



DEPARTMENT OF ENERGY
Environmental Management Los Alamos Field Office (EM-LA)
Los Alamos, New Mexico 87544

EMLA-2022-BF019-02-001

December 1, 2021

Mr. Rick Shean
 Bureau Chief
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 New Mexico Environment Department
 2905 Rodeo Park Drive East, Building 1
 Santa Fe, NM 87505-6313



Subject: Submittal of Completion Report for Regional Aquifer Monitoring Well R-70, Revision 2

Dear Mr. Shean:

Enclosed for your information, please find two hard copies with electronic files of “Completion Report for Regional Aquifer Monitoring Well R-70, Revision 2.” This report addresses the New Mexico Environment’s (NMED’s) comments issued in “Notice of Disapproval, Completion Report for Regional Aquifer Well R-70, Revision 1, and the Response to the New Mexico Environment Department’s Draft Comments on the Completion Report for Regional Aquifer Well R-70,” dated May 25, 2021. Also enclosed is the “Response to Notice of Disapproval, Completion Report for Regional Aquifer Well R-70, Revision 1, and the Response to the New Mexico Environment Department’s Draft Comments on the Completion Report for Regional Aquifer Well R-70,” dated July 23, 2021.

With respect to specific comments in the notice of disapproval letter, all references to aquifer testing have been removed from Revision 2. Because the collection of representative samples occurred at the end of the 24-hr pumping tests of each screen, it was necessary to retain descriptions of the operations. The operations are now referred to as “extended pumping” in the enclosed revision. This report is not subject to approval by NMED under the 2016 Compliance Order on Consent.

If you have any questions, please contact Christian Maupin (505) 695-4281 (christian.maupin@em-la.doe.gov) or Cheryl Rodriguez at (505) 414-0450 (cheryl.rodriguez@em.doe.gov).

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Enclosure(s):

1. Two hard copies with electronic files (including a redline strikeout version) – Completion Report for Regional Aquifer Monitoring Well R-70, Revision 2 (EM2021-0356)
2. Response to Notice of Disapproval, Completion Report for Regional Aquifer Well R-70, Revision 1, and the Response to the New Mexico Environment Department's Draft Comments on the Completion Report for Regional Aquifer Well R-70 (EM2021-0355)

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December 2021
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Completion Report for Regional Aquifer Monitoring Well R-70, Revision 2

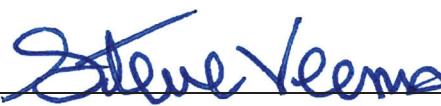


Newport News Nuclear BWXT-Los Alamos, LLC (N3B), under the U.S. Department of Energy Office of Environmental Management Contract No. 89303318CEM000007 (the Los Alamos Legacy Cleanup Contract), has prepared this document pursuant to the Compliance Order on Consent, signed June 24, 2016. The Compliance Order on Consent contains requirements for the investigation and cleanup, including corrective action, of contamination at Los Alamos National Laboratory. The U.S. government has rights to use, reproduce, and distribute this document. The public may copy and use this document without charge, provided that this notice and any statement of authorship are reproduced on all copies.

Completion Report for Regional Aquifer Monitoring Well R-70, Revision 2

December 2021

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EXECUTIVE SUMMARY

This well completion report describes the drilling, well construction, development, extended pumping, and dedicated sampling system installation for regional aquifer monitoring well R-70, located in Technical Area 05 at Los Alamos National Laboratory, Los Alamos, New Mexico. The R-70 monitoring well was installed as part of the Chromium Groundwater Project monitoring network. Well R-70 was installed at an angle of 25 degrees from the vertical to a measured distance (MD) down the borehole of 1100 ft, equating to a depth below ground surface (bgs) at the well pad of 997 ft. Well R-70 has two screens in the Puye and pumiceous Puye Formation to provide samples from the regional aquifer. Before drilling and construction of well R-70, there were no monitoring points located within the estimated footprint of the chromium plume east of chromium extraction well CrEX-5 that could be used to monitor the actual plume response to the chromium plume interim measure (IM) actions at chromium extraction well CrEX-5.

Installation of well R-70 fulfills a recommendation made in the “Evaluation of Chromium Plume Control Interim Measure Operational Alternatives for Injection Well CrIN-6,” approved by the New Mexico Environment Department (NMED) letter dated June 6, 2018. The R-70 well will ensure two objectives of the Chromium Groundwater Project are implemented. First, well R-70 will monitor the response of the chromium plume to extraction activities at well CrEX-5 in a timely manner. Second, R-70 will further characterize the lateral and vertical extent of the chromium contamination in the northeastern corner of the plume.

The R-70 monitoring well was drilled using dual-rotary fluid-assisted air-drilling casing-advance methods. Telescoping casing sizes between 20 in. and 14 in. were used to advance the borehole to total depth. Fluid additives used included potable water and foam. Foam-assisted drilling was terminated at 1100 ft MD, within the pumiceous Puye Formation.

The following geologic formations were encountered in R-70: Quaternary alluvium, Tshirege Member of the Bandelier Tuff, Otowi Member of the Bandelier Tuff, Guaje Pumice Bed, upper Puye Formation, Cerros del Rio basalt, mixed basalt and dacite alluvial sediments, Cerros del Rio basalt, dacite- and quartzite-clast-bearing fluvial sediments, Cerros del Rio basalt, Puye Formation, and pumiceous Puye Formation.

Well R-70 was completed as a dual-screen well, allowing evaluation of water quality at two discrete depth intervals in the upper portion of the regional aquifer within the Puye Formation and pumiceous Puye Formation. Well R-70 was completed with a 40-ft upper screen from 963.0 ft to 1004.0 ft MD (872.9 ft to 910.0 ft bgs at the well pad) within the lower part of the Puye Formation and a 20.5-ft lower screen from 1048.0 ft to 1068.5 ft MD (949.9 ft to 968.5 ft bgs at the well pad) in the lower part of the pumiceous Puye Formation. The monitoring well was completed as a dual-screen, dual-access port, single-pump sampling system with the well screens separated by a packer. The final configuration of the well allows future changes to be made to convert the well from a monitoring well to an extraction or injection well, if needed to meet IM objectives. The well was completed in accordance with the NMED-approved well design. Both well screen completion zones were developed with water field parameters of temperature, pH, oxidation/reduction potential, specific conductivity, and dissolved oxygen having stabilized in both screens. However, regarding the regional aquifer groundwater target water-quality parameters, chromium concentration was well above water-quality standards in screen 2.

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Acronyms and Abbreviations

amsl	above mean sea level
APV	access port valve
bgs	below ground surface
cfm	cubic feet per minute
Consent Order	Compliance Order on Consent (NMED)
DO	dissolved oxygen
DOE	Department of Energy (U.S.)
EM-LA	Environmental Management Los Alamos Field Office
gpd	gallons per day
gpm	gallons per minute
HE	high explosives
Holt	Holt Services, Inc.
hp	horsepower
I.D.	inside diameter
IDW	investigation-derived waste
IM	interim measure
LANL	Los Alamos National Laboratory
LIC	liquid inflation chamber
MD	measured distance
N3B	Newport News Nuclear BWXT-Los Alamos, LLC
NAD	North American datum
NMED	New Mexico Environment Department
NTU	nephelometric turbidity unit
O.D.	outside diameter
ORP	oxidation-reduction potential
psi	pounds per square inch
PVC	polyvinyl chloride
SOP	standard operating procedure
TA	technical area
TD	total depth
TOC	total organic carbon
WCSF	waste characterization strategy form

1.0 INTRODUCTION

This well completion report summarizes borehole drilling, well construction, well development, extended pumping, and the dedicated sampling system installation for regional aquifer monitoring well R-70. The completion of regional aquifer monitoring well R-70 has two objectives. The first objective is to monitor the chromium plume response to chromium extraction well CrEX-5 in a timely manner in order to guide adaptive management of the chromium plume control interim measure (IM) operational approach in that area, should it be required. The second objective is to further characterize the lateral and vertical extent of the chromium contamination in the northeastern portion of the plume. The location for R-70 was selected to achieve both of these goals and was based on modeling results as well as drilling accessibility. The R-70 location is closest to modeling run P-2 shown on Plate 1 of the “Evaluation of Chromium Plume Control Interim Measure Operational Alternatives for Injection Well CrIN-6” (LANL 2018, 603032, Plate 1).

The R-70 regional aquifer monitoring well was completed with two screens in the upper portion of the regional aquifer. The well was constructed similarly to nearby IM infrastructure wells so as to enable potential repurposing as an extraction or injection well if necessary to meet the IM objective of hydraulic control of the chromium plume. Because of terrain constraints, angled drilling was used to achieve the target location within the aquifer. The well was designed with an 8-in.-diameter casing with two 40-slot screens. Final well design was based on data from lithology logs, water level measurements, video logs, and geophysical logs. Specific well design recommendations were submitted to the New Mexico Environment Department (NMED) for review and approval before the well was constructed.

Secondary objectives included identifying and establishing water levels in perched-intermediate aquifers, collecting samples of drill cuttings for lithologic description, and acquiring borehole geophysical data. The R-70 borehole was drilled to a depth of 1100 ft measured distance (MD) down the borehole (997.0 ft below ground surface [bgs] at the well pad). During drilling, cuttings samples were collected at 5-ft intervals from ground surface to total depth (TD). Well R-70 was installed with a 41-ft screened interval at 963.0 to 1004.0 ft MD (872.9 ft to 910.0 ft bgs at the well pad) and a 20.5-ft screened interval at 1048.0 to 1068.5 ft MD (949.9 ft to 968.5 ft bgs at the well pad) within the lower Puye Formation and upper pumiceous Puye Formation. The depth to water of 948 ft MD (859.3 ft bgs at the well pad) was recorded on March 27, 2019, before well installation.

Post-installation activities included well development, extended pumping, surface completion, a geodetic survey, and sampling-system installation. Future activities will include site restoration and waste management.

The information presented in this report was compiled from field records, logbooks, and daily activity reports. Records, including field reports, field logs, and survey information, are on file at Newport News Nuclear BWXT-Los Alamos, LLC (N3B) Records Management. This report contains brief descriptions of activities and supporting figures, tables, and appendixes associated with the R-70 drilling project.

