.3909	-919.999	44	55.5556

808.56	0.795	23.3909	-919.999	36	45.283
808.76	0.795	23.1737	-923.914	38	47.7987
808.96	0.784	23.3909	-919.999	37	47.1939
809.16	0.775	23.1737	-927.829	33	42.5806
809.36	0.778	23.1737	-919.999	39	50.1285
809.56	0.78	23.1737	-919.999	32	41.0256
809.76	0.776	23.1737	-919.999	38	48.9691
809.96	0.775	23.3909	-919.999	38	49.0323
810.16	0.781	23.3909	-923.914	38	48.6556
810.36	0.786	23.3909	-923.914	37	47.0738
810.56	0.793	23.3909	-923.914	38	47.9193
810.76	0.791	23.3909	-919.999	32	40.4551
810.96	0.787	23.3909	-927.829	21	26.6836
811.16	0.794	23.3909	-927.829	38	47.8589
811.36	0.794	23.3909	-919.999	38	47.8589
811.56	0.792	23.3909	-919.999	31	39.1414
811.76	0.791	23.3909	-923.914	33	41.7193
811.96	0.798	23.1737	-923.914	43	53.8847
812.16	0.793	23.3909	-919.999	33	41.6141
812.36	0.788	23.3909	-923.914	30	38.0711
812.56	0.79	23.3909	-919.999	35	44.3038
812.76	0.8	23.3909	-927.829	34	42.5
812.96	0.795	23.3909	-923.914	19	23.8994
813.16	0.789	23.3909	-919.999	42	53.2319
813.36	0.784	23.3909	-923.914	34	43.3673
813.56	0.784	23.3909	-923.914	42	53.5714
813.76	0.782	23.3909	-919.999	36	46.0358
813.96	0.775	23.3909	-927.829	41	52.9032
814.16	0.772	23.1737	-919.999	37	47.9275
814.36	0.778	23.1737	-923.914	40	51.4139
814.56	0.786	23.1737	-919.999	42	53.4351
814.76	0.79	23.3909	-923.914	30	37.9747
814.96	0.79	23.1737	-919.999	29	36.7089
815.16	0.795	23.3909	-916.084	38	47.7987
815.36	0.793	23.1737	-923.914	35	44.1362
815.56	0.781	23.3909	-923.914	33	42.2535
815.76	0.788	23.1737	-919.999	40	50.7614
815.96	0.795	23.3909	-923.914	43	54.0881
816.16	0.797	23.1737	-923.914	44	55.207
816.36	0.793	23.3909	-919.999	36	45.3972
816.56	0.795	23.3909	-923.914	46	57.8616
816.76	0.799	23.3909	-919.999	35	43.8048
816.96	0.799	23.3909	-919.999	31	38.7985
817.16	0.79	23.3909	-919.999	51	64.557
817.36	0.789	23.3909	-919.999	48	60.8365
817.56	0.787	23.1737	-923.914	40	50.8259
817.76	0.785	23.1737	-919.999	47	59.8726

817.96	0.78	23.1737	-919.999	39	50
818.16	0.776	23.3909	-919.999	36	46.3918
818.36	0.779	23.3909	-923.914	42	53.9153
818.56	0.783	23.3909	-916.084	48	61.3027
818.76	0.783	23.3909	-919.999	38	48.5313
818.96	0.783	23.3909	-919.999	41	52.3627
819.16	0.792	23.1737	-923.914	38	47.9798
819.36	0.794	23.3909	-919.999	19	23.9295
819.56	0.792	23.3909	-923.914	42	53.0303
819.76	0.786	23.3909	-919.999	45	57.2519
819.96	0.791	23.3909	-923.914	34	42.9836
820.16	0.795	23.3909	-927.829	47	59.1195
820.36	0.794	23.1737	-919.999	39	49.1184
820.56	0.789	23.1737	-919.999	22	27.8834
820.76	0.787	23.1737	-919.999	33	41.9314
820.96	0.798	23.3909	-927.829	38	47.619
821.16	0.795	23.3909	-919.999	32	40.2516
821.36	0.791	23.1737	-919.999	37	46.7762
821.56	0.794	23.3909	-919.999	50	62.9723
821.76	0.796	23.3909	-916.084	31	38.9447
821.97	0.784	23.3909	-923.914	40	51.0204
822.17	0.776	23.3909	-923.914	30	38.6598
822.37	0.779	23.3909	-919.999	43	55.199
822.57	0.781	23.3909	-923.914	43	55.0576
822.77	0.78	23.3909	-923.914	33	42.3077
822.97	0.781	23.3909	-919.999	34	43.5339
823.17	0.791	23.3909	-919.999	42	53.0973
823.37	0.796	23.1737	-919.999	27	33.9196
823.57	0.795	23.1737	-923.914	46	57.8616
823.77	0.792	23.1737	-923.914	49	61.8687
823.97	0.793	23.1737	-927.829	38	47.9193
824.17	0.794	23.3909	-923.914	42	52.8967
824.37	0.793	23.3909	-919.999	55	69.3569
824.57	0.789	23.3909	-923.914	43	54.4994
824.77	0.792	23.1737	-919.999	45	56.8182
824.97	0.797	23.1737	-916.084	43	53.9523
825.17	0.794	23.3909	-919.999	43	54.1562
825.37	0.791	23.1737	-919.999	45	56.89
825.57	0.792	23.3909	-919.999	62	78.2828
825.77	0.795	23.3909	-923.914	56	70.4403
825.97	0.792	23.1737	-919.999	54	68.1818
826.17	0.785	23.3909	-919.999	46	58.5987
826.37	0.777	23.3909	-927.829	70	90.0901
826.57	0.78	23.3909	-923.914	69	88.4615
826.77	0.784	23.3909	-923.914	58	73.9796
826.97	0.778	23.3909	-923.914	68	87.4036
827.17	0.778	23.3909	-919.999	72	92.545

827.37	0.787	23.3909	-919.999	57	72.4269
827.57	0.792	23.1737	-919.999	52	65.6566
827.77	0.791	23.3909	-919.999	64	80.9102
827.97	0.789	23.3909	-923.914	59	74.7782
828.17	0.797	23.1737	-923.914	66	82.8105
828.37	0.796	23.3909	-919.999	56	70.3518
828.57	0.792	23.3909	-919.999	71	89.6465
828.77	0.791	23.3909	-919.999	51	64.4753
828.97	0.798	23.1737	-919.999	61	76.4411
829.17	0.797	23.3909	-919.999	63	79.0464
829.37	0.794	23.1737	-916.084	68	85.6423
829.57	0.788	23.3909	-919.999	59	74.8731
829.77	0.793	23.1737	-919.999	59	74.401
829.97	0.795	23.3909	-919.999	69	86.7924
830.17	0.791	23.3909	-919.999	59	74.5891
830.37	0.784	23.3909	-919.999	69	88.0102
830.57	0.787	23.3909	-919.999	72	91.4867
830.77	0.785	23.3909	-919.999	63	80.2548
830.97	0.774	23.1737	-919.999	70	90.4393
831.17	0.775	23.3909	-923.914	62	80
831.37	0.783	23.1737	-919.999	67	85.5683
831.57	0.788	23.3909	-927.829	59	74.8731
831.77	0.79	23.3909	-923.914	57	72.1519
831.97	0.793	23.1737	-919.999	54	68.0958
832.17	0.794	23.3909	-923.914	74	93.199
832.37	0.795	23.3909	-919.999	84	105.66
832.57	0.792	23.1737	-919.999	64	80.8081
832.77	0.789	23.1737	-919.999	64	81.1153
832.97	0.788	23.3909	-919.999	73	92.6396
833.17	0.797	23.3909	-919.999	75	94.1029
833.37	0.796	23.1737	-927.829	57	71.608
833.57	0.793	23.3909	-919.999	71	89.5334
833.77	0.797	23.1737	-919.999	60	75.2823
833.97	0.799	23.3909	-919.999	79	98.8736
834.17	0.798	23.3909	-923.914	77	96.4912
834.37	0.789	23.1737	-923.914	59	74.7782
834.57	0.789	23.1737	-923.914	66	83.6502
834.77	0.788	23.1737	-923.914	58	73.6041
834.97	0.782	23.3909	-923.914	67	85.6777
835.17	0.776	23.1737	-919.999	56	72.1649
835.37	0.774	23.1737	-919.999	65	83.9793
835.57	0.782	23.1737	-919.999	63	80.5627
835.77	0.784	23.3909	-927.829	57	72.7041
835.97	0.785	23.1737	-919.999	71	90.4459
836.17	0.783	23.3909	-923.914	54	68.9655
836.37	0.797	23.1737	-919.999	72	90.3388
836.57	0.794	23.1737	-923.914	58	73.0479

836.77	0.791	23.1737	-916.084	71	89.7598
836.97	0.794	23.1737	-923.914	63	79.3451
837.17	0.802	23.3909	-923.914	71	88.5287
837.37	0.795	23.3909	-919.999	58	72.956
837.57	0.792	23.1737	-923.914	60	75.7576
837.77	0.791	23.3909	-919.999	60	75.8533
837.97	0.799	23.1737	-919.999	57	71.3392
838.17	0.796	23.1737	-919.999	61	76.6332
838.37	0.796	23.3909	-919.999	63	79.1457
838.57	0.795	23.3909	-919.999	76	95.5975
838.77	0.798	23.1737	-919.999	72	90.2256
838.97	0.79	23.1737	-919.999	71	89.8734
839.17	0.785	23.1737	-919.999	65	82.8026
839.37	0.778	23.3909	-923.914	58	74.5501
839.57	0.78	23.1737	-919.999	57	73.0769
839.77	0.778	23.1737	-923.914	60	77.1208
839.97	0.779	23.1737	-919.999	62	79.5892
840.17	0.784	23.3909	-923.914	58	73.9796
840.37	0.792	23.3909	-919.999	69	87.1212
840.57	0.795	23.1737	-919.999	64	80.5031
840.77	0.792	23.1737	-927.829	53	66.9192
840.97	0.79	23.1737	-923.914	53	67.0886
841.17	0.792	23.1737	-916.084	76	95.9596
841.37	0.795	23.3909	-923.914	75	94.3396
841.57	0.793	23.3909	-919.999	57	71.8789
841.77	0.789	23.3909	-923.914	55	69.7085
841.98	0.794	23.1737	-919.999	52	65.4912
842.18	0.802	23.1737	-923.914	65	81.0474
842.38	0.797	23.1737	-919.999	62	77.7917
842.58	0.792	23.3909	-919.999	72	90.9091
842.78	0.798	23.1737	-919.999	72	90.2256
842.98	0.794	23.1737	-919.999	54	68.0101
843.18	0.785	23.3909	-919.999	64	81.5287
843.38	0.782	23.3909	-923.914	57	72.89
843.58	0.785	23.1737	-919.999	52	66.242
843.78	0.784	23.3909	-919.999	59	75.2551
843.98	0.78	23.3909	-923.914	64	82.0513
844.18	0.779	23.3909	-923.914	78	100.128
844.38	0.787	23.3909	-919.999	78	99.1105
844.58	0.796	23.1737	-919.999	77	96.7337
844.78	0.793	23.3909	-919.999	72	90.7944
844.98	0.787	23.1737	-923.914	60	76.2389
845.18	0.789	23.1737	-919.999	72	91.2548
845.38	0.796	23.3909	-923.914	72	90.4523
845.58	0.795	23.3909	-923.914	68	85.5346
845.78	0.793	23.3909	-919.999	69	87.0114
845.98	0.796	23.1737	-923.914	67	84.1709