2.0 ADMINISTRATIVE PLANNING

The following documents were prepared to guide the activities associated with the drilling, installation, and development of Chromium Groundwater Project monitoring network well R-70:

- “Drilling Work Plan for Chromium Groundwater Project Regional Aquifer Monitoring Well R-70” (N3B 2018, 700107)

- “Evaluation of Chromium Plume Control Interim Measure Operational Alternatives for Injection Well CrIN-6,” New Mexico Environment Department letter to D. Hintze (DOE-EM-LA) and J. Legare (N3B) from J.E. Kieling (NMED-HWB), Santa Fe, New Mexico (NMED 2018, 700011).
- “Field Implementation Plan for Regional Aquifer Well R-70 and CrIN-6 Well Conversion,” February 2019 (N3B 2019, 700683).
- “Waste Characterization Strategy Form (WCSF) for Regional Well R-68,” Los Alamos National Laboratory, Los Alamos, New Mexico (LANL 2016, 601994)
- “Amendment #1 to the Waste Characterization Strategy Form (WCSF) for Regional Well R-68,” (LANL 2016, 602000)
- “Waste Characterization Strategy Form for Chromium Regional Aquifer Wells Installation 2018–2020” (N3B 2019, 700198)
- “Storm Water Pollution Prevention Plan, Regional Wells (R-Wells) Drilling, Los Alamos National Laboratory, revision 1,” (LANL 2014, 601293)
- “Storm Water Pollution Prevention Plan: Chromium Piping and Infrastructure Project Phase 5, R-70 Drilling and Well Installation and CrIN-6 to CrEX-5,” N3B-PLN-RGC-0002, R0, November 2018 (N3B 2019, 700684).

3.0 R-70 DRILLING ACTIVITIES

The following are descriptions of the field activities that took place during the drilling of regional aquifer monitoring well R-70 in Technical Area 05 at Los Alamos National Laboratory (LANL or the Laboratory). The location of monitoring well R-70 is shown in Figure 3.0-1.

3.1 Drilling Approach

The drilling method, equipment, and drill-casing sizes for the R-70 monitoring well were selected to retain the ability to investigate and case or seal off any perched groundwater encountered above the regional aquifer. The drilling approach ensured that a sufficiently sized drill casing was used to meet the required 2-in. minimum annular thickness of the filter pack around a 8.625-in.–outside diameter (O.D.) well screen.

Dual-rotary drilling methods using a Foremost DR-24HD drilling rig reconfigured to drill slant holes were employed to drill the R-70 borehole. The drilling rig was equipped with conventional drilling rods, tricone bits, downhole hammer bits, one deck-mounted 950–cubic feet per minute (cfm) air compressor, two Atlas Copco 1350-cfm auxiliary compressors, and general drilling equipment. A 2400-gal. flatwater rig tender, manlift, 4000-gal. water truck, inertial gyro with digital wireline counter, and two forklifts were also used for drilling activities. Light plants were provided for the night shifts.

A Hunke R36 pump hoist Holt Services, Inc. (Holt) rig was mobilized to the site after the well was constructed. This rig was used for well development, installation of temporary pump systems for extended pumping, and installation of the final Baski sampling system.

3.2 Chronological Drilling Activities for the R-70 Well

The Foremost DR-24HD drilling rig, drilling equipment, and supplies were mobilized to the R-70 drill site on March 7, 2019. The equipment and tooling were decontaminated and inspected before mobilization to the site. Site preparation included installing a spill barrier beneath the drilling rig, welding a shoe to the 20-in.-diameter casing, connecting the centralizer plate to the bottom of the drilling rig, and setting up the

discharge line from the drilling rig to the cuttings pit. Complete site setup was attained and the walkdown and acceptance for authorization to proceed inspection was completed on March 8, 2019.

R-70 was drilled as a slant hole 25° from vertical trending northeast. Drilling commenced on March 8, 2019, with advancement of the 20-in.-diameter surface casing to a depth of 57.98 ft MD using a 19-in. shrouded tricone drill bit. The surface casing was advanced through alluvium and cooling unit Qbt 1g of the Tshirege Member of the Bandelier Tuff. From March 10 to March 12, an 18-in.-diameter casing was advanced through Qbt 1g of the Tshirege Member of the Bandelier Tuff, the Otowi Member of the Bandelier Tuff, the Guaje Pumice Bed, the upper Puye Formation, and the Cerros del Rio basalt to 486.19 ft MD.

From March 14 to March 15, 2019, a 16-in.-diameter casing was installed within the 18-in.-diameter casing. Starting on March 15, a 16-in.-diameter casing was advanced using an underreaming hammer bit through the Cerros del Rio basalt, a lens of basaltic and dacitic alluvial sediment, and back into the Cerros del Rio basalt to 640 ft MD. From 640 to 643 ft MD, hard formation overtorqued the bottom hole assembly and drill string, causing the bottom hole assembly to become wedged into the borehole and unable to advance. On March 17, the 16-in.-diameter casing was tripped out and the bottom of the hole was cemented using 150 gal. of water and 30 bags of cement. From March 18 to March 22, the 16-in.-diameter casing and an underreaming hammer bit were tripped in, the cement plug was drilled out, and the 16-in.-diameter casing was again advanced through the lower part of the Cerros del Rio basalt, dacite- and quartzite-bearing fluvial beds, back into the lowest part of the Cerros del Rio basalt, and into the Puye Formation to 805.88 ft MD.

From March 23 to March 24, 2019, one 14-in.-diameter casing was installed within the 16-in.-diameter casing. From March 25 to March 26, the 14-in.-diameter casing was advanced using an underreaming hammer bit through the Puye Formation to TD at 1100 ft MD. After TD was reached, the initial water level was recorded at 948.80 ft MD and the final water level was recorded at 948.58 ft MD on March 26. Table 3.2-1 presents a record of fluid quantities used during drilling and well construction. Table 3.2-2 presents a record of water levels collected on March 27, 2019. No perched water zones were observed during drilling. The 14-in. casing shoe was cut on March 30, 2019, at 1082.26 ft MD.

Gyroscopic surveys of the slant hole were conducted at 364.24 ft MD on March 11, at 495 ft MD on March 13, at 682 ft MD on March 21, and at 1100 ft MD on March 30, 2019. A geophysical survey using gamma and neutron logging tools was conducted on March 27, 2019. Figure 3.2-1 shows the as-built diagram for R-70.

4.0 SAMPLING ACTIVITIES

This section describes the cuttings and groundwater sampling activities for monitoring well R-70. All sampling activities were conducted in accordance with applicable procedures.

4.1 Cuttings Sampling

Cuttings samples were collected from the R-70 monitoring well borehole at 5-ft intervals from ground surface to the TD of 1100 ft MD. At each interval, approximately 500 mL of bulk cuttings was collected by the site geologist from the drilling discharge hose, placed in resealable plastic bags, labeled, and archived in core boxes. Whole rock, +35 sieve-size fractions, and +10 sieve-size fractions were also processed, placed in chip trays, and archived for each 5-ft interval. Radiological control technicians screened the cuttings, and high-explosives (HE) spot testing was performed before cuttings were removed from the site per N3B-EP-DIR-SOP-10021, "Characterization and Management of Environmental Program Waste." All screening measurements were below background values and/or negative for HE. The cuttings were

delivered to N3B at the conclusion of drilling activities. The stratigraphy at well R-70 is summarized in section 5.1, and a detailed lithologic log is presented in Appendix A.

4.2 Water Sampling

4.2.1 Potential Perched Water Samples

No perched groundwater screening samples were collected because no perched water zones were observed during the drilling of R-70.

4.2.2 Well Development Samples

Two groundwater samples were collected during well development and analyzed for total organic carbon (TOC). One sample was collected from screen 2 on May 21, 2019, and one sample was collected from screen 1 on May 21, 2019. Field parameters collected for both samples included temperature, pH, dissolved oxygen (DO), oxidation-reduction potential (ORP), specific conductance, and turbidity.

4.2.3 Samples During Extended Pumping

Three groundwater screening samples were collected from each screen during extended pumping. Samples were collected from screen 1 on May 24, 2019, and from screen 2 on May 27, 2019. Two of the groundwater screening samples from each screen were submitted only for TOC analysis, and the final sample from each screen was submitted for full groundwater characterization as described in section 4.2.4. Results of key constituents in the chromium plume area, including sulfate, chromium, nitrate, tritium, and perchlorate are presented in Table B-1.1-1.

The sample from each screen that was submitted for full groundwater characterization was also analyzed for naphthalene, sulfonic acid and disulfonic acid, rhenium, and TOC. Analytical results are reported in Appendix B, Table B-1.1-1. Field water-quality parameters are presented in Table B-2.2-1.

4.2.4 Groundwater Characterization Samples

Groundwater characterization samples were collected from the completed well at the conclusion of extended pumping, from screen 1 on May 24, 2019, and from screen 2 on May 27, 2019, in accordance with the 2016 Compliance Order on Consent (Consent Order). For the first year, samples are being analyzed for a full suite of constituents in accordance with the requirements of the “Interim Facility-Wide Groundwater Monitoring Plan for the 2020 Monitoring Year, October 2019–September 2020” (N3B 2019, 700451) following extended pumping. Analytical results of these samples are in the Intellus New Mexico database and will also be reported in the next periodic monitoring report for the Chromium Investigation monitoring group.

5.0 GEOLOGY AND HYDROGEOLOGY

The geologic and hydrogeologic features encountered at R-70 are summarized below. The N3B geology task leader and project site geologist examined drill cuttings and the natural gamma-ray log to determine geologic contacts and hydrogeologic conditions. Drilling observations and water-level measurements were used to identify groundwater encountered at R-70.

5.1 Stratigraphy

Rock units for the R-70 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. Depths are reported in MD since R-70 was drilled as an angled drill hole. Figure 5.1-1 illustrates the borehole stratigraphy of monitoring well R-70. A lithologic log for R-70 is presented in Appendix A.

Alluvium, Qal (0–35 ft MD, 0–31.7 ft bgs at well pad)

Alluvium was encountered from 0 to 35 ft MD. The alluvium consists of moderately sorted and unconsolidated coarse sand. The cuttings consist of subrounded to rounded, grayish to pinkish gray, and devitrified tuff fragments mixed with pumice, quartz, and feldspar grains that are lightly coated with tuffaceous silt. Light- to dark gray angular to subangular porphyritic felsic lava fragments are present. Quartz and feldspar crystals and rounded tuff fragments dominate the fine fraction. Obsidian clasts were noted. Sorting, abundance of silt, and types of rock fragments vary with depth. The basal unit is matrix-supported, poorly sorted, and heavily coated clasts with tuffaceous silt, containing pinkish gray tuff fragments, quartz and feldspar grains, minor pumice, and sparse felsic lava fragments. Minerals are more abundant in the finer fraction (+35). The basal alluvium contains abundant white devitrified tuff in addition to the light pinkish gray tuff fragments, pumices, few grains of quartzite, and abundant quartz and feldspar minerals that are similar to the previous cuttings. The amount of white, crystal-rich, and devitrified tuff fragments similar to Qbt 1v significantly increased while the light pinkish gray tuff fragments decreased with depth. Quartz and feldspar grains lightly coated with white pulverized tuffaceous silt are abundant. Minor pumice and light gray lava fragments are present.

Tshirege Member of the Bandelier Tuff, Qbt 1g (35–60 ft MD, 31.7–54.4 ft bgs at well pad)

Cuttings are matrix-supported, poorly sorted clasts embedded in a pumiceous coarse sand that consists of white devitrified tuff fragments mixed with abundant large (>1 cm) gray pumice clasts and minor felsic lava fragments. Pulverized tuffaceous matrix lightly coats the feldspar and quartz grains. The pumice fragments are mostly gray, inflated, and partially stretched. Minor light pinkish gray clasts are also present. The finer fraction (+35) contains abundant crystals that significantly decreased with depth.

Otowi Member of the Bandelier Tuff, Qbo (60–280 ft MD, 54.5–253.8 ft bgs at well pad)

Volcaniclastic sediments and pumice beds belonging to the Cerro Toledo Formation, which normally underlies the Qbt 1g ash-flow tuff, are absent from the R-70 well. Instead, a poorly sorted crystal-rich gravelly pumiceous sand, containing abundant feldspars and quartz grains in an ashy glassy matrix, underlies the basal Tshirege Member ash-flow tuff (Qbt 1g). Two types of pumice clasts of comparable abundances are present. The light gray fraction is up to 2 cm in size, angular to subangular, and partially inflated, whereas the other type is subrounded and appears reworked and coated by light brown tuffaceous silt. Lithic lava fragments are sparse. Coarser (>4 cm) and less stained pumices were noted. The amount of light gray and medium- to dark gray lava fragments significantly increased, starting at the 80- to 85-ft interval.

There was no recovery of cuttings from the 100–105-ft interval, but the next sequence of cuttings that followed are lithic-rich ash-flow tuff, containing abundant subrounded to rounded medium gray and pale red dacite lava fragments mixed with abundant rounded gray pumices and minor perlite and obsidian fragments. Pumice clasts lightly coated with light brown silt decreased with depth. Rendija Canyon lava fragments are common. In successive cuttings, the amount of lithic lava fragments are more abundant than pumices and crystals, which are generally sparse. Pale red Rendija Canyon dacite clasts appear to

be more abundant than the other lava fragments. Sparse perlite fragments also persisted with depth. Occasionally, rusty pumice clasts were noted.

In most cases, pumice clasts are coarser in size than lava fragments, but the amount of pumice continued to vary with depth. In some cases, the cuttings contain more pumice clasts than lava fragments and vice versa. Rendija Canyon lava fragments as well as crystals are sparse, and few perlite grains are present. At the base of the sequence, the pumices are coarser, inflated, relatively stretched, and more abundant than the medium- to dark gray lava fragments.

Guaje Pumice Bed, QBog (280–300 ft MD, 253.8–271.9 ft bgs at well pad)

The Guaje Pumice Bed consists of dense white pumice fragments mixed with abundant medium- to dark gray, subrounded to rounded dacite lava fragments and minor light gray and banded rhyolite. The bulk of the white pumice clasts are less inflated, coarser, and more rounded than the lava fragments. Partially oxidized dacite lava fragments coated with reddish orange stain are common. A few Rendija Canyon lava fragments are present. Crystals are coarse and abundant.

Upper Puye Formation, Tpf (300–323 ft MD, 271.9–292.8 ft bgs at well pad)

Abundant clast-supported, rounded, and indurated light brown silty sandstone mixed with medium to dark dacite lava and pumice fragments are common. The brown sandstone fragments decreased with depth, whereas the amount of light- to medium gray felsic lava fragments significantly increased. Crystals are generally sparse.

Cerro del Rio basalt, Tb4 (323–500 ft MD, 292.8–453.2 ft bgs at well pad)

Dark gray basalts mixed with abundant light brown silty sandstone fragments mark the transition to the Cerros del Rio basalt sequence. The basalt fragments are porphyritic, vesicular, massive, dark gray, and microcrystalline with fractured and partially altered mafic minerals of pyroxene, olivine, and plagioclase. The 375–380-ft depth interval yielded no cuttings. From 380–410-ft depth, comparable amounts of medium- and dark gray weathered and oxidized, porphyritic, and vesicular basalt fragments mixed with equally abundant reddish brown scoriaceous clasts dominate the cuttings. The medium gray and reddish brown oxidized lava fragments persisted with depth. In the 410- to 435-ft interval, the amount of reddish brown oxidized fragments significantly increased, but scoria is rare. The reddish brown lava fragments started to decrease with depth, and medium gray porphyritic and crystalline fragments became dominant. Partially altered dark gray basalt fragments are also present. The amount of dark gray basalt continued to increase with depth, mainly in the 480- to 490-ft interval. Significant amounts of partially altered porphyritic and massive medium gray basalt fragments mixed with minor reddish brown clasts are also common.

Mixed basalt and dacite alluvial sediments (500–520 ft MD, 453.2–471.3 ft bgs at well pad)

The bulk of the cuttings consist of light gray dacite fragments contaminated by medium gray porphyritic and microcrystalline basalt lava clasts. The light- to medium gray basalt is more abundant compared with the dacite clasts that decrease with depth. Other minor rock types include Rendija Canyon dacite, perlite, banded rhyolite, and reddish brown oxidized basalt fragments. Different types of dacite and rhyolite fragments were noted. The dacite fragments are subrounded to rounded, fine-grained, and porphyritic, containing coarse quartz, feldspar, and few mafic minerals.

Cerro del Rio basalt, Tb4 (520–660 ft MD, 471.3–598.2 ft bgs at well pad)

The bulk of the cuttings consists of abundant microcrystalline and porphyritic light- to medium gray, dark gray, and fine-grained reddish brown basalt fragments with no apparent dacite or rhyolite lava clasts.

Fractured and altered olivine and pyroxene phenocrysts are common in the grayish and dark gray basalt fragments. The reddish brown oxidized lava fragments are somewhat scoriaceous, partially weathered, and less abundant, whereas the amount of the fairly vesicular and partially weathered dark gray basalts increased with depth. There was no recovery of cuttings from the 580- to 585-ft interval, but successive cuttings contained types and amounts of basaltic clasts similar to the overlying samples.

At the 600- to 605-ft depth interval, different lithic fragments consisting of minor reddish and dark gray scoria fragments and pinkish gray porphyritic lava clasts similar to the Rendija Canyon dacite occur along with the dominant light gray and minor sparsely vesicular and altered dark gray basaltic lava fragments. The pinkish gray clasts mostly persisted within the 600- to 620-ft depth interval. Light- to medium- and dark gray basalt fragments mixed with minor reddish brown fractions and a few grains of light pinkish gray claystone and pinkish gray dacite lava clasts continued to occur within the cuttings. The 645- to 660-ft depth interval contained similar basaltic cuttings plus some medium gray cement fragments used to stabilize the well.

Dacite- and quartzite-clast-bearing fluvial sediments (660–680 ft MD, 598.2–616.4 ft bgs at well pad)

The cuttings from this interval consist of light gray and pale red dacite, quartzite, and sandstone; coarse quartz and feldspar minerals; and minor basaltic fragments. The dacite clasts are mostly subrounded to rounded and larger in size (>0.5 in.) compared with the basalt fragments. The minerals and dacite fragments are partially coated with light brown and white crust. Rendija Canyon dacite fragments are common.

Cerro del Rio basalt, Tb4 (680–734 ft MD, 616.4–665.3 ft bgs at well pad)

Comparable amounts of dark- and light- to medium gray basalt fragments with minor dacite and light pinkish gray claystone fragments compose the cuttings. The 690- to 695-ft depth interval yielded no cuttings. However, successive cuttings consist of basaltic clasts that are similar to previous samples. Some of the basalt fragments are heavily coated with dust from pulverized rocks. The lower part of the basaltic lava sequence is dominated by sparsely vesicular and partially weathered dark gray fragments mixed with subordinate light- to medium gray porphyritic crystalline lava clasts. Few reddish brown oxidized lava fragments are present. Minor light pinkish gray claystone fragments occur in the 725- to 740-ft depth interval. Abundant sparsely vesicular and partially weathered dark gray basaltic cuttings mixed with minor light- to medium gray basalt clasts dominate the basal cuttings.

Puye Formation, Tp (734–1050 ft MD, 665.3–951.7 ft bgs at well pad)

The chip trays from the 740- to 760-ft depth interval contain two types of abundant basaltic lava and minor dacite clasts dominated by Rendija Canyon lava fragments. The 760- to 765-ft depth interval yielded no cuttings, and the first appearance of abundant Puye Formation dacite fragments occurred at the 765- to 770-ft depth interval. However, the gamma log defines the contact between the Cerros del Rio basalts and the Puye Formation at about 734 ft depth. Detailed examination of bulk cuttings simultaneously collected with the chip-tray samples from the 730- to 760-ft interval indicate the first appearance of abundant matrix-supported gravelly sand dominated by dacite lava fragments within the 730- to 740-ft depth interval. This observation is consistent with the stratigraphic contact established by gamma log data at 734 ft MD. Thereafter, the Puye Formation cuttings contain comparable amounts of light- to medium gray and pale red dacite lavas dominated by Rendija Canyon fragments mixed with minor basalt clasts as contaminants. Similar lithologic types continued to occur within the 765- to 780-ft depth interval. There was no recovery of cuttings from the 820- to 830-ft interval, but pale red fragments, which represent the Rendija Canyon dacite, appear to dominate with depth. The bulk cuttings from the base of the Puye Formation consist of pale red and medium gray dacite lava fragments, minor white lava clasts, and sparse quartz and feldspar grains.