846.18	0.8	23.1737	-919.999	64	80
846.38	0.791	23.3909	-923.914	63	79.646
846.58	0.793	23.1737	-919.999	61	76.9231
846.78	0.797	23.1737	-923.914	62	77.7917
846.98	0.798	23.3909	-923.914	73	91.4787
847.18	0.795	23.3909	-919.999	70	88.0503
847.38	0.79	23.1737	-927.829	69	87.3418
847.58	0.787	23.3909	-919.999	57	72.4269
847.78	0.788	23.3909	-919.999	71	90.1015
847.98	0.781	23.3909	-919.999	65	83.2266
848.18	0.773	23.3909	-923.914	70	90.5563
848.38	0.774	23.1737	-919.999	63	81.3953
848.58	0.788	23.1737	-919.999	50	63.4518
848.78	0.789	23.1737	-923.914	70	88.7199
848.98	0.793	23.1737	-923.914	87	109.71
849.18	0.794	23.1737	-923.914	77	96.9773
849.38	0.798	23.1737	-919.999	65	81.4536
849.58	0.797	23.1737	-916.084	64	80.3011
849.78	0.792	23.1737	-927.829	86	108.586
849.98	0.793	23.1737	-923.914	53	66.8348
850.18	0.797	22.9565	-923.914	63	79.0464
850.38	0.797	23.1737	-923.914	74	92.8482
850.58	0.793	23.3909	-927.829	65	81.9672
850.78	0.794	23.3909	-923.914	66	83.1234
850.98	0.8	23.1737	-919.999	68	85
851.18	0.799	23.3909	-919.999	69	86.3579
851.38	0.792	23.3909	-923.914	67	84.596
851.58	0.781	23.1737	-923.914	57	72.9834
851.78	0.793	23.1737	-919.999	69	87.0114
851.98	0.786	23.1737	-923.914	63	80.1527
852.18	0.781	23.1737	-919.999	63	80.6658
852.38	0.78	23.1737	-927.829	50	64.1026
852.58	0.785	23.1737	-923.914	62	78.9809
852.78	0.786	23.3909	-923.914	65	82.6972
852.98	0.784	23.1737	-923.914	60	76.5306
853.18	0.789	23.1737	-923.914	56	70.9759
853.38	0.795	23.1737	-923.914	65	81.761
853.58	0.796	23.1737	-923.914	60	75.3769
853.78	0.794	23.1737	-923.914	72	90.6801
853.98	0.795	23.3909	-923.914	74	93.0818
854.18	0.8	23.1737	-919.999	71	88.75
854.38	0.801	23.1737	-919.999	62	77.4032
854.58	0.797	23.1737	-919.999	62	77.7917
854.78	0.795	23.1737	-923.914	79	99.3711
854.98	0.796	23.1737	-919.999	55	69.0955
855.18	0.798	23.3909	-923.914	68	85.213
855.38	0.794	23.1737	-923.914	61	76.8262

855.58	0.794	23.1737	-923.914	74	93.199
855.78	0.795	23.1737	-919.999	77	96.8553
855.98	0.79	23.3909	-919.999	55	69.6203
856.18	0.785	23.3909	-919.999	67	85.3503
856.38	0.781	23.1737	-923.914	50	64.0205
856.58	0.777	23.1737	-923.914	72	92.6641
856.78	0.779	23.3909	-923.914	74	94.9936
856.98	0.78	23.1737	-923.914	56	71.7949
857.18	0.779	23.1737	-919.999	68	87.2914
857.38	0.791	23.1737	-919.999	69	87.2314
857.58	0.8	23.3909	-919.999	67	83.75
857.78	0.796	23.1737	-923.914	72	90.4523
857.98	0.794	23.1737	-919.999	63	79.3451
858.18	0.794	23.1737	-923.914	55	69.2695
858.38	0.798	23.3909	-923.914	68	85.213
858.58	0.794	23.1737	-923.914	68	85.6423
858.78	0.795	23.1737	-919.999	61	76.7296
858.98	0.798	23.1737	-923.914	58	72.6817
859.18	0.802	23.1737	-923.914	84	104.738
859.38	0.801	23.1737	-923.914	78	97.3783
859.58	0.796	23.3909	-919.999	78	97.99
859.78	0.8	23.1737	-919.999	55	68.75
859.98	0.801	23.3909	-919.999	57	71.161
860.18	0.79	23.3909	-919.999	74	93.6709
860.38	0.781	23.1737	-923.914	45	57.6184
860.58	0.778	22.9565	-919.999	38	48.8432
860.78	0.784	23.1737	-919.999	49	62.5
860.98	0.78	23.3909	-923.914	54	69.2308
861.18	0.777	23.1737	-919.999	57	73.3591
861.38	0.781	23.1737	-923.914	55	70.4225
861.58	0.791	23.1737	-919.999	57	72.0607
861.78	0.788	23.1737	-919.999	55	69.797
861.98	0.793	22.9565	-923.914	65	81.9672
862.19	0.794	23.1737	-927.829	45	56.6751
862.39	0.793	23.3909	-919.999	51	64.3127
862.59	0.797	23.1737	-923.914	52	65.2447
862.79	0.796	23.1737	-923.914	43	54.0201
862.99	0.796	23.1737	-919.999	54	67.8392
863.19	0.801	23.3909	-919.999	60	74.9064
863.39	0.797	23.1737	-919.999	34	42.66
863.59	0.794	23.1737	-923.914	49	61.7128
863.79	0.793	23.1737	-919.999	51	64.3127
863.99	0.801	23.1737	-919.999	57	71.161
864.19	0.804	23.1737	-919.999	46	57.2139
864.39	0.794	23.1737	-919.999	38	47.8589
864.59	0.788	23.1737	-923.914	42	53.2995
864.79	0.788	23.1737	-919.999	42	53.2995

864.99	0.785	23.1737	-916.084	51	64.9682
865.19	0.778	22.9565	-919.999	43	55.2699
865.39	0.776	23.1737	-919.999	33	42.5258
865.59	0.782	23.1737	-923.914	44	56.266
865.79	0.786	23.1737	-919.999	45	57.2519
865.99	0.79	23.1737	-916.084	40	50.6329
866.19	0.793	23.1737	-923.914	49	61.7907
866.39	0.8	23.1737	-927.829	49	61.25
866.59	0.8	23.1737	-919.999	58	72.5
866.79	0.793	23.1737	-923.914	59	74.401
866.99	0.783	23.1737	-923.914	57	72.7969
867.19	0.799	23.1737	-919.999	61	76.3454
867.39	0.801	23.1737	-923.914	63	78.6517
867.59	0.798	23.1737	-919.999	54	67.6692
867.79	0.796	23.3909	-923.914	47	59.0452
867.99	0.803	23.1737	-919.999	56	69.7385
868.19	0.803	23.1737	-919.999	53	66.0025
868.39	0.796	23.1737	-923.914	43	54.0201
868.59	0.791	22.9565	-919.999	46	58.1542
868.79	0.791	23.3909	-923.914	61	77.1176
868.99	0.789	22.9565	-919.999	48	60.8365
869.19	0.784	22.9565	-923.914	62	79.0816
869.39	0.778	23.1737	-923.914	45	57.8406
869.59	0.782	23.1737	-919.999	38	48.5933
869.79	0.788	23.1737	-919.999	59	74.8731
869.99	0.786	23.1737	-923.914	69	87.7863
870.19	0.788	23.1737	-919.999	57	72.335
870.39	0.795	23.1737	-919.999	54	67.9245
870.59	0.797	23.1737	-923.914	59	74.0276
870.79	0.792	23.1737	-923.914	53	66.9192
870.99	0.792	23.3909	-927.829	49	61.8687
871.19	0.792	23.1737	-919.999	46	58.0808
871.39	0.797	23.1737	-923.914	51	63.99
871.59	0.797	23.1737	-919.999	56	70.2635
871.79	0.796	23.1737	-923.914	59	74.1206
871.99	0.792	23.1737	-923.914	61	77.0202
872.19	0.801	23.1737	-919.999	43	53.6829
872.39	0.8	23.1737	-923.914	55	68.75
872.59	0.794	23.1737	-919.999	49	61.7128
872.79	0.796	23.1737	-919.999	48	60.3015
872.99	0.798	23.1737	-919.999	55	68.9223
873.19	0.792	22.9565	-919.999	58	73.2323
873.39	0.779	23.1737	-919.999	55	70.6033
873.59	0.781	23.1737	-923.914	47	60.1793
873.79	0.784	23.1737	-919.999	48	61.2245
873.99	0.78	23.1737	-923.914	58	74.359
874.19	0.782	22.9565	-919.999	57	72.89

874.39	0.792	23.1737	-923.914	79	99.7475
874.59	0.797	23.1737	-923.914	54	67.7541
874.79	0.798	23.1737	-923.914	55	68.9223
874.99	0.797	23.1737	-923.914	66	82.8105
875.19	0.796	23.1737	-919.999	57	71.608
875.39	0.8	23.1737	-919.999	50	62.5
875.59	0.795	23.1737	-919.999	64	80.5031
875.79	0.789	23.1737	-923.914	59	74.7782
875.99	0.793	22.9565	-923.914	65	81.9672
876.19	0.801	23.1737	-927.829	51	63.6704
876.39	0.801	23.1737	-919.999	58	72.4095
876.59	0.797	23.3909	-923.914	77	96.6123
876.79	0.798	23.1737	-919.999	47	58.8972
876.99	0.801	23.1737	-923.914	64	79.9001
877.19	0.787	23.1737	-927.829	50	63.5324
877.39	0.788	22.9565	-919.999	67	85.0254
877.59	0.782	23.1737	-923.914	63	80.5627
877.79	0.782	23.1737	-923.914	58	74.1688
877.99	0.783	23.1737	-912.169	67	85.5683
878.19	0.781	23.1737	-923.914	51	65.3009
878.39	0.782	23.1737	-923.914	58	74.1688
878.59	0.79	23.1737	-923.914	67	84.8101
878.79	0.792	23.1737	-923.914	64	80.8081
878.99	0.793	23.1737	-923.914	47	59.2686
879.19	0.79	23.1737	-923.914	55	69.6203
879.39	0.799	23.1737	-923.914	77	96.3705
879.59	0.8	22.9565	-919.999	45	56.25
879.79	0.795	22.9565	-923.914	47	59.1195
879.99	0.795	23.1737	-919.999	52	65.4088
880.19	0.801	23.1737	-923.914	67	83.6454
880.39	0.801	23.1737	-919.999	55	68.6642
880.59	0.797	23.1737	-923.914	63	79.0464
880.79	0.796	23.1737	-923.914	55	69.0955
880.99	0.796	22.9565	-923.914	66	82.9146
881.19	0.801	23.3909	-927.829	61	76.1548
881.39	0.793	22.9565	-923.914	53	66.8348
881.59	0.786	23.1737	-919.999	61	77.6081
881.79	0.788	22.9565	-923.914	48	60.9137
882	0.785	23.1737	-923.914	44	56.051
882.2	0.777	23.1737	-923.914	60	77.2201
882.4	0.775	23.1737	-923.914	50	64.5161
882.6	0.783	23.1737	-923.914	56	71.5198
882.8	0.79	23.1737	-923.914	64	81.0127
883	0.79	23.1737	-931.744	59	74.6835
883.2	0.791	23.1737	-927.829	64	80.9102
883.4	0.798	23.3909	-923.914	71	88.9724
883.6	0.797	22.9565	-908.254	82	102.886