Pumiceous Puye Formation, Tp (1050–1100 ft MD, 951.7–997.0 ft bgs at well pad)

The cuttings contain at least two types of abundant lava fragments, minor pumices, and sparse minerals. The lava fragments consist of subrounded to rounded light- to medium gray and pale red porphyritic dacite clasts that are coarser (i.e., up to 0.25 in.) than the pumices. The pale red fragments are more abundant and belong to the Rendija Canyon dacite. White pumice fragments partially covered by light reddish brown silt are common. The amount of pumices significantly increased with depth. Most pumice fragments are lightly covered by light brown silt. Quartz and feldspar grains are generally sparse.

5.2 Groundwater

Drilling at R-70 proceeded without any indications of groundwater until approximately 948 ft MD, based on borehole interrogation at each rod/casing connection. No intermediate perched water was observed in the R-70 borehole. Regional groundwater was first observed at approximately 948 ft MD, near the predicted depth of 900 ft MD, during drilling and advance of the 12-in. casing. The 12-in. casing subsequently was advanced to TD at 1100 ft MD. Table 3.2-2 presents a summary of water levels recorded in R-70 before well development.

6.0 BOREHOLE LOGGING

On March 27, 2019, geophysical logs were run by Jet West Geophysical Services, LLC, after water levels had been recorded. The geophysical logging safety meeting and pre-task discussion occurred at 10:11 a.m., and the downhole tool was configured to run into the hole at 10:26 a.m. From 10:26 to 11:20 a.m., the geophysical tool was run into the bottom of the hole, and the logging run was completed by 12:35 p.m. The log suite that was run included a gamma log and a neutron log.

On March 30 the gyroscopic survey of the borehole was completed. The geophysical logs run are shown in Table 6.0-1. Figure 6.0-1 shows the gamma log overlain on the stratigraphic contacts. The geophysical logs and the gyroscopic survey are in Appendix C, on CD included with this document.

7.0 WELL INSTALLATION R-70 MONITORING WELL

The R-70 dual-screen regional well was installed between April 5 and May 15, 2019.

7.1 Well Design

The R-70 well was designed in accordance with Consent Order guidance, and NMED approved the final well design before the well was installed (Appendix D). The well was designed with two screened intervals, the first between 963.0 ft and 1004.0 ft MD and the second between 1048.0 ft and 1068.5 ft MD, to monitor groundwater quality within two discrete zones of the regional aquifer.

7.2 Well Construction

From April 2 to April 5, 2019, the workover rig, well components, and initial well construction materials were mobilized to the site. Stainless-steel well casing, screens, and tremie pipe were thoroughly cleaned. The stainless-steel well casing and screens of 8-in. diameter were tested for eccentricity, with only one joint of casing being rejected because of conic deviation.

The R-70 monitoring well was constructed of 8-in.-inside diameter (I.D.), 8.625-in.-O.D. schedule 40 pickled and passivated A304 stainless-steel beveled casing fabricated to American Society for Testing and Materials A312 standards. The top screened section used four 10-ft length 8-in. I.D. rod-based 0.040-in. slot wire-wrapped screens to make a 40-ft-long upper screened interval. The bottom screened section used two 10-ft length screens identical to those described above to make a 20-ft-long lower screened interval. The screens were constructed with welded tabs at each end, between all rods and weld ring connections, to increase the rotational strength of the screen. All individual casing and screen sections were welded together using compatible stainless-steel welding rods. The screens were manufactured by Johnson Screens, an Aqseptence Group company. A nominal 2-in. steel tremie pipe was used to deliver backfill and annular fill materials downhole during well construction.

Well screens and well casing were installed in the borehole from April 5 to 10, 2019. Stainless-steel centralizers were welded to the well casing approximately 2.0 ft above and below each screened interval. Figure 3.2-1 presents an as-built schematic showing the construction details for the completed well.

While the 14-in.-diameter casing was rotated on April 12, 2019, it was not possible to raise the casing. From April 13 to 14, 2019, the drill rig was diagnosed for the cause of the difficulty in pulling back the 14-in. casing, and repairs were unsuccessfully attempted. From April 14 to 16, 2019, the drill rig was demobilized from the R-70 site and transferred to Albuquerque for repairs. On April 20, 2019, the repaired DR-24HD drilling rig was mobilized to R-70 in preparation for finishing well completion. The 14-in.-diameter casing pull-back was started on April 26, 2019, during installation of the sand pack for the lower screen. Tripping out the 14-in. casing was completed on May 6, 2019. The 16-in.-diameter casing pull-back was started on May 7, 2019, during installation of the bentonite seal and was completed on May 10, 2019. The 18-in.-diameter casing pull-back was started on May 13, 2019, during installation of the bentonite seal and was completed on May 15. During tripping out of BQ rod, 613.11 ft of BQ rod was lost down the hole on May 9, 2019. After several attempts, 613.11 ft of BQ rod was fished out of the annulus on May 11, 2019.

Annular materials were installed in the borehole from April to May 15, 2019. The top of slough in the bottom of the borehole was tagged at 1080.6 ft MD (979.5 ft bgs at the well pad) on April 21, 2019. Starting on April 22, 2019, bentonite Pel-Plug was installed from 1080.6 ft to 1073.6 ft MD (979.5 ft to 973.1 ft bgs at the well pad), 10/20 filter sand pack was installed from 1073.6 ft to 1043.0 ft MD (973.1 ft to 945.4 ft bgs at the well pad), fine sand collar of 20/40 fine sand from 1043.0 to 1040.4 ft MD (945.4 ft to 943.0 ft bgs at the well pad), the middle bentonite seal was installed from 1040.4 ft to 1009.4 ft MD (943.0 ft to 914.9 ft bgs at the well pad), the upper screen 10/20 sand filter pack was installed from 1009.4 ft to 912.7 ft MD (914.9 ft to 827.3 ft bgs at the well pad), and 20/40 fine sand collar was installed from 912.7 ft to 911.0 ft MD (827.3 ft to 825.7 ft bgs at the well pad). Bentonite seal was installed from 911.0 ft MD to 60.4 ft MD (825.7 ft to 54.7 ft bgs at the well pad) and completed on May 15, 2019. Cement was installed from 60.4 ft to 3 ft MD (54.7 ft to 2.7 ft bgs at the well pad) on May 17, 2019. Figure 3.2-1 presents the as-built diagram of monitoring well R-70, with borehole stratigraphy and technical completion details. Table 7.2-1 presents the annular fills used to build monitoring well R-70.

8.0 POST-INSTALLATION ACTIVITIES

Following well installation at R-70, the well was developed and extended pumping was conducted. A Baski dual-screen access port valve sampling system was installed, the wellhead and surface pad were constructed, and a geodetic survey was completed. Disposition of the drill cuttings will follow the NMED-approved decision trees for land application of drill cuttings. Disposition of groundwater will follow development/extended pumping decision tree requirements. Table 8.0-1 summarizes groundwater samples collected during well development and extended pumping of monitoring well R-70.

8.1 Well Development

The well was developed between May 15 and 20, 2019. Bailing was performed in two steps on May 15 and 16. First, sand was bailed from the sump, with 9 to 13 gal. of sand and minor native clay removed. Next, screens 1 and 2 were swabbed and bailed to remove fine sediment in the filter pack and well sump. This activity resulted in 14 bails of 33.5 gal. each of mostly turbid water but no sand. Final well development, performed with a submersible pump, involved lowering and raising the pump intake through the screen interval.

The swabbing tool employed was a 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 bailing tool had a total capacity of approximately 13.5 gal. of water. The bailer was lowered to the bottom of the well 14 times, filled, and withdrawn from the well. Approximately 189 gal. of groundwater was removed during bailing activities.

After swabbing and bailing 435.5 gal. on May 15 and 16, a 30-horsepower (hp) Grundfos submersible pump was deployed into the well. On May 19, both screens were developed without using an intermediate packer by producing 70,241 gal. of water. The upper screen (screen 1) was developed on May 20 with 13,164 gal. pumped, and the lower screen (screen 2) was developed with 10,989 gal. pumped. Both screens were developed by step-pumping at 1- to 2-ft intervals from the top of screen 1 to the bottom of screen 2 (from 962 ft to 1068 ft MD). On May 20, the shroud intake was set at 1011.53 ft MD, the lower screen was trial tested using the development pump and components in the well, and development field parameter data were collected to meet the criteria for completion of well development for screen 2, with 10,989 gal. pumped. From May 20 to 21, the upper screen was trial tested and development field parameter data were collected to meet the criteria for completion of well development for screen 1, with 24,460 gal. pumped. A water sample was collected from the lower screen at 5:20 p.m. on May 21. Field parameter data are discussed in greater detail in Appendix B.

During development, the pumping rate in screen 1 varied from 97.5 to 129.7 gpm. The pumping rate in screen 2 varied from 49.7 to 115.6 gpm. The average pumping rates for screens 1 and 2 were 108.5 and 105.4 gpm, respectively. Approximately 104,977 gal. of groundwater (flow meter reading) was purged with the submersible pump during well development (105,412.5 gal. with the submersible pump and the bailer). Table 8.1-1 shows the volume of water produced during well development.

Total Volumes of Introduced and Purged Water

During drilling approximately 24,375 gal. of potable water was added from 824.94 ft above the top of the regional aquifer to the TD of the borehole at 1100 ft MD. Approximately 27,449.4 gal. was added during construction of the well and installation of the annular fill. In total, approximately 51,824.4 gal. of potable water was introduced to the borehole below 124.49 ft MD during project activities.

Approximately 105,412.5 gal. of groundwater was purged at R-70 during well development activities. Another 1626 gal. was purged during the setup for the extended pumping; 130,791 gal. was purged from screen 1; and 129,424 gal. was purged from screen 2 during extended pumping for a total of 261,841 gal. The total amount of groundwater removed during post-installation activities was 367,254 gal.

8.1.1 Well Development Field Parameters

During the pumping stage of well development, temperature, pH, DO, ORP, and specific conductance in $\mu\text{S}/\text{cm}$ were measured. The required TOC and turbidity values for adequate well development are less than 2.0 parts per million and less than 5 nephelometric turbidity units (NTU), respectively.