883.8	0.797	23.1737	-919.999	68	85.3199
884	0.789	23.1737	-919.999	62	78.5805
884.2	0.793	23.1737	-916.084	53	66.8348
884.4	0.799	22.9565	-919.999	70	87.6095
884.6	0.799	23.1737	-923.914	52	65.0814
884.8	0.799	23.1737	-919.999	74	92.6158
885	0.801	23.1737	-919.999	50	62.422
885.2	0.804	23.1737	-919.999	77	95.7711
885.4	0.803	22.9565	-919.999	57	70.9838
885.6	0.795	23.1737	-923.914	59	74.2138
885.8	0.791	23.1737	-919.999	62	78.3818
886	0.788	23.1737	-919.999	45	57.1066
886.2	0.779	22.9565	-923.914	79	101.412
886.4	0.777	23.1737	-919.999	62	79.7941
886.6	0.778	22.9565	-916.084	51	65.5527
886.8	0.784	23.3909	-919.999	58	73.9796
887	0.786	23.1737	-919.999	61	77.6081
887.2	0.789	23.1737	-923.914	67	84.9176
887.4	0.787	23.1737	-923.914	58	73.6976
887.6	0.797	23.1737	-916.084	54	67.7541
887.8	0.797	23.1737	-923.914	48	60.2258
888	0.791	23.1737	-919.999	54	68.268
888.2	0.792	23.1737	-923.914	54	68.1818
888.4	0.801	22.9565	-927.829	41	51.186
888.6	0.798	23.1737	-923.914	49	61.4035
888.8	0.794	22.9565	-923.914	67	84.3829
889	0.795	23.1737	-923.914	43	54.0881
889.2	0.8	23.1737	-923.914	64	80
889.4	0.799	23.3909	-919.999	57	71.3392
889.6	0.797	22.9565	-923.914	50	62.7353
889.8	0.798	23.1737	-919.999	56	70.1754
890	0.798	22.9565	-923.914	57	71.4286
890.2	0.792	23.1737	-919.999	68	85.8586
890.4	0.782	23.1737	-919.999	49	62.6598
890.6	0.784	23.1737	-919.999	53	67.602
890.8	0.783	22.9565	-927.829	62	79.1826
891	0.783	23.1737	-919.999	52	66.4112
891.2	0.78	23.1737	-919.999	71	91.0256
891.4	0.783	22.9565	-923.914	76	97.0626
891.6	0.797	23.1737	-919.999	80	100.376
891.8	0.798	23.1737	-923.914	76	95.2381
892	0.792	23.1737	-919.999	67	84.596
892.2	0.791	23.1737	-919.999	63	79.646
892.4	0.798	23.1737	-919.999	65	81.4536
892.6	0.791	23.1737	-919.999	66	83.4387
892.8	0.794	22.9565	-919.999	59	74.3073
893	0.793	23.1737	-923.914	64	80.7062

893.2	0.799	23.1737	-919.999	72	90.1126
893.4	0.801	22.9565	-919.999	66	82.397
893.6	0.802	22.9565	-919.999	62	77.3067
893.8	0.796	23.1737	-923.914	62	77.8895
894	0.802	23.1737	-923.914	62	77.3067
894.2	0.796	22.9565	-919.999	66	82.9146
894.4	0.789	23.1737	-919.999	70	88.7199
894.6	0.78	23.1737	-923.914	68	87.1795
894.8	0.785	23.1737	-919.999	60	76.4331
895	0.785	23.1737	-923.914	66	84.0764
895.2	0.781	22.9565	-919.999	66	84.507
895.4	0.78	23.1737	-923.914	63	80.7692
895.6	0.789	22.9565	-923.914	78	98.8593
895.8	0.795	22.9565	-919.999	69	86.7924
896	0.796	22.9565	-927.829	64	80.402
896.2	0.792	22.9565	-919.999	65	82.0707
896.4	0.791	23.1737	-923.914	74	93.5525
896.6	0.797	22.9565	-923.914	68	85.3199
896.8	0.792	22.9565	-923.914	62	78.2828
897	0.792	23.1737	-923.914	88	111.111
897.2	0.8	23.1737	-923.914	68	85
897.4	0.801	22.9565	-919.999	63	78.6517
897.6	0.795	22.9565	-919.999	59	74.2138
897.8	0.795	23.1737	-923.914	71	89.3082
898	0.802	22.9565	-919.999	61	76.0599
898.2	0.802	23.3909	-923.914	65	81.0474
898.4	0.796	22.9565	-919.999	67	84.1709
898.6	0.789	22.9565	-919.999	56	70.9759
898.8	0.789	23.1737	-916.084	78	98.8593
899	0.788	23.1737	-916.084	63	79.9492
899.2	0.784	23.1737	-919.999	64	81.6327
899.4	0.778	22.9565	-919.999	65	83.5476
899.6	0.779	23.1737	-923.914	64	82.1566
899.8	0.786	23.1737	-931.744	70	89.0585
900	0.792	22.9565	-923.914	55	69.4444
900.2	0.794	23.1737	-919.999	57	71.7884
900.4	0.797	23.1737	-919.999	68	85.3199
900.6	0.802	22.9565	-923.914	56	69.8254
900.8	0.796	22.9565	-919.999	60	75.3769
901	0.796	22.9565	-927.829	66	82.9146
901.2	0.792	23.1737	-919.999	61	77.0202
901.4	0.797	23.1737	-927.829	54	67.7541
901.6	0.795	23.1737	-919.999	68	85.5346
901.8	0.793	23.1737	-919.999	62	78.1841
902.01	0.798	22.9565	-923.914	72	90.2256
902.21	0.802	23.1737	-919.999	64	79.8005
902.41	0.801	23.1737	-919.999	69	86.1423

902.61	0.797	22.9565	-919.999	63	79.0464
902.81	0.782	23.1737	-919.999	56	71.6113
903.01	0.791	23.1737	-916.084	50	63.2111
903.21	0.784	22.9565	-919.999	72	91.8367
903.41	0.78	22.9565	-923.914	61	78.2051
903.61	0.781	23.1737	-919.999	66	84.507
903.81	0.791	23.1737	-919.999	78	98.6094
904.01	0.787	22.9565	-923.914	54	68.615
904.21	0.786	23.1737	-919.999	57	72.5191
904.41	0.791	23.1737	-923.914	53	67.0038
904.61	0.8	23.1737	-916.084	55	68.75
904.81	0.794	23.1737	-927.829	48	60.4534
905.01	0.796	23.1737	-919.999	46	57.7889
905.21	0.794	23.1737	-919.999	31	39.0428
905.41	0.8	23.1737	-916.084	54	67.5
905.61	0.799	22.9565	-919.999	42	52.5657
905.81	0.797	23.1737	-919.999	47	58.9711
906.01	0.795	22.9565	-927.829	54	67.9245
906.21	0.802	23.1737	-919.999	42	52.3691
906.41	0.803	22.9565	-923.914	37	46.0772
906.61	0.794	23.1737	-919.999	44	55.4156
906.81	0.796	22.9565	-923.914	43	54.0201
907.01	0.797	23.1737	-919.999	53	66.4994
907.21	0.79	22.9565	-923.914	37	46.8354
907.41	0.782	22.9565	-923.914	47	60.1023
907.61	0.781	22.9565	-923.914	41	52.4968
907.81	0.785	23.1737	-919.999	50	63.6943
908.01	0.779	22.9565	-923.914	51	65.4686
908.21	0.781	23.1737	-923.914	47	60.1793
908.41	0.787	22.9565	-919.999	44	55.9085
908.61	0.789	23.1737	-927.829	34	43.0925
908.81	0.8	22.9565	-919.999	42	52.5
909.01	0.799	22.9565	-919.999	27	33.7922
909.21	0.793	23.1737	-919.999	35	44.1362
909.41	0.795	23.1737	-923.914	39	49.0566
909.61	0.794	22.9565	-923.914	38	47.8589
909.81	0.794	23.1737	-923.914	39	49.1184
910.01	0.792	23.1737	-919.999	51	64.3939
910.21	0.801	22.9565	-919.999	52	64.9189
910.41	0.804	23.1737	-923.914	53	65.9204
910.61	0.801	23.1737	-923.914	44	54.9313
910.81	0.798	23.1737	-923.914	47	58.8972
911.01	0.802	22.9565	-919.999	45	56.1097
911.21	0.801	22.9565	-919.999	43	53.6829
911.41	0.791	23.1737	-923.914	40	50.5689
911.61	0.779	23.1737	-919.999	37	47.4968
911.81	0.78	22.9565	-919.999	41	52.5641

912.01	0.787	23.1737	-923.914	52	66.0737
912.21	0.781	23.1737	-923.914	40	51.2164
912.41	0.782	22.9565	-919.999	35	44.757
912.61	0.785	23.1737	-919.999	37	47.1338
912.81	0.797	23.1737	-923.914	58	72.7729
913.01	0.792	23.1737	-919.999	46	58.0808
913.21	0.793	23.1737	-919.999	41	51.7024
913.41	0.795	23.1737	-927.829	40	50.3145
913.61	0.798	23.1737	-919.999	34	42.6065
913.81	0.795	22.9565	-923.914	44	55.3459
914.01	0.793	22.9565	-919.999	24	30.2648
914.21	0.795	23.1737	-919.999	34	42.7673
914.41	0.804	22.9565	-919.999	29	36.0697
914.61	0.801	22.9565	-919.999	28	34.9563
914.81	0.793	23.1737	-927.829	25	31.5259
915.01	0.794	23.1737	-923.914	20	25.1889
915.21	0.802	22.9565	-919.999	33	41.1471
915.41	0.804	22.9565	-916.084	32	39.801
915.61	0.792	22.9565	-919.999	35	44.1919
915.81	0.788	22.9565	-916.084	36	45.6853
916.01	0.788	22.9565	-923.914	47	59.6447
916.21	0.785	23.1737	-923.914	36	45.8599
916.41	0.781	23.1737	-923.914	36	46.0947
916.61	0.78	23.1737	-919.999	50	64.1026
916.81	0.787	22.9565	-923.914	38	48.2846
917.01	0.788	23.1737	-923.914	39	49.4924
917.21	0.79	22.9565	-919.999	37	46.8354
917.41	0.794	22.9565	-919.999	31	39.0428
917.61	0.795	22.9565	-919.999	40	50.3145
917.81	0.797	23.1737	-919.999	32	40.1506
918.01	0.794	22.9565	-923.914	47	59.194
918.21	0.784	22.9565	-919.999	33	42.0918
918.41	0.796	22.9565	-923.914	41	51.5075
918.61	0.8	22.9565	-923.914	41	51.25
918.81	0.796	23.1737	-923.914	33	41.4573
919.01	0.796	23.1737	-919.999	38	47.7387
919.21	0.797	22.9565	-923.914	30	37.6412
919.41	0.788	23.1737	-919.999	34	43.1472
919.61	0.785	23.1737	-927.829	34	43.3121
919.81	0.779	22.9565	-923.914	39	50.0642
920.01	0.78	22.9565	-923.914	39	50
920.21	0.771	22.9565	-919.999	36	46.6926
920.41	0.77	22.9565	-923.914	24	31.1688
920.61	0.769	23.1737	-919.999	38	49.4148
920.81	0.772	23.1737	-923.914	41	53.1088
921.01	0.776	22.9565	-919.999	32	41.2371
921.21	0.776	22.9565	-919.999	30	38.6598

921.41	0.779	22.9565	-923.914	26	33.3761
921.61	0.785	23.1737	-919.999	31	39.4904
921.81	0.783	22.9565	-919.999	25	31.9285
922.02	0.777	23.1737	-923.914	25	32.175
922.22	0.778	22.9565	-927.829	30	38.5604
922.42	0.784	23.1737	-919.999	38	48.4694
922.62	0.781	23.1737	-919.999	27	34.5711
922.82	0.781	22.9565	-919.999	31	39.6927
923.02	0.784	23.3909	-923.914	30	38.2653
923.22	0.785	22.9565	-923.914	43	54.7771
923.42	0.784	22.9565	-919.999	29	36.9898
923.62	0.786	22.9565	-919.999	35	44.5293
923.82	0.782	23.1737	-919.999	37	47.3146
924.02	0.783	22.9565	-919.999	35	44.6999
924.22	0.782	22.9565	-923.914	29	37.0844
924.42	0.777	22.9565	-919.999	39	50.1931
924.62	0.768	22.9565	-919.999	36	46.875
924.82	0.77	22.9565	-923.914	31	40.2597
925.02	0.772	23.1737	-919.999	40	51.8135
925.22	0.771	22.9565	-919.999	33	42.8016
925.42	0.771	23.1737	-923.914	41	53.1777
925.62	0.781	22.9565	-919.999	29	37.1319
925.82	0.786	22.9565	-923.914	33	41.9847
926.02	0.784	22.9565	-919.999	41	52.2959
926.22	0.781	22.9565	-923.914	35	44.8143
926.42	0.784	22.9565	-919.999	23	29.3367
926.62	0.785	23.1737	-923.914	33	42.0382
926.82	0.785	22.9565	-923.914	24	30.5732
927.02	0.777	23.1737	-919.999	31	39.897
927.22	0.779	23.1737	-919.999	27	34.6598
927.42	0.789	22.9565	-923.914	35	44.36
927.62	0.786	23.3909	-919.999	25	31.8066
927.82	0.784	22.9565	-919.999	24	30.6122
928.02	0.786	22.9565	-919.999	17	21.6285
928.22	0.791	23.1737	-923.914	31	39.1909
928.42	0.774	22.9565	-919.999	35	45.2196
928.62	0.773	22.9565	-919.999	31	40.1035
928.82	0.772	23.1737	-919.999	29	37.5648
929.02	0.774	23.1737	-919.999	34	43.9277
929.22	0.771	23.1737	-923.914	51	66.1479
929.42	0.772	22.9565	-916.084	53	68.6528
929.62	0.773	23.1737	-923.914	42	54.3338
929.82	0.783	22.9565	-923.914	32	40.8685
930.02	0.785	22.9565	-919.999	31	39.4904
930.22	0.781	22.9565	-919.999	37	47.3752
930.42	0.778	22.9565	-919.999	36	46.2725
930.62	0.785	23.1737	-919.999	40	50.9554

930.82	0.785	22.9565	-919.999	37	47.1338
931.02	0.784	23.1737	-919.999	34	43.3673
931.22	0.782	23.1737	-919.999	34	43.4783
931.42	0.787	22.9565	-919.999	32	40.6607
931.62	0.789	22.9565	-919.999	50	63.3714
931.82	0.785	22.9565	-919.999	40	50.9554
932.02	0.784	23.1737	-927.829	52	66.3265
932.22	0.788	22.9565	-919.999	43	54.5685
932.42	0.787	22.9565	-923.914	50	63.5324
932.62	0.778	22.9565	-923.914	36	46.2725
932.82	0.774	23.1737	-919.999	40	51.6796
933.02	0.774	22.9565	-919.999	25	32.2997
933.22	0.776	23.1737	-923.914	35	45.1031
933.42	0.77	22.9565	-919.999	35	45.4545
933.62	0.762	22.9565	-919.999	33	43.3071
933.82	0.776	23.1737	-927.829	41	52.8351
934.02	0.782	22.9565	-919.999	37	47.3146
934.22	0.781	23.1737	-919.999	35	44.8143
934.42	0.782	22.9565	-923.914	49	62.6598
934.62	0.786	22.9565	-919.999	35	44.5293
934.82	0.785	22.9565	-923.914	34	43.3121
935.02	0.781	22.9565	-919.999	44	56.338
935.22	0.778	22.9565	-919.999	37	47.5578
935.42	0.782	23.1737	-919.999	40	51.1509
935.62	0.786	23.1737	-923.914	35	44.5293
935.82	0.783	22.9565	-923.914	31	39.5913
936.02	0.785	23.1737	-923.914	45	57.3248
936.22	0.79	22.9565	-923.914	35	44.3038
936.42	0.793	22.9565	-927.829	28	35.309
936.62	0.788	23.1737	-919.999	41	52.0305
936.82	0.78	22.9565	-919.999	26	33.3333
937.02	0.778	22.9565	-919.999	33	42.4165
937.22	0.773	22.9565	-927.829	30	38.8098
937.42	0.768	22.9565	-923.914	38	49.4792
937.62	0.769	22.9565	-923.914	33	42.9129
937.82	0.772	22.9565	-923.914	24	31.0881
938.02	0.778	22.9565	-923.914	47	60.4113
938.22	0.776	23.1737	-923.914	38	48.9691
938.42	0.78	22.9565	-919.999	21	26.9231
938.62	0.781	22.9565	-923.914	28	35.8515
938.82	0.783	22.9565	-919.999	21	26.8199
939.02	0.782	23.1737	-919.999	31	39.6419
939.22	0.776	22.9565	-919.999	44	56.701
939.42	0.782	23.1737	-923.914	43	54.9872
939.62	0.79	22.9565	-916.084	36	45.5696
939.82	0.786	22.9565	-919.999	36	45.8015
940.02	0.781	22.9565	-919.999	32	40.9731

940.22	0.784	22.9565	-919.999	27	34.4388
940.42	0.789	22.9565	-923.914	50	63.3714
940.62	0.786	22.9565	-923.914	42	53.4351
940.82	0.785	23.1737	-919.999	46	58.5987
941.02	0.789	22.9565	-923.914	30	38.0228
941.22	0.784	23.1737	-919.999	47	59.949
941.42	0.777	23.1737	-919.999	40	51.4801
941.62	0.769	22.9565	-923.914	43	55.9168
941.82	0.772	22.9565	-919.999	34	44.0415
942.03	0.776	22.9565	-919.999	32	41.2371
942.23	0.772	22.9565	-919.999	38	49.2228
942.43	0.77	23.1737	-923.914	27	35.0649
942.63	0.778	22.9565	-919.999	56	71.9794
942.83	0.787	22.9565	-923.914	29	36.8488
943.03	0.786	23.1737	-927.829	30	38.1679
943.23	0.777	22.9565	-923.914	34	43.758
943.43	0.779	22.9565	-923.914	25	32.0924
943.63	0.786	22.9565	-923.914	44	55.9796
943.83	0.775	23.1737	-927.829	31	40
944.03	0.783	23.1737	-923.914	41	52.3627
944.23	0.784	22.9565	-923.914	31	39.5408
944.43	0.788	23.1737	-919.999	36	45.6853
944.63	0.785	23.1737	-919.999	36	45.8599
944.83	0.786	22.9565	-919.999	40	50.8906
945.03	0.788	23.1737	-923.914	32	40.6091
945.23	0.792	23.1737	-919.999	45	56.8182
945.43	0.782	22.9565	-919.999	42	53.7084
945.63	0.773	22.9565	-923.914	40	51.7464
945.83	0.768	22.9565	-919.999	33	42.9688
946.03	0.776	23.3909	-923.914	41	52.8351
946.23	0.775	22.9565	-916.084	48	61.9355
946.43	0.771	23.1737	-923.914	56	72.6329
946.63	0.774	22.9565	-923.914	27	34.8837
946.83	0.783	23.1737	-923.914	35	44.6999
947.03	0.787	22.9565	-916.084	48	60.9911
947.23	0.783	22.9565	-916.084	39	49.8084
947.43	0.782	22.9565	-919.999	41	52.4297
947.63	0.78	23.1737	-923.914	38	48.7179
947.83	0.78	23.1737	-919.999	39	50
948.03	0.778	23.1737	-919.999	30	38.5604
948.23	0.78	23.1737	-923.914	35	44.8718
948.43	0.788	23.1737	-923.914	32	40.6091
948.63	0.791	23.1737	-923.914	35	44.2478
948.83	0.78	23.1737	-923.914	26	33.3333
949.03	0.781	23.1737	-923.914	28	35.8515
949.23	0.788	23.1737	-919.999	41	52.0305
949.43	0.788	22.9565	-919.999	38	48.2234

949.63	0.782	23.1737	-919.999	34	43.4783
949.83	0.777	22.9565	-919.999	29	37.323
950.03	0.777	23.1737	-919.999	27	34.749
950.23	0.775	23.1737	-927.829	46	59.3548
950.43	0.772	22.9565	-919.999	46	59.5855
950.63	0.769	22.9565	-923.914	41	53.316
950.83	0.773	22.9565	-919.999	35	45.2781
951.03	0.779	23.1737	-927.829	34	43.6457
951.23	0.783	22.9565	-923.914	38	48.5313
951.43	0.784	23.1737	-919.999	31	39.5408
951.63	0.789	23.1737	-919.999	34	43.0925
951.83	0.787	22.9565	-923.914	40	50.8259
952.03	0.786	22.7392	-923.914	22	27.9898
952.23	0.777	22.9565	-919.999	47	60.4891
952.43	0.781	23.1737	-923.914	30	38.4123
952.63	0.786	22.9565	-927.829	49	62.341
952.83	0.782	22.9565	-923.914	51	65.2174
953.03	0.783	23.1737	-919.999	47	60.0255
953.23	0.787	22.9565	-919.999	38	48.2846
953.43	0.79	22.9565	-923.914	39	49.3671
953.63	0.788	22.9565	-923.914	38	48.2234
953.83	0.783	22.9565	-927.829	44	56.1941
954.03	0.774	22.9565	-919.999	35	45.2196
954.23	0.777	23.1737	-919.999	34	43.758
954.43	0.774	23.1737	-923.914	27	34.8837
954.63	0.767	22.9565	-919.999	36	46.9361
954.83	0.773	22.9565	-923.914	31	40.1035
955.03	0.782	22.9565	-919.999	34	43.4783
955.23	0.78	22.9565	-919.999	36	46.1538
955.43	0.776	22.9565	-919.999	35	45.1031
955.63	0.783	22.9565	-919.999	33	42.1456
955.83	0.786	23.1737	-919.999	35	44.5293
956.03	0.783	22.9565	-919.999	39	49.8084
956.23	0.781	22.9565	-919.999	35	44.8143
956.43	0.787	22.9565	-919.999	53	67.3443
956.63	0.787	23.1737	-923.914	47	59.7205
956.83	0.786	23.1737	-919.999	40	50.8906
957.03	0.783	23.1737	-919.999	34	43.4227
957.23	0.787	23.1737	-923.914	43	54.6379
957.43	0.79	22.9565	-919.999	28	35.443
957.63	0.788	23.1737	-916.084	36	45.6853
957.83	0.779	23.1737	-919.999	32	41.0783
958.03	0.787	22.9565	-919.999	47	59.7205
958.23	0.783	23.1737	-923.914	36	45.977
958.43	0.774	23.1737	-919.999	43	55.5556
958.63	0.769	23.1737	-919.999	32	41.6125
958.83	0.77	22.9565	-919.999	32	41.5584