Final development sample WS 05-19-181466 (WSP-TOC 250 mL) was collected and final field parameters were measured by collecting an aliquot of groundwater from the discharge pipe with the use of a flow-through cell. In screen 1 the final development parameters at the end of development were pH of 8.15, temperature of 21.4°C, specific conductance of 191.7 µS/cm, DO of 7.76 mg/L, ORP of 221.7 mV, and turbidity of 1.4 NTU. In screen 2 the final parameters at the end of well development were pH of 8.13, temperature of 21.4°C, specific conductance of 290.4 µS/cm, DO of 6.76 mg/L, ORP of 198.3 mV, and turbidity of 0.72 NTU. Table 8.1-2 shows field parameters measured during well development.

8.2 Extended Pumping

Extended pumping operations were conducted at R-70 between May 20 and 28, 2019 (including trial testing of both screens on May 20 using the well development pump and packers). Several initial short-duration tests produced 1626 gal. of water on May 22. A 24-hr extended pumping operation was then performed for each screened interval. From May 23 to 24, 130,791 gal. of groundwater was produced from screen 1. From May 26 to 27, 129,424 gal. of groundwater was produced from screen 2. Table 8.2-1 shows the volume of water produced during extended pumping.

A 10-hp pump was used for the extended pumping operations. Approximately 261,841 gal. of groundwater was purged during the extended pumping. Parameters and sample analytical results are presented in Appendix B.

8.3 Dedicated Sampling System Installation

The Hunke R36 Holt rig was mobilized to the R-70 well site and the dedicated sampling system was delivered and inspected at the site from September 24 through September 27, 2019. The inspection revealed reasons to return parts of the sampling system to the manufacturer. The dedicated sampling system for R-70 was returned to the site on October 12 and the temporary packer was removed from the well (the packer had been set on May 28, 2019). From October 12 through 15, the sampling system was unsuccessfully installed because it got stuck in a tight spot within the upper screen. On October 16 and 17, the sampling system was pulled out of the well. A video camera was lowered into the well on October 18 to inspect the well screen for tight spots and damage, showing no damage, and a temporary packer was set at 1033 ft MD on October 19, 2019. The Baski sampling system was successfully installed from October 28 through 31, with the electrical control panel installed and tested on November 2 and 4, 2019. When the temporary packer was out of the well, groundwater communication potentially occurred between screens 1 and 2. The temporary packer was out of the well for 152.67 hr between October 12 and October 18, 2019, and for 78.15 hr between October 28 and October 31, 2019. An estimated minimum of 6000 gal. of water needs to be purged in order to counteract the effects of this cross-flow between screens 1 and 2.

The sampling system is a Baski, Inc.-manufactured system that uses a single 5-hp, 4-in.-O.D. environmentally retrofitted Grundfos submersible pump capable of purging each screened interval discretely via pneumatically actuated access port valves. One 1-in. stainless-steel check valve was installed within the pump shroud above the pump body. A weep valve was installed at the bottom of the uppermost pipe joint to protect the pump column from freezing. The system includes a Viton-wrapped isolation packer between screened intervals. Pump riser pipes consist of threaded and coupled non-annealed (pickled), passivated 1-in.-diameter stainless steel. Two 1-in.-diameter polyvinyl chloride (PVC) tubes were installed along with, and banded to, the pump riser for dedicated transducers. The tubes are 1-in.-I.D. flush-threaded schedule 80 PVC pipe. The upper PVC transducer tube is equipped with two 5-ft sections of 0.010-in. slot screen with a threaded end-cap at the bottom of the tube. The lower PVC transducer tube is equipped with a flexible nylon tube that extends from a threaded end-cap at the

bottom of the PVC tube through the isolation packer to measure water levels in the lower screen. Two In-Situ Inc. Level Troll 500 transducers were installed in the PVC tubes to monitor water levels in each screened interval.

Installation and construction details for the monitoring well R-70 sampling system are presented in Figure 8.3-1a. Technical notes for the installation and construction of the R-70 sampling system are presented in Figure 8.3-1b. The performance curve of the submersible pump is presented in Figure 8.3-1c. Appendix E is the R-70 sampling system report.

8.4 Wellhead Completion

A 16-in.-O.D. steel protective casing with a locking lid was installed around the stainless-steel riser on July 17 to a depth of 3 ft MD. A reinforced concrete surface pad, 10 ft × 10 ft × 10 in. thick, was installed at the R-70 wellhead from July 16 to 22, 2019. The concrete pad was slightly elevated above the ground surface and crowned to promote runoff. The pad provides long-term structural integrity for the well. A brass survey pin was embedded in the northwest corner of the pad on July 22. A total of four removable bollards, painted and covered with yellow bollard covers for protection and visibility, were set at the outside edges of the pad to protect the well from traffic.

8.5 Geodetic Survey

A New Mexico licensed professional land surveyor conducted a geodetic survey on November 1, 2019. The survey data conformed 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 are expressed relative to the New Mexico State Plane Coordinate System Central Zone (North American datum [NAD] 83); elevation is expressed in feet above mean sea level (amsl) using the National geodetic Vertical datum of 1929. Survey points include ground surface elevation near the concrete pad, the top of the brass pin in the concrete pad, the top of the well casing, and the top of the protective casing for the R-70 monitoring well. Survey coordinates are shown in Table 8.5-1.

8.6 Waste Management and Site Restoration

Waste generated from the R-70 project included drilling fluids, purged groundwater, drill cuttings, decontamination water, New Mexico Special Waste, and contact waste. A summary of the waste characterization samples collected during drilling, construction, development, and sample system installation at the R-70 well is presented in Table 8.6-1.

All investigation-derived waste (IDW) generated during well reconfiguration activities will be managed in accordance with applicable standard operating procedures (SOPs). These SOPs incorporate the requirements of all applicable U.S. Environmental Protection Agency and NMED regulations, U.S. Department of Energy orders, and N3B requirements. The SOP applicable to the characterization and management of IDW is N3B-EP-DIR-SOP-10021, "Characterization and Management of Environmental Program Waste."

All waste streams produced during drilling and development activities will be sampled and characterized in accordance with the "Waste Characterization Strategy Form for Chromium Regional Aquifer Wells Installation 2018-2020 (N3B 2019, 700198), which was approved per requirements of N3B-EP-DIR-SOP-10021, "Characterization and Management of Environmental Programs Waste." This WCSF provides detailed information on IDW characterization methods, management, containerization, and potential volumes. R-70 construction materials (primarily PVC and stainless steel); fluids (purge and

decontamination waters); contact waste (gloves, paper towels, plastic and/or glass sample bottles); and cement chase water will be the primary waste streams generated during the well development and drilling activities. The fluids produced will be sampled and analyzed for the suite of constituents listed in the WCSF and disposed of as appropriate.

9.0 DEVIATIONS FROM PLANNED ACTIVITIES

Drilling, sampling, and well construction at R-70 were performed as specified in the NMED-approved "Drilling Work Plan for Chromium Groundwater Project Regional Aquifer Monitoring Well R-70," (N3B 2018, 700107) with the exception of the following deviation.

- From 640 to 643 ft MD, hard formation over-torqued the bottom hole assembly and drill string. As a result, the 16-in.-diameter casing was tripped out and the bottom of the hole was cemented on March 17, 2019. From March 18 to March 22, the 16-in.-diameter casing and an under-reaming hammer bit were tripped in and the cement plug was drilled out. Advancing the 16-in. casing from this point onward was continued as planned, through the lower part of the Cerros del Rio basalt, the dacite- and quartzite-bearing fluvial beds, the bottom of the Cerros del Rio basalt, and the Puye Formation.

10.0 ACKNOWLEDGMENTS

Holt Services, Inc., drilled and installed the R-70 monitoring well.

David C. Schafer supervised installation and testing of the Baski dual-zone sampling system.

11.0 REFERENCES AND MAP DATA SOURCES

11.1 References

The following reference list documents cited in this report. Parenthetical information following each reference provides the author(s), publication date, and ERID, ESHID, or EMID. This information is also included in text citations. ERIDs were assigned by the Laboratory's Associate Directorate for Environmental Management, Safety, and Health (IDs 600000 through 699999); and EMIDs are assigned by N3B (IDs 700000 and above). IDs are used to locate documents in N3B's Records Management System and Master Reference Set. The NMED Hazardous Waste Bureau and N3B maintain copies of the Master Reference Set. The set ensures that NMED has references to review documents. The set is updated when new references are cited in documents.