959.03	0.776	23.1737	-919.999	34	43.8144
959.23	0.768	22.9565	-923.914	29	37.7604
959.43	0.776	22.9565	-919.999	36	46.3918
959.63	0.78	22.9565	-916.084	30	38.4615
959.83	0.786	22.9565	-919.999	42	53.4351
960.03	0.786	23.1737	-923.914	32	40.7125
960.23	0.784	23.1737	-923.914	29	36.9898
960.43	0.783	22.9565	-923.914	54	68.9655
960.63	0.787	23.1737	-923.914	32	40.6607
960.83	0.782	22.9565	-919.999	41	52.4297
961.03	0.78	22.9565	-919.999	36	46.1538
961.23	0.781	22.9565	-923.914	37	47.3752
961.43	0.79	22.9565	-919.999	40	50.6329
961.63	0.791	22.9565	-923.914	39	49.3047
961.83	0.785	22.9565	-919.999	38	48.4076
962.03	0.788	23.1737	-919.999	26	32.9949
962.24	0.795	23.1737	-923.914	28	35.2201
962.44	0.787	23.1737	-923.914	45	57.1792
962.64	0.776	23.1737	-916.084	33	42.5258
962.84	0.77	22.9565	-919.999	43	55.8442
963.04	0.771	22.9565	-923.914	26	33.7224
963.24	0.774	22.9565	-919.999	44	56.8475
963.44	0.769	22.9565	-919.999	27	35.1105
963.64	0.773	23.1737	-919.999	23	29.7542
963.84	0.783	23.1737	-919.999	42	53.6398
964.04	0.788	23.1737	-919.999	26	32.9949
964.24	0.779	22.9565	-923.914	25	32.0924
964.44	0.779	22.9565	-919.999	27	34.6598
964.64	0.786	22.9565	-919.999	30	38.1679
964.84	0.784	22.9565	-923.914	33	42.0918
965.04	0.781	22.9565	-923.914	37	47.3752
965.24	0.781	22.9565	-916.084	34	43.5339
965.44	0.79	22.9565	-927.829	40	50.6329
965.64	0.789	22.9565	-919.999	34	43.0925
965.84	0.785	23.1737	-919.999	31	39.4904
966.04	0.784	23.1737	-923.914	33	42.0918
966.24	0.786	23.1737	-919.999	24	30.5344
966.44	0.79	22.9565	-919.999	25	31.6456
966.64	0.793	22.9565	-923.914	38	47.9193
966.84	0.799	22.9565	-923.914	42	52.5657
967.04	0.804	22.9565	-923.914	31	38.5572
967.24	0.798	22.9565	-927.829	39	48.8722
967.44	0.791	22.9565	-923.914	37	46.7762
967.64	0.791	23.1737	-923.914	42	53.0973
967.84	0.796	23.1737	-916.084	48	60.3015
968.04	0.801	22.9565	-923.914	33	41.1985
968.24	0.804	23.1737	-919.999	40	49.7512

968.44	0.805	23.1737	-919.999	30	37.2671
968.64	0.805	23.1737	-919.999	25	31.0559
968.84	0.807	23.1737	-923.914	34	42.1314
969.04	0.803	23.1737	-923.914	32	39.8506
969.24	0.799	23.1737	-916.084	41	51.3141
969.44	0.803	22.9565	-923.914	38	47.3225
969.64	0.81	22.9565	-919.999	43	53.0864
969.84	0.803	23.1737	-923.914	42	52.3039
970.04	0.807	23.1737	-923.914	41	50.8055
970.24	0.816	23.1737	-923.914	38	46.5686
970.44	0.813	22.9565	-919.999	50	61.5006
970.64	0.805	22.9565	-927.829	51	63.354
970.84	0.803	23.1737	-923.914	44	54.7945
971.04	0.803	22.9565	-919.999	33	41.0959
971.24	0.793	22.9565	-919.999	32	40.3531
971.44	0.794	23.1737	-919.999	57	71.7884
971.64	0.793	22.9565	-919.999	33	41.6141
971.84	0.8	22.9565	-923.914	43	53.75
972.04	0.797	23.1737	-923.914	37	46.4241
972.24	0.802	23.3909	-919.999	33	41.1471
972.44	0.808	22.9565	-919.999	27	33.4158
972.64	0.812	23.3909	-919.999	37	45.5665
972.84	0.803	22.9565	-919.999	40	49.8132
973.04	0.8	22.9565	-923.914	44	55
973.24	0.801	22.9565	-923.914	39	48.6891
973.44	0.808	22.9565	-919.999	35	43.3168
973.64	0.806	23.1737	-923.914	36	44.665
973.84	0.802	22.9565	-923.914	41	51.1222
974.04	0.808	22.9565	-927.829	43	53.2178
974.24	0.807	23.1737	-923.914	51	63.197
974.44	0.808	23.1737	-919.999	38	47.0297
974.64	0.808	23.1737	-919.999	50	61.8812
974.84	0.807	23.1737	-919.999	38	47.088
975.04	0.806	22.9565	-919.999	58	71.9603
975.24	0.799	22.9565	-923.914	39	48.811
975.44	0.79	22.9565	-923.914	36	45.5696
975.64	0.794	22.9565	-923.914	30	37.7834
975.84	0.797	23.1737	-919.999	46	57.7164
976.04	0.795	23.1737	-919.999	34	42.7673
976.24	0.792	22.9565	-923.914	38	47.9798
976.44	0.805	23.1737	-919.999	44	54.6584
976.64	0.814	23.1737	-919.999	45	55.2826
976.84	0.806	23.1737	-923.914	42	52.1092
977.04	0.804	23.1737	-919.999	44	54.7264
977.24	0.807	22.9565	-919.999	31	38.4139
977.44	0.807	23.1737	-923.914	45	55.7621
977.64	0.803	22.9565	-919.999	39	48.5679

977.84	0.801	22.9565	-919.999	43	53.6829
978.04	0.805	22.9565	-923.914	43	53.4161
978.24	0.81	23.1737	-923.914	40	49.3827
978.44	0.805	23.1737	-919.999	28	34.7826
978.64	0.805	23.1737	-919.999	40	49.6894
978.84	0.811	23.1737	-923.914	41	50.5549
979.04	0.817	22.9565	-919.999	38	46.5116
979.24	0.795	22.9565	-919.999	41	51.5723
979.44	0.789	23.1737	-923.914	34	43.0925
979.64	0.796	23.1737	-919.999	40	50.2513
979.84	0.792	22.9565	-923.914	36	45.4545
980.04	0.793	22.9565	-923.914	37	46.6583
980.24	0.798	23.1737	-923.914	39	48.8722
980.44	0.803	23.1737	-923.914	38	47.3225
980.64	0.806	22.9565	-919.999	45	55.8313
980.84	0.806	22.9565	-923.914	33	40.9429
981.04	0.801	22.9565	-923.914	32	39.9501
981.24	0.805	22.9565	-919.999	34	42.236
981.44	0.805	23.1737	-923.914	32	39.7516
981.64	0.807	22.9565	-927.829	40	49.5663
981.84	0.801	23.1737	-923.914	43	53.6829
982.05	0.811	23.1737	-919.999	35	43.1566
982.25	0.812	22.9565	-923.914	34	41.8719
982.45	0.808	22.9565	-919.999	34	42.0792
982.65	0.805	23.1737	-919.999	29	36.0248
982.85	0.807	23.1737	-919.999	36	44.6097
983.05	0.808	22.9565	-919.999	37	45.7921
983.25	0.805	23.1737	-919.999	47	58.3851
983.45	0.8	23.1737	-919.999	54	67.5
983.65	0.796	22.9565	-919.999	40	50.2513
983.85	0.795	22.9565	-919.999	31	38.9937
984.05	0.789	22.9565	-923.914	38	48.1622
984.25	0.786	22.9565	-916.084	41	52.1628
984.45	0.799	22.9565	-923.914	40	50.0626
984.65	0.808	22.9565	-923.914	36	44.5545
984.85	0.801	22.9565	-919.999	35	43.6954
985.05	0.805	23.1737	-919.999	31	38.5093
985.25	0.811	22.9565	-923.914	46	56.7201
985.45	0.806	23.1737	-923.914	42	52.1092
985.65	0.802	23.1737	-919.999	28	34.9127
985.85	0.801	22.9565	-919.999	40	49.9376
986.05	0.806	23.1737	-919.999	39	48.3871
986.25	0.806	22.9565	-919.999	34	42.1836
986.45	0.806	22.9565	-919.999	35	43.4243
986.65	0.81	23.1737	-923.914	38	46.9136
986.85	0.814	22.9565	-919.999	33	40.5405
987.05	0.809	23.1737	-923.914	32	39.555

987.25	0.806	22.9565	-919.999	29	35.9801
987.45	0.802	22.9565	-919.999	41	51.1222
987.65	0.804	23.1737	-919.999	44	54.7264
987.85	0.792	22.9565	-919.999	43	54.2929
988.05	0.788	22.9565	-923.914	37	46.9543
988.25	0.79	22.9565	-923.914	27	34.1772
988.45	0.796	22.9565	-919.999	39	48.995
988.65	0.801	22.9565	-919.999	52	64.9189
988.85	0.801	22.9565	-923.914	31	38.7016
989.05	0.807	23.1737	-927.829	48	59.4796
989.25	0.803	23.1737	-919.999	40	49.8132
989.45	0.802	23.1737	-919.999	32	39.9002
989.65	0.803	22.9565	-923.914	38	47.3225
989.85	0.802	22.9565	-919.999	39	48.6284
990.05	0.807	23.1737	-923.914	38	47.088
990.25	0.807	22.9565	-919.999	37	45.8488
990.45	0.802	23.1737	-919.999	38	47.3815
990.65	0.809	22.9565	-923.914	32	39.555
990.85	0.811	23.1737	-916.084	39	48.0888
991.05	0.809	23.1737	-916.084	37	45.7355
991.25	0.804	22.9565	-916.084	28	34.8259
991.45	0.808	23.1737	-923.914	37	45.7921
991.65	0.807	22.9565	-919.999	34	42.1314
991.85	0.795	22.9565	-923.914	31	38.9937
992.05	0.792	23.1737	-919.999	37	46.7172
992.25	0.798	22.9565	-919.999	37	46.3659
992.45	0.794	22.9565	-916.084	45	56.6751
992.65	0.794	23.1737	-923.914	35	44.0806
992.85	0.794	23.3909	-916.084	45	56.6751
993.05	0.802	23.1737	-923.914	41	51.1222
993.25	0.809	23.1737	-923.914	37	45.7355
993.45	0.814	22.9565	-927.829	47	57.7396
993.65	0.818	23.1737	-919.999	58	70.9046
993.85	0.821	22.9565	-923.914	45	54.8112
994.05	0.826	22.9565	-919.999	29	35.109
994.25	0.816	23.1737	-916.084	43	52.6961
994.45	0.819	22.9565	-919.999	46	56.1661
994.65	0.825	22.9565	-912.169	55	66.6667
994.85	0.824	22.9565	-919.999	51	61.8932
995.05	0.823	23.1737	-923.914	38	46.1725
995.25	0.837	22.9565	-919.999	46	54.9582
995.45	0.876	22.9565	-927.829	55	62.7854
995.65	0.88	22.9565	-919.999	59	67.0455
995.85	0.868	22.9565	-919.999	42	48.3871
996.05	0.861	22.9565	-923.914	55	63.8792
996.25	0.869	23.1737	-919.999	36	41.4269
996.45	0.874	23.1737	-923.914	46	52.6316