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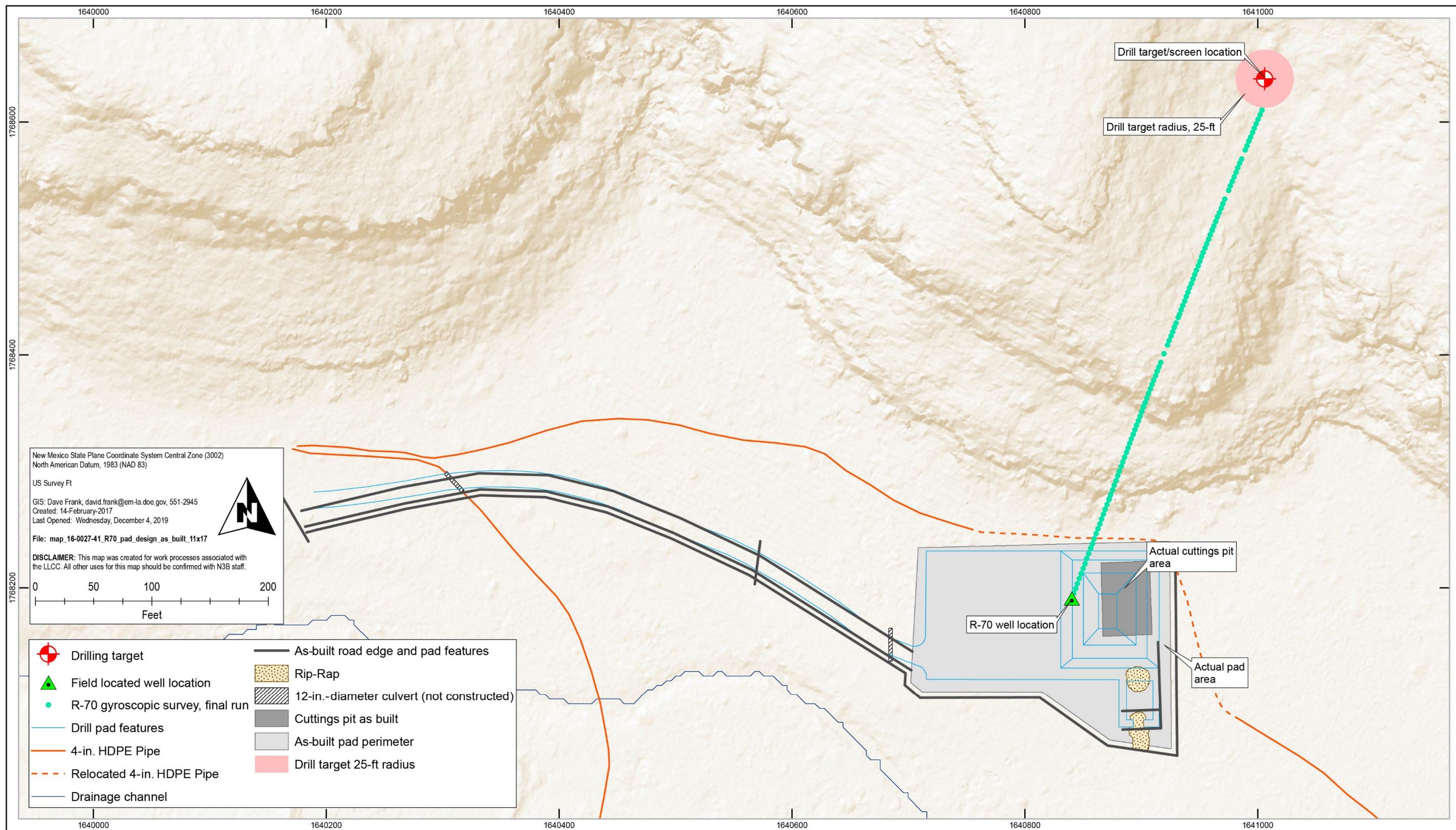


Figure 3.0-1 Location of regional monitoring well R-70

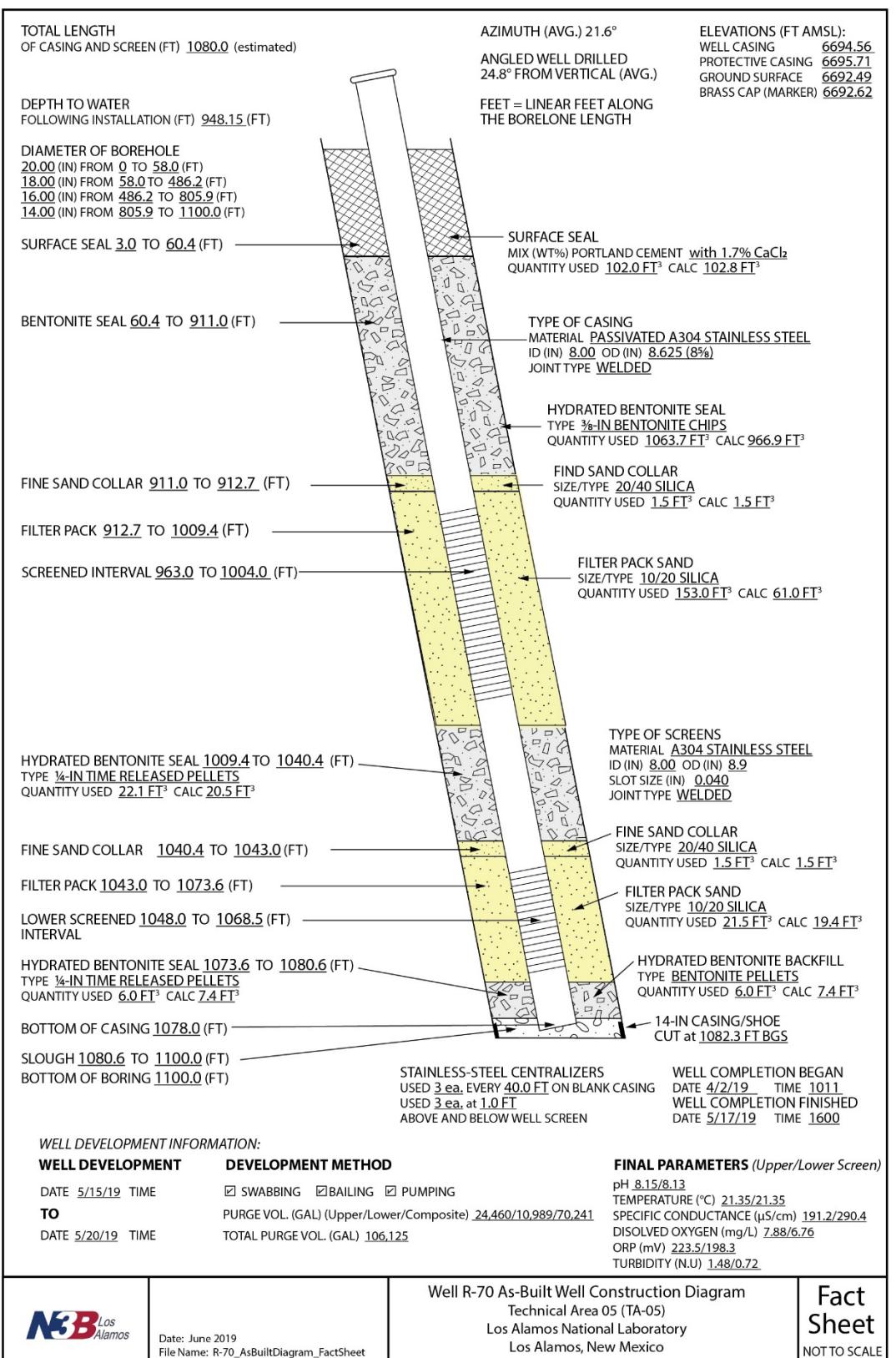
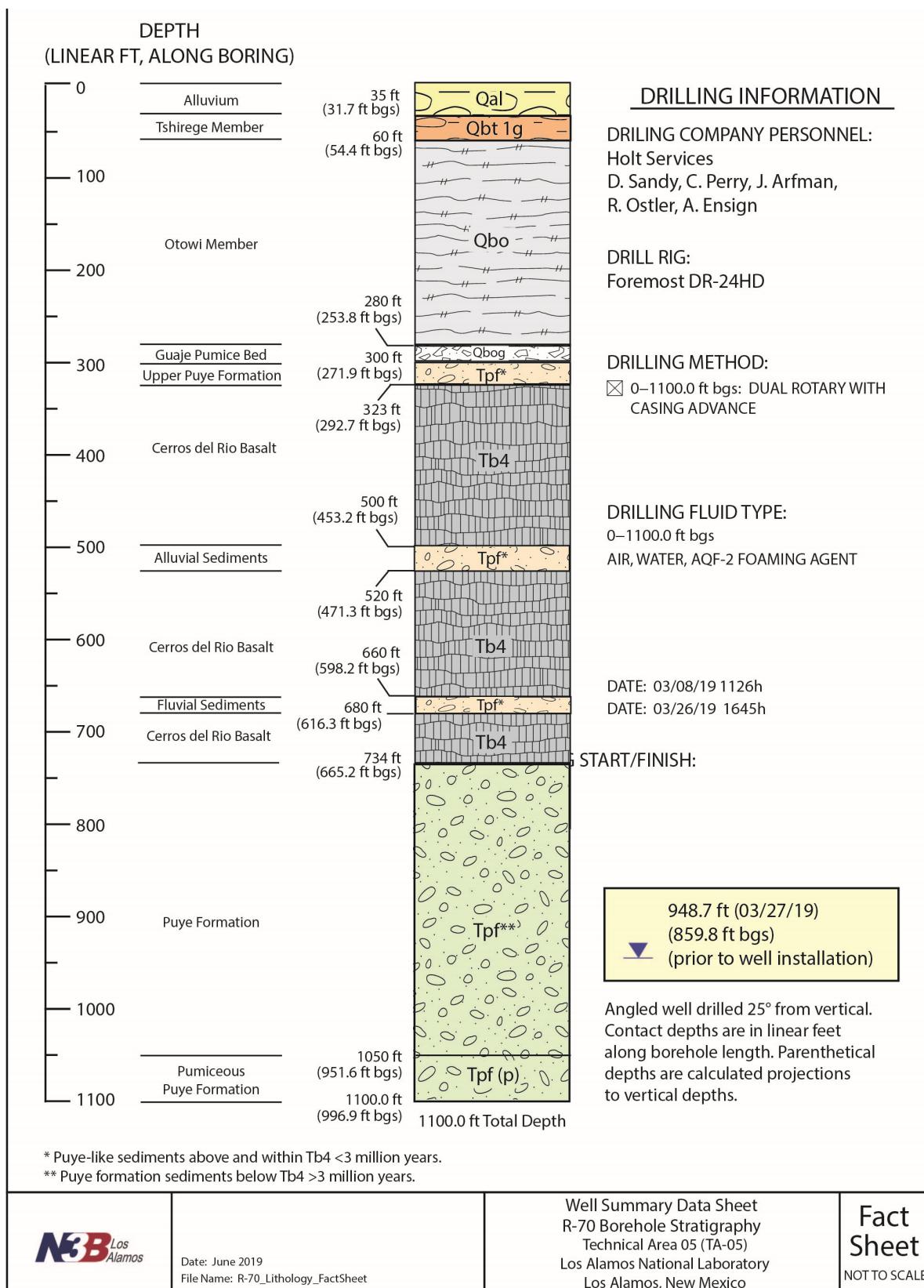
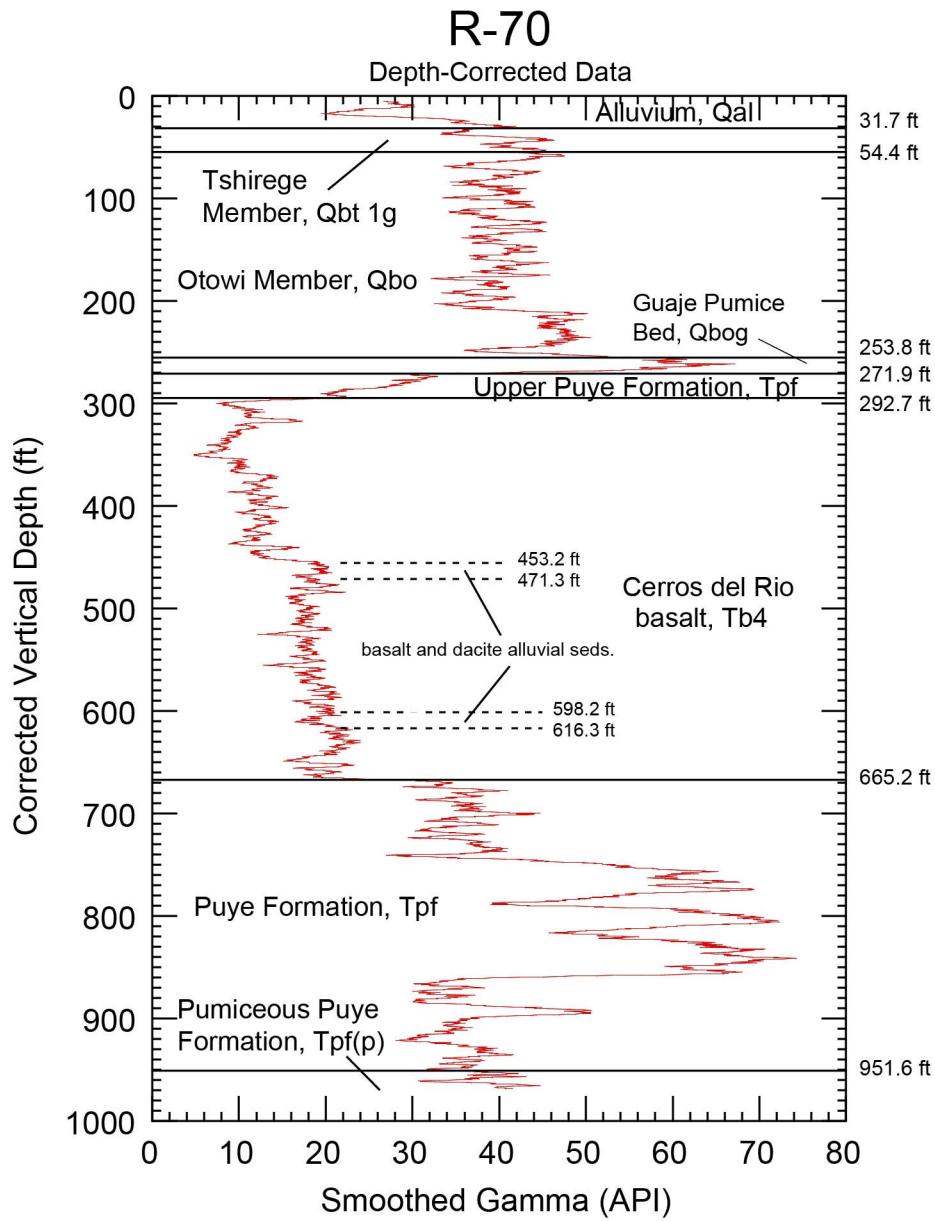


Figure 3.2-1 Monitoring well R-70 as-built construction diagram and technical well completion details

**Figure 5.1-1 Monitoring well R-70 borehole stratigraphy**

	Date: June 2019 File Name: R-70_Lithology_FactSheet	Well Summary Data Sheet R-70 Borehole Stratigraphy Technical Area 05 (TA-05) Los Alamos National Laboratory Los Alamos, New Mexico	Fact Sheet NOT TO SCALE
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Note: The Guaje Pumice Bed shows the strongest log signature of all, although both the upper and lower contacts of the Cerros del Rio Basalt are also quite noticeable.

Figure 6.0-1 Gamma log compared with borehole stratigraphy

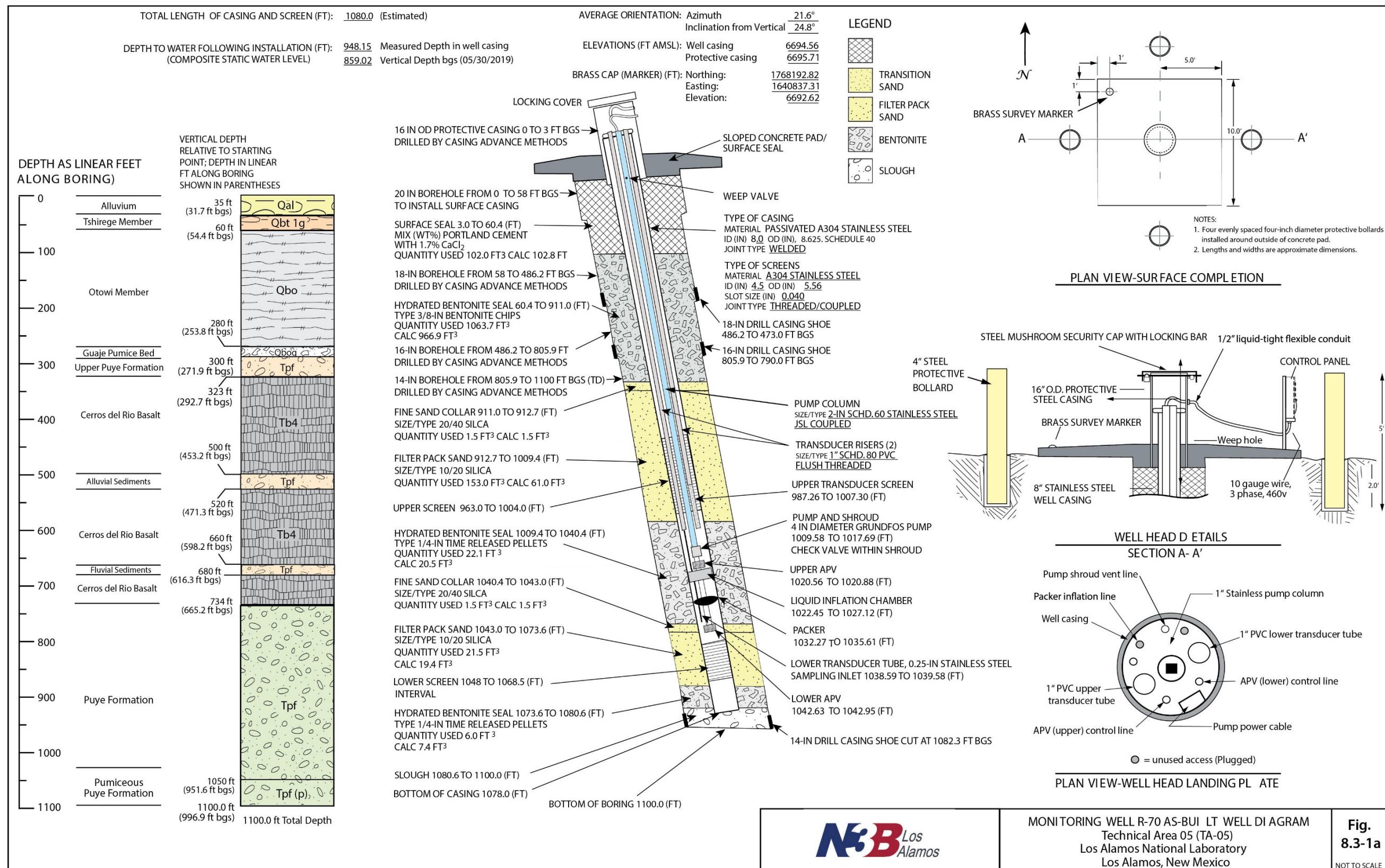


Figure 8.3-1a Installation and construction details for the R-70 sampling system

R-70 SAMPLING SYSTEM DESIGN PACKAGE TECHNICAL NOTES:

SURVEY INFORMATION

Gyroscopic Survey
 Average Azimuth: 21.6°
 Average Inclination: 24.8°
 (from vertical)

Brass Marker
 Northing: 1768192.82
 Easting: 1640837.31
 Elevation: 6692.62

Well Casing
 Northing: 1768186.69
 Easting: 1640838.04
 Elevation: 6694.56

SAMPLING SYSTEM MATERIALS AND PRODUCT LIST

Pump: Grundfos, OK-10550-930-70
 Pump motor: Franklin Electric, 2HP, 3-phase, 460V
 Motor cable: 10g, 3 lead with ground, double jacket

Discharge column: 2-inch, Johnson Spline Lock (JSL) coupled, schedule 60, non annealed A304 stainless steel

Check valve: Swagelok, 1-in. male X male, 316 stainless steel, mod. SS-CHM16-1, 5000 psi

Couplings: 2.375 NUE/Nitronic 60 and 2.375 JSL

Guage tubes: 1 inch PVC

Banding: ¾-inch 201 stainless steel with 201 stainless steel buckles

Thread Compound: Jet Lube, V2

Sampling tree: A304 schedule 40 stainless steel 1-inch nipples, elbows, cross, bushings, hose barbs

DEDICATED SAMPLING SYSTEM

Pump (shrouded)
 Make: Grundfos
 Model: OK-10550-930-70
 S/N: P11832 1001
 environmental retrofit
 Base of shroud at 1017.69 ft bgs

Motor
 Make: Franklin Electric
 Model: 23432786020
 S/N: 19A14-18-00699C

Pump Shroud
 A304 stainless steel, 4.25-in x 0.0120-in, wall tube, Baski Inc. custom; at 1009.58-1017.69 ft bgs

Pump Column
 2-in. JSL coupled schedule 60 non annealed
 A304 stainless steel tubing

Upper Transducer Tube
 1-in. (I.D.) flush threaded schedule 80 PVC pipe with 10-ft (long) 0.020-in. slotted screen at 987.26 to 1007.30 ft bgs

Lower Transducer Tube
 1-in. (I.D.) flush threaded schedule 80 PVC pipe to 1007.3 ft bgs. Lower transducer tube made of 0.25-in stainless steel tube that extends from a threaded end-cap at the bottom of the PVC tube through the isolation packer. Female bottom cap. Stainless steel screen at 1038.59 to 1039.58 ft bgs.

Upper Transducer
 In Situ Level Troll 500 (30 psig), gauged (vented)
 S/N: 694581 (Manufactured 2019-10)

Lower Transducer
 In Situ Level Troll 500 (30 psig), gauged (vented)
 S/N: 694573 (Manufactured 2019-10)

Note: BGS (below ground surface) in this figure refers to linear ft along slanted well casing.