996.65	0.875	22.9565	-923.914	43	49.1429
996.85	0.896	22.9565	-927.829	44	49.1071
997.05	0.939	23.1737	-919.999	46	48.9883
997.25	0.953	23.1737	-923.914	54	56.6632
997.45	0.952	23.1737	-923.914	55	57.7731
997.65	1.003	22.9565	-919.999	46	45.8624
997.85	1.055	22.9565	-919.999	52	49.2891
998.05	1.053	23.1737	-919.999	69	65.5271
998.25	1.054	22.9565	-923.914	77	73.055
998.45	1.066	22.9565	-923.914	79	74.1088
998.65	1.205	22.9565	-919.999	83	68.8797
998.85	1.217	23.3909	-919.999	96	78.8825
999.05	1.328	22.9565	-919.999	109	82.0783
999.25	1.609	-999	-919.999	127	78.931

Appendix D

Aquifer Testing Report

D-1.0 INTRODUCTION

This appendix describes the hydraulic analysis of pumping tests conducted from May 3 to 5, 2016, at extraction well CrEX-3, located in Mortandad Canyon at Los Alamos National Laboratory (LANL or the Laboratory). The CrEX-3 tests were conducted to (1) characterize the hydrogeologic properties of the aquifer materials screened by the well and (2) estimate the hydraulic properties of the Puye Formation. The water-level depth was 901 ft below ground surface (bgs) before well installation. The screen interval is between 909.6 ft and 948.8 ft bgs, with a screen length of 39.2 ft. Two separate pumping activities were conducted at CrEX-3: (1) on May 3, 2016, from 8:22 to 14:59, a step-pumping test was conducted using four different pumping rates; (2) from May 3, 15:02, to May 5, 14:00, a 24-hr pumping test was performed. These pumping activities provide important information about the hydraulic properties of the well. Discussed below are model analyses performed of the water-level data observed during these pumping events. In these analyses, a partially penetrated confined/unconfined aquifer that is homogeneous and anisotropic is assumed. The thickness of the aquifer affected by the pumping test is assumed to be uniform and equal to 64 ft. The total thickness of the regional aquifer is substantially larger (>1000 ft); however, because of partial penetration effects (CrEX-3 is installed at the top of the aquifer) and aquifer anisotropy, the pumping at CrEX-3 does not interrogate the entire aquifer thickness. The results presented below are sensitive to the assumption of aquifer thickness. The software AQTESOLV (Duffield 2007, 601723) is used to interpret the pumping test data. Two theoretical models built in the software AQTESOLV, (Theis 1934-1935, 098241) and (Neuman 1974, 085421), are applied for parameter estimation.

D-2.0 INTERPRETATION OF OBSERVED WATER-LEVEL DATA

D-2.1 Step Test (Test 1)

After well development, a pumping test was executed using for four pumping steps. Each step had duration of 1 h, and the pumping rate was continuously increased. The rates during the four steps were 25.6, 38.1, 51.3, 64.0 gallons per minute (gpm). The total water pumped was 11,700 gal. in 4 h, followed by a recovery period. The observed multistep water-level depths were converted to drawdowns (in ft) and then used to estimate the parameters. First, the variable-rate Theis model (Theis 1934–1935, 098241) was used to fit the multistep observation data. The multistep variable pumping rates and parameter estimation results are shown in Tables D-2.1-1 and D-2.1-2. The estimated hydraulic conductivity is 6.0 m/d, and the storage coefficient is 1.0E-6. The computed drawdowns during the first step and the recovery time do not fit very well in the observed data (Figure D-2.1-1).

Then, the variable-rate Neuman model (Neuman 1974, 085421) was used to fit the observed data. By considering the delayed gravity response of the unconfined aquifer, the Neuman model can simulate well the multistep pumping test processes and the computed drawdowns fit the observed data very well. The estimated parameters are listed in Table D-2.1-3 in which the conductivity is 1.8 m/d, storage coefficient is 0.00084, and specific yield is 0.35, which is limited to the possibly maximum porosity of the Puye Formation during the parameter-estimation process. The parameter β coefficient is 0.0067, and in this model, the ratio of K_z/K_r is equal to 0.49. The objective function (or sum of squares) is reduced from 1067.6, obtained from the Theis model, to 175.9. The result shown in Figure D-2.1-2 is better fitted with the Theis model.

D-2.2 24-h Pumping Test (Test 2)

After the well fully recovered from the step test, a constant-rate pumping test was conducted for about 24 h from May 4, 2016, at 13:28 to May 5, at 13:58, and the total water pumped was 74,985 gal. with a constant pumping rate of 51.1 gpm. The observed water depths during the pumping period were converted to displacements or drawdowns (in ft) and then used to estimate the parameters. First, the constant-rate Theis model (Theis 1934-1935, 098241) was used to fit the observed data. The test data and parameter estimation processes are presented in Tables D-2.2-1 and D-2.2-2. The estimated hydraulic conductivity is 6.8 m/d and the storage coefficient is very small (1.0E-6). As discussed above, the Theis model does not consider the delayed water-release mechanisms of the unconfined aquifer and does fit the observed data (Figure D-2.2-1).

Then, the constant-rate Neuman model (Neuman 1974, 085421) was used to fit the observed data. The Neuman model considers the delayed gravity response of the unconfined aquifer and the computed drawdowns fit the observations very well. The estimated parameters are listed in Table D-2.2-3: the hydraulic conductivity is 2.7 m/d, storage coefficient is 0.00071, and specific yield is 0.35. The parameter β is 0.001, which corresponds to a K_z/K_r ratio of 0.1. The objective function (or sum of squares) is reduced from 3405.1, obtained from the Theis model, to 365.9. The drawdowns modeled from the constant-rate Neuman model match the observations perfectly (Figure D-2.2-2).

D-3.0 SUMMARY

Multistep and constant-rate pumping tests were conducted on CrEX-3 to gain an understanding of the hydraulic characteristics of the saturated Puye Formation. Two sets of water-depth observations were made using the data obtained from the pumping tests and were used for parameter estimations with different analytical models: the Theis and the Neuman models. The estimated parameters from the tests are summarized in Table D-3.0-1. Because the Neuman model considers the delayed gravity response of the unconfined aquifer, the computed drawdowns for the three tests always fit the data much better that those computed from the Theis model. Therefore, the estimated parameters from the Neuman model are more reliable than those from Theis model. The Neuman model can minimize the objective functions for the two test data, decrease parameter estimation variances, and thus reduce the uncertainty of the estimated parameters. In Table D-3.0-1, the estimated hydraulic conductivities have an increased trend over time. Similarly, the anisotropy ratio increases, which reflects increases in the lateral hydraulic conductivity (Kr). These observations may be the result of continued well development during pumping that increases the well efficiency. However, the difference in the estimated permeabilities between the step test and the 24-h test is small, suggesting the well is well developed, and this difference may be caused by scaling effects. That is, a much larger aquifer volume is interrogated during the 24-h test compared with the step test.

It is important to note that estimated hydraulic parameters are sensitive to assumed aquifer thickness. If the aquifer thickness were assumed to be higher, the estimated hydraulic conductivity would be lower. However, despite the uncertainties, the estimated hydraulic conductivity values for CrEX-3 are consistent with hydraulic conductivity estimates observed at other investigation wells which range between 0.6 m/d and 40 m/d.

Because of better matching of observed data to the model, the aquifer estimates using Neuman model are preferred. In summary, the hydraulic conductivity at CrEX-2 is 2.7 m/d, the storage coefficient is 7.1×10^{-3}, the specific yield is 0.35, and the anisotropy ratio between vertical and lateral hydraulic conductivity is 0.1. These estimates are reasonable and consistent with previous estimates and previous site information.

D-4.0 REFERENCES

The following list includes all documents cited in this appendix. Parenthetical information following each reference provides the author(s), publication date, and ER ID or ESH ID. This information is also included in text citations. ER IDs were assigned by the Environmental Programs Directorate's Records Processing Facility (IDs through 599999), and ESH IDs are assigned by the Environment, Safety, and Health (ESH) Directorate (IDs 600000 and above). IDs are used to locate documents in the Laboratory's Electronic Document Management System and, where applicable, in the master reference set.

Copies of the master reference set are maintained at the NMED Hazardous Waste Bureau and the ESH Directorate. The set was developed to ensure that the administrative authority has all material needed to review this document, and it is updated with every document submitted to the administrative authority. Documents previously submitted to the administrative authority are not included.

Duffield, G.M., June 16, 2007. "AQTESOLV for Windows, Version 4.5, User's Guide," HydroSOLVE, Inc., Reston, Virginia. (Duffield 2007, 601723)

Neuman, S.P., April 1974. "Effect of Partial Penetration on Flow in Unconfined Aquifers Considering Delayed Gravity Response," *Water Resources Research,* Vol. 10, No. 2, pp. 303-312. (Neuman 1974, 085421)

Theis, C.V., 1934-1935. "The Relation Between the Lowering of the Piezometric Surface and the Rate and Duration of Discharge of a Well Using Ground-Water Storage," *American Geophysical Union Transactions,* Vol. 15-16, pp. 519-524. (Theis 1934-1935, 098241)

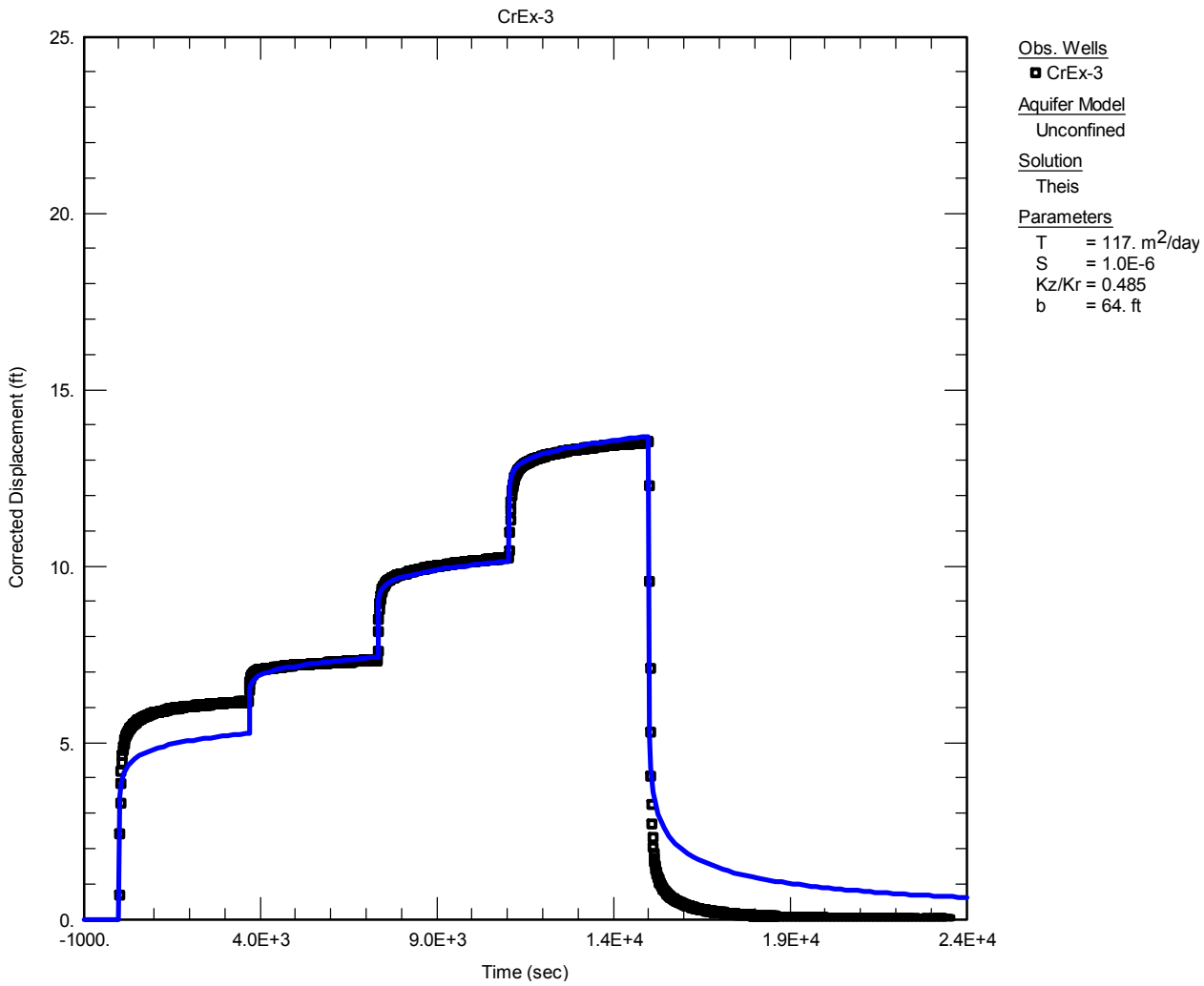


Figure D-2.1-1 Fitting results using step-test data and Theis model (data are shown as black squares; the blue line is the model)

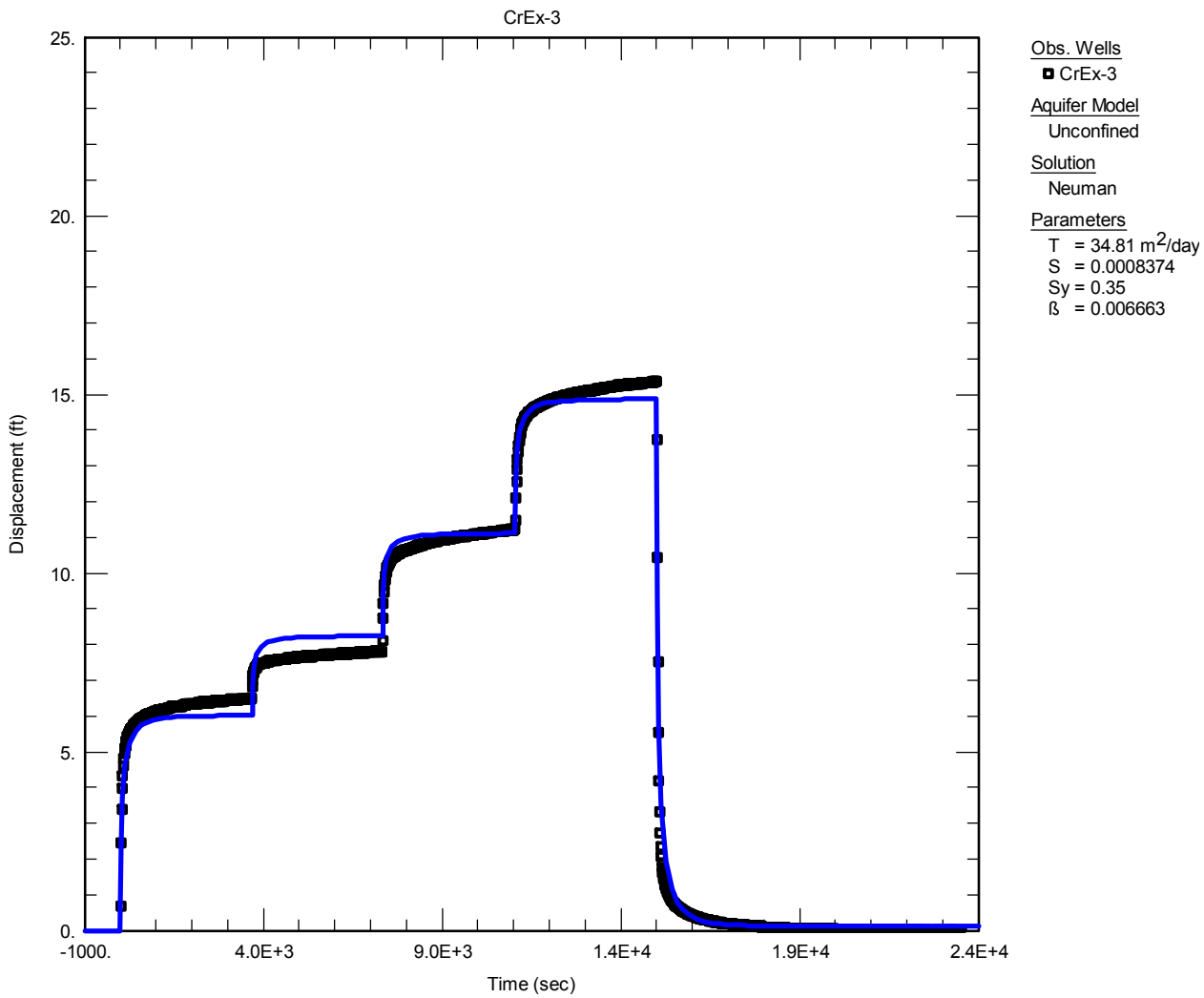


Figure D-2.1-2 Fitting results using step-test data and Neuman model (data are shown as black squares; the blue line is the model)

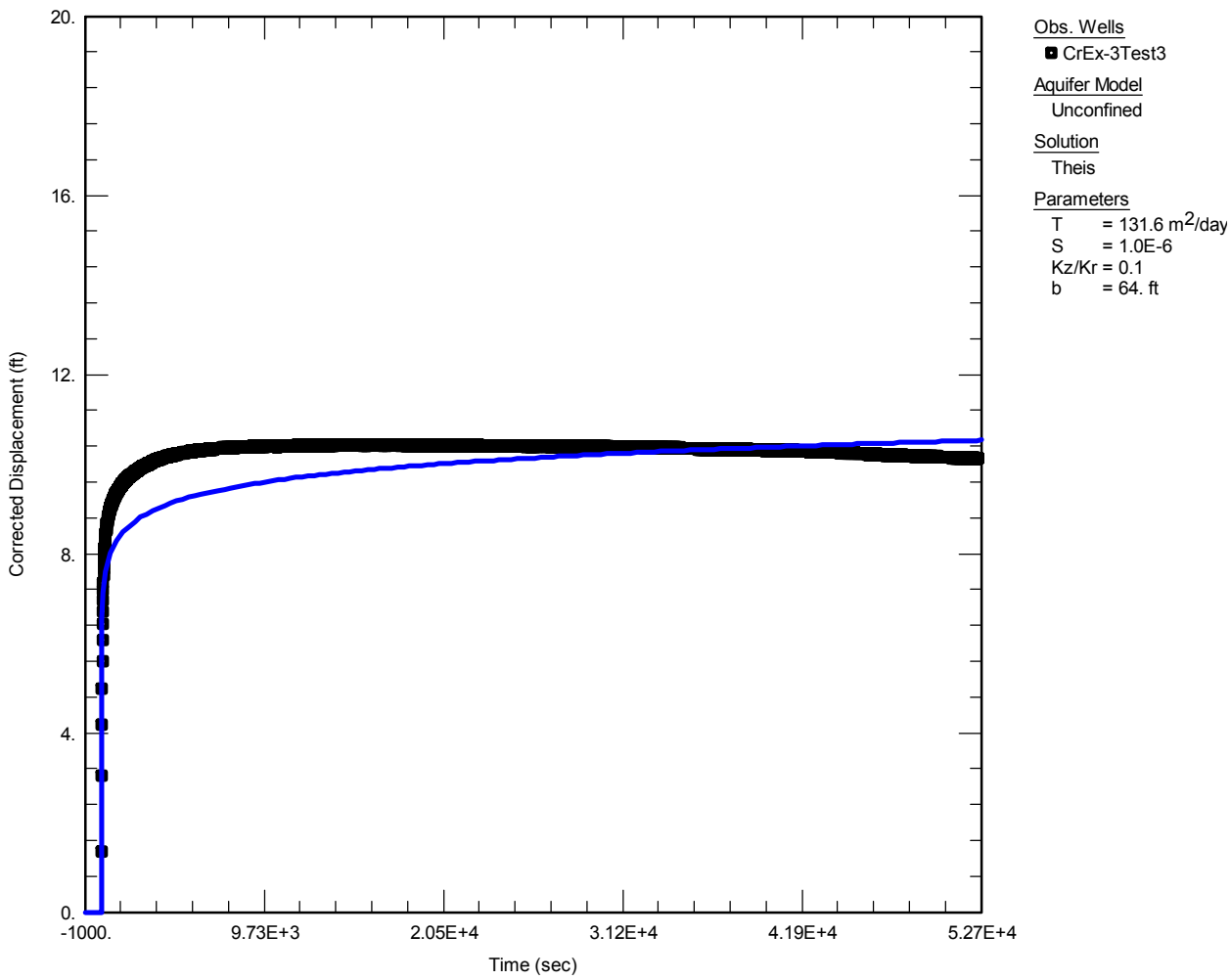


Figure D-2.2-1 Fitting results using 24-h test data and Theis model (data are shown as black squares; the blue line is the model)

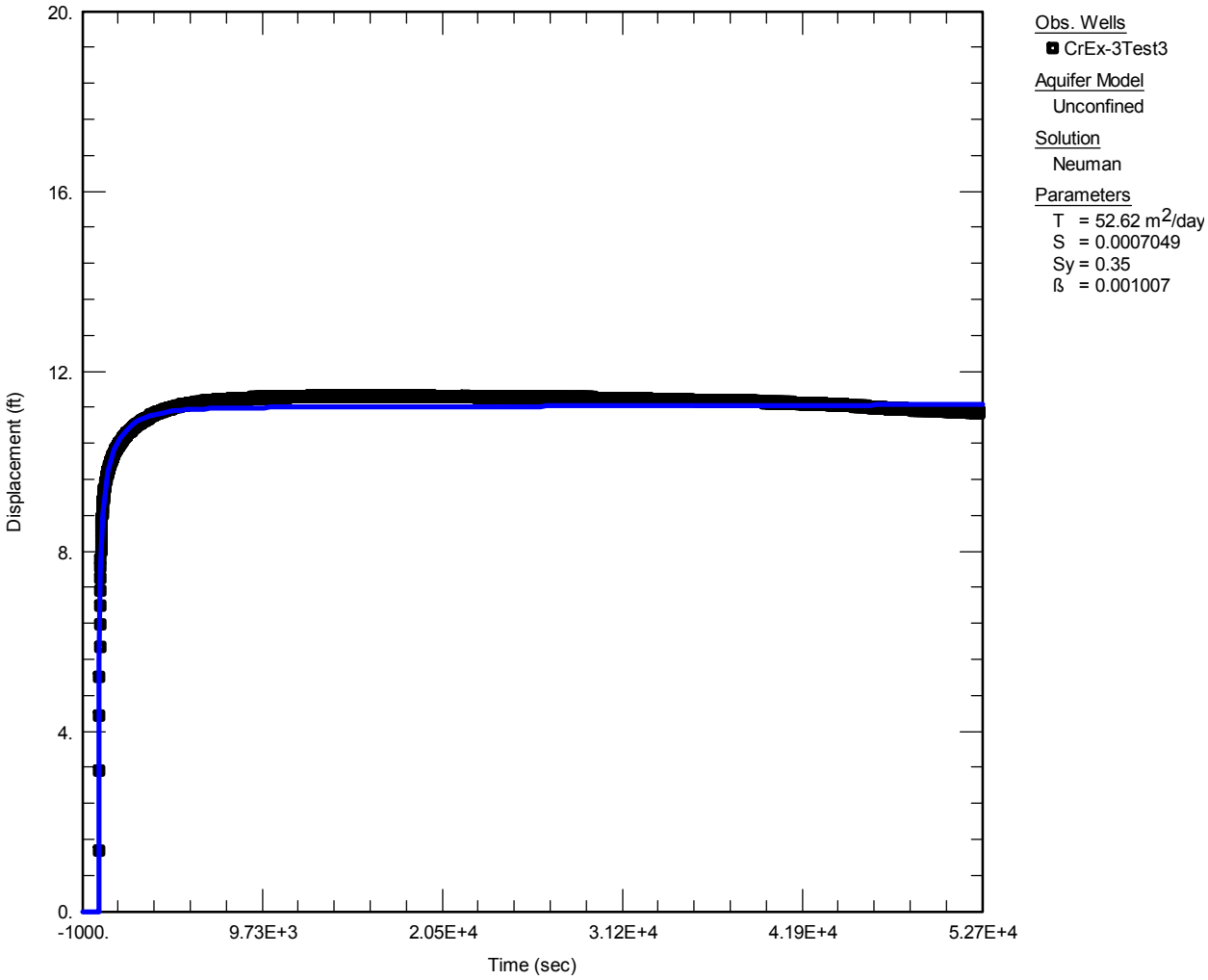


Figure D-2.2-2 Fitting results using 24-h test data and Neuman model (data are shown as black squares; the blue line is the model)

Table D-2.1-1
Hydrogeologic Information Used in AQTESOLV to Interpret Step-Test Data

Data Set: E:\EP2016\AquiferTest\Crex3_CrEx-3\CrEx3_Test2_pumpingTest_newRate_unconfined_Theis.aqt
Title: CrEx-3
Date: 06/09/16
Time: 15:24:35

PROJECT INFORMATION

Company: LANL
Client: zd
Project: ep
Location: Puye
Test Date: 2015
Test Well: CrEx3

AQUIFER DATA

Saturated Thickness: 64. ft
Anisotropy Ratio (Kz/Kr): 0.485

PUMPING WELL DATA

No. of pumping wells: 1

Pumping Well No. 1: CrEx-3

X Location: 0. ft
Y Location: 0. ft

Casing Radius: 8.5 ft
Well Radius: 7.5 ft

Partially Penetrating Well
Depth to Top of Screen: 12. ft
Depth to Bottom of Screen: 51.2 ft

No. of pumping periods: 5

Pumping Period Data

Time (sec)	Rate (gal/sec)	Time (sec)	Rate (gal/sec)	Time (sec)	Rate (gal/sec)
0.	0.4646	7350.	0.855	1.5E+4	0.
3690.	0.635	1.104E+4	1.143		

OBSERVATION WELL DATA

No. of observation wells: 1

Observation Well No. 1: CrEx-3

X Location: 0. ft
Y Location: 0. ft

Radial distance from CrEx-3: 0. ft

Partially Penetrating Well
Depth to Top of Screen: 12. ft
Depth to Bottom of Screen: 51.2 ft

No. of Observations: 1568

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
15.	0.664	7860.	10.6	1.571E+4	0.573
30.	2.456	7875.	10.61	1.572E+4	0.564
45.	3.384	7890.	10.61	1.574E+4	0.555

Table D-2.1-2
Estimated Parameters Using Step-Test Data and Theis Model

Pumping Test
Aquifer Model: Unconfined
Solution Method: Theis

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
T	114.9	m^2/day
S	1.0E-6	
Kz/Kr	0.485	
b	64.	ft

K = T/b = 5.892 m/day (0.00682 cm/sec)
Ss = S/b = 1.562E-8 1/ft

AUTOMATIC ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	Std. Error	Approx. C.I.	t-Ratio	
T	117.	2.685	+/- 5.265	43.58	m^2/day
S	1.0E-6	3.397E-7	+/- 6.661E-7	2.944	
Kz/Kr	0.485	not estimated			
b	64.	not estimated			ft

C.I. is approximate 95% confidence interval for parameter
t-ratio = estimate/std. error
No estimation window

K = T/b = 5.997 m/day (0.006942 cm/sec)
Ss = S/b = 1.562E-8 1/ft

Parameter Correlations

	T	S
T	1.00	-0.99
S	-0.99	1.00

Residual Statistics

for weighted residuals

Sum of Squares . . . . 1067.6 ft^2
Variance . . . . . 0.6818 ft^2
Std. Deviation. . . . . 0.8257 ft
Mean . . . . . -0.2071 ft
No. of Residuals 1568
No. of Estimates 2

Table D-2.1-3
Estimated Parameters with the Variable-Rate Neuman Model for the Puye Formation

Aquifer Model: Unconfined
Solution Method: Neuman

Estimated Parameters

Parameter	Estimate	Std. Error	Approx. C.I.	t-Ratio	
T	34.81	1.592	+/- 3.122	21.87	m^2/day
S	0.0008374	5.714E-5	+/- 0.0001121	14.65	
Sy	0.35	0.06385	+/- 0.1252	5.482	
ß	0.006663	0.001127	+/- 0.002211	5.909	

C.I. is approximate 95% confidence interval for parameter
t-ratio = estimate/std. error
No estimation window

K = T/b = 1.785 m/day (0.002065 cm/sec)
Ss = S/b = 1.308E-5 1/ft

Parameter Correlations

	T	S	Sy	ß
T	1.00	-0.93	-0.75	-1.00
S	-0.93	1.00	0.77	0.93
Sy	-0.75	0.77	1.00	0.74
ß	-1.00	0.93	0.74	1.00

Residual Statistics

for weighted residuals

Sum of Squares . . . . 175.9 ft^2
Variance . . . . . 0.1125 ft^2
Std. Deviation. . . . . 0.3354 ft
Mean . . . . . -0.0407 ft
No. of Residuals 1568
No. of Estimates 4

Table D-2.2-1
Hydrogeologic Information Used in AQTESOLV to Interpret 24-h Pumping Test

Data Set: E:\EP2016\AquiferTest\Crex3_CrEx-3\CrEx3_test3_pumpingTest_unconfined_Theis.aqt
Date: 06/11/16
Time: 11:16:34

PROJECT INFORMATION

Company: LANL
Client: zd
Project: ep
Location: Puye
Test Date: 2016
Test Well: CrEx3

AQUIFER DATA

Saturated Thickness: 64. ft
Anisotropy Ratio (Kz/Kr): 0.1

PUMPING WELL DATA

No. of pumping wells: 1

Pumping Well No. 1: CrEx-3Test3

X Location: 0. ft
Y Location: 0. ft

Casing Radius: 8.5 ft
Well Radius: 7.5 ft

Partially Penetrating Well
Depth to Top of Screen: 12. ft
Depth to Bottom of Screen: 51.2 ft

No. of pumping periods: 2

Pumping Period Data

Time (sec)	Rate (gal/sec)	Time (sec)	Rate (gal/sec)
0.	0.8517	5.265E+4	0.8517

OBSERVATION WELL DATA

No. of observation wells: 1

Observation Well No. 1: CrEx-3Test3

X Location: 0. ft
Y Location: 0. ft

Radial distance from CrEx-3Test3: 0. ft

Partially Penetrating Well
Depth to Top of Screen: 12. ft
Depth to Bottom of Screen: 51.2 ft

No. of Observations: 7405

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
10.	1.357	2.47E+4	11.41	4.939E+4	11.13
20.	3.129	2.471E+4	11.42	4.94E+4	11.12
30.	4.334	2.472E+4	11.41	4.941E+4	11.12
40.	5.206	2.473E+4	11.42	4.942E+4	11.13
50.	5.867	2.474E+4	11.43	4.943E+4	11.14

Table D-2.2-2
Estimated Parameters Using 24-h Pumping Test Data and Theis Model

Aquifer Model: Unconfined
Solution Method: Theis

Estimated Parameters

Parameter	Estimate	Std. Error	Approx. C.I.	t-Ratio	
T	131.6	1.592	+/- 3.121	82.66	m^2/day
S	1.0E-6	2.117E-7	+/- 4.148E-7	4.725	
Kz/Kr	0.1	not estimated			
b	64.	not estimated			ft

C.I. is approximate 95% confidence interval for parameter
t-ratio = estimate/std. error
No estimation window

K = T/b = 6.748 m/day (0.00781 cm/sec)
Ss = S/b = 1.562E-8 1/ft

Parameter Correlations

	T	S
T	1.00	-1.00
S	-1.00	1.00

Residual Statistics

for weighted residuals

Sum of Squares . . . . 3405.1 ft^2
Variance . . . . . 0.46 ft^2
Std. Deviation. . . . . 0.6782 ft
Mean . . . . . 0.04649 ft
No. of Residuals 7405
No. of Estimates 2

Table D-2.2-3
Estimated Parameters Using 24-h Pumping Test Data and Neuman Model

Diagnostic Statistics

Estimation failed to converge! Maximum iterations reached.

Aquifer Model: Unconfined
Solution Method: Neuman

Estimated Parameters

Parameter	Estimate	Std. Error	Approx. C.I.	t-Ratio	
T	52.62	1.137	+/- 2.228	46.29	m^2/day
S	0.0007049	4.32E-5	+/- 8.467E-5	16.32	
Sy	0.35	0.0456	+/- 0.08937	7.676	
ß	0.001007	0.000114	+/- 0.0002234	8.84	

C.I. is approximate 95% confidence interval for parameter
t-ratio = estimate/std. error
No estimation window

K = T/b = 2.697 m/day (0.003122 cm/sec)
Ss = S/b = 1.101E-5 1/ft

Parameter Correlations

	T	S	Sy	ß
T	1.00	-0.97	-0.69	-1.00
S	-0.97	1.00	0.71	0.97
Sy	-0.69	0.71	1.00	0.67
ß	-1.00	0.97	0.67	1.00

Residual Statistics

for weighted residuals

Sum of Squares . . . . 365.9 ft^2
Variance . . . . . 0.04943 ft^2
Std. Deviation. . . . . 0.2223 ft
Mean . . . . . -0.009738 ft
No. of Residuals 7405
No. of Estimates 4

Table D-3.0-1
Summary of the Parameter Estimates

Model	Parameter (units)	Step Test	24-h Test
	Groundwater volume pumped (gal.)	11,700	74,985
Theis	Hydraulic conductivity (m/d)	6.0	6.8
	Storage coefficient (−)	1.00E-06	1.00E-06
	Anisotropy ratio Kz/Kr (−)	0.49	0.1
Neuman	Hydraulic conductivity (m/d)	1.8	2.7
	Storage coefficient (−)	0.00084	0.00071
	Anisotropy ratio Kz/Kr (−)	0.49	0.1
	Specific yield (−)	0.35	0.35