	R-70 SAMPLING SYSTEM DESIGN PACKAGE TECHNICAL NOTES Technical Area 05 (TA-05) Los Alamos National Laboratory Los Alamos, New Mexico	Fig. 8.3-1b
Drafted By: N3B Project Number: 86306	Date: October 10, 2019 Filename:	NOT TO SCALE

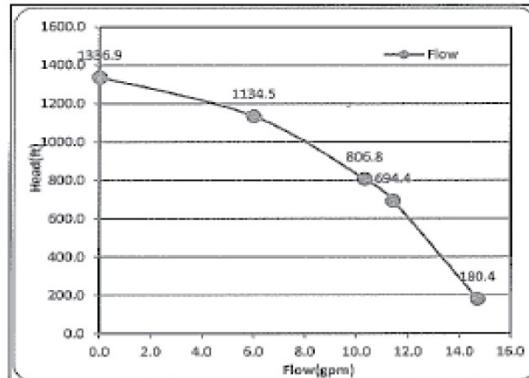
Figure 8.3-1b Technical notes for the installation and construction of the R-70 sampling system

VERIFIED PERFORMANCE TEST SHEET

DATE: 07/24/2019
 CUST: uerque Pipe & S
 WO #: _____
 TEST#: 1

PUMP

MFR: GRUNDFOS
 MN: 10s50-930
 SN: P11832 1001

**MOTOR**

MFR: FRANKLIN HP: _____ HZ: _____
 MN: _____ VOLTS: _____ PHASE: _____
 SN: 9A14-18-00699 AMPS: _____ SFA: _____

TEST POINT	FLOW GPM	HEAD FT	HEAD PSI	AMPS L1	AMPS L2	AMPS L3
1	14.7	180.4	78.1	6.0	6.9	6.9
2	11.4	694.4	300.6	6.4	7.3	7.2
3	10.3	806.8	349.3	6.3	7.3	7.2
4	6.0	1134.5	491.1	5.8	6.7	6.6
5	0.0	1336.9	578.7	4.4	5.4	5.2
6						
7						
8						
9						
10						

Tested By: jw

 Drafted By: N3B Project Number: 86306	R-70 SAMPLING SYSTEM DEDICATED PUMP PERFORMANCE CURVE Technical Area 05 (TA-05) Los Alamos National Laboratory Los Alamos, New Mexico	Fig. 8.3-1c <small>NOT TO SCALE</small>
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Figure 8.3-1c Performance curve for the submersible pump

Table 3.2-1
Fluid Quantities Used During R-70 Drilling and Well Construction

Date	Depth Interval (ft MD ^a)	Water (gal.)	Cumulative Water (gal.)	AQF-2 Foam (gal.)	Cumulative AQF-2 Foam (gal.)
Drilling					
3/9/2019	123.49	975	975	17	17
3/10/2019	363.55	1925	2900	44	61
3/11/2019	403.52	1100	4000	26	87
3/12/2019	495.7	4695	8695	124	211
3/14/2019	503.59	350	9045	0	211
3/16/2019	639	2625	11,670	84	295
3/17/2019	643	675	12,345	19	314
3/20/2019	639.04	965	13,310	15	329
3/21/2019	738.79	2180	15,490	207	536
3/22/2019	809.7	1770	17,260	140	676
3/24/2019	823.8	255	17,515	10	686
3/25/2019	978	3160	20,675	118	804
3/26/2019	1082.6	2450	23,125	80	884
3/27/2019	1100	250	23,375	0	884
Well Construction					
4/22/2019	1077.63	342	342	n/a ^b	n/a
4/23/2019	1061.88	2218	2560	n/a	n/a
4/24/2019	1046.37	1,431	3991	n/a	n/a
4/25/2019	1031.16	811.5	4802.5	n/a	n/a
4/26/2019	1010.86	1079.5	5882	n/a	n/a
4/27/2019	980.42	3640.8	9522.8	n/a	n/a
4/28/2019	979.1	988.7	10,511.5	n/a	n/a
4/29/2019	970.77	1635.9	12,147.4	n/a	n/a
4/30/2019	960.98	1207	13,354.4	n/a	n/a
5/1/2019	955.5	595	13,949.4	n/a	n/a
5/2/2019	923.09	1847	15,796.4	n/a	n/a
5/3/2019	911.04	792	16,588.4	n/a	n/a
5/4/2019	844.53	322	16,910.4	n/a	n/a
5/5/2019	809.74	217	17,127.4	n/a	n/a
5/7/2019	755.7	388	17,515.4	n/a	n/a
5/8/2019	697.26	245	17,760.4	n/a	n/a
5/9/2019	646.41	102	17,862.4	n/a	n/a
5/11/2019	613.11	48.2	17,910.6	n/a	n/a
5/12/2019	600.58	805.2	18,715.8	n/a	n/a
5/13/2019	422.07	1703.6	20,419.4	n/a	n/a
5/14/2019	215.98	2100	22,519.4	n/a	n/a

Table 3.2-1 (continued)

Date	Depth Interval (ft MD)	Water (gal.)	Cumulative Water (gal.)	AQF-2 Foam (gal.)	Cumulative AQF-2 Foam (gal.)
5/15/2019	60.13	1200	23,719.4	n/a	n/a
5/17/2019	3	510	24,229.4	n/a	n/a
5/18/2019	3	3220	27,449.4	n/a	n/a
Total Water Volume (gal.)					
R-70		51,824.4			

^a MD = Measured distance.^b n/a = Not applicable.

Table 3.2-2
Water Levels Recorded Before, During, and After Induction Test

Date	Time	Level (ft MD)
3/27/2019	01:48	948.80
3/27/2019	02:15	948.80
3/27/2019	02:45	948.72
3/27/2019	03:15	948.70
3/27/2019	03:45	948.68
3/27/2019	04:45	948.65
3/27/2019	05:45	948.63
3/27/2019	06:45	948.80
3/27/2019	07:45	948.60
3/27/2019	08:45	948.53
3/27/2019	09:45	948.58
3/27/2019	17:17	948.3
3/27/2019	18:17	948.55
3/27/2019	19:17	948.44
3/27/2019	20:17	948.43
3/27/2019	20:30	921.16 ^{a, b}
3/27/2019	20:35	924.15 ^b
3/27/2019	20:40	926.35 ^b
3/27/2019	20:45	928.60 ^b
3/27/2019	20:52	931.35 ^b
3/27/2019	20:55	932.25 ^b
3/27/2019	21:00	933.65 ^b
3/27/2019	21:16	937.65 ^b
3/27/2019	21:40	941.75 ^b
3/27/2019	22:10	944.89 ^b
3/27/2019	22:40	946.65 ^b

Table 3.2-2 (continued)

Date	Time	Level (ft MD)
3/27/2019	23:10	947.59 ^b
3/27/2019	23:40	948.05 ^b
3/28/2019	14:40–17:33	945.75

^a Added 200 gal. water at 20:27 for induction test.

^b Induction test conducted.

Table 6.0-1
R-70 Geophysical Logging Runs

Date	Logging Interval (ft MD)	Description
3/27/2019	0–1050	Gamma log
3/27/2019	0–1050	Neutron log

Table 7.2-1
R-70 Monitoring Well Annular Fill Materials

Material	Calculated Volume (ft ³)	Actual Volume (ft ³)
Upper surface seal: cement slurry	102.8	102
Upper bentonite seal: chips/pellets	966.9	1063.7
Upper fine sand collar: 20/40 silica sand	1.5	1.5
Upper filter sand pack: 10/20 silica sand	61	153
Middle bentonite seal: chips/pellets	20.5	22.1
Lower fine sand collar: 20/40 silica sand	1.5	1.5
Lower filter sand pack: 10/20 silica sand	19.4	21.5
Lower bentonite seal: chips/pellets	7.4	5.99

Table 8.0-1
Summary of Groundwater Samples Collected during
Drilling, Well Development, and Extended Pumping of Well R-70

Location ID	Sample ID	Date Collected	Collection Depth (ft MD)	Sample Type	Analysis
Well Development					
R-70	WST05-19-181466	5/20/2019	1048–1068	Groundwater	TOC*
R-70	WST05-19-181465	5/21/2019	963–1004	Groundwater	TOC
Aquifer Test					
R-70	WST05-19-181522	5/24/2019	963–1004	Groundwater	TOC
R-70	WST05-19-181523	5/24/2019	963–1004	Groundwater	TOC
R-70	WST05-19-181554	5/24/2019	963–1004	Groundwater	TOC
R-70	WST05-19-181526	5/27/2019	1048–1068	Groundwater	TOC
R-70	WST05-19-181527	5/27/2019	1048–1068	Groundwater	TOC
R-70	WST05-19-181555	5/27/2019	1048–1068	Groundwater	TOC

* TOC = Total organic carbon.

Table 8.1-1
Water Produced During R-70 Well Development

Date	Screen	Start Reading	End Reading	Volume (gal.)	Cumulative Volume (gal.)
05/16/2019	Bailing	n/a*	n/a	435.5	435.5
05/19/2019	Both, no packer	2046	72,287	70,241	70,676.5
05/20/2019	Lower	72,287	96,483	24,196	94,872.5
05/21/2019	Upper	96,483	107,023	10,540	105,412.5

* n/a = Not applicable.

Table 8.1-2
Field Parameters Measured During Well Development at R-70

Date	Time	Elapse Time (min)	Totalizer (gal.)	Pumping Rate (gpm)	Intake Depth (linear ft)	Screen	Temp. (°C)	DO (mg/L)	Spec. Cond. (µS/cm)	pH	ORP (mV)	NTU
Step-down Development of Screen 1 (no packer inflated - both screens open)												
5/19/2019	10:28AM	0	5230	0	962	S1	—*	—	—	—	—	—
5/19/2019	10:31AM	3	5540	103.3	963	S1	—	—	—	—	—	—
5/19/2019	10:34AM	6	5888	116	964	S1	—	—	—	—	—	—
5/19/2019	10:38AM	10	6328	110	965	S1	—	—	—	—	—	—
5/19/2019	10:42AM	14	6820	123	966	S1	—	—	—	—	—	—
5/19/2019	10:45AM	17	7155	111.7	967	S1	—	—	—	—	—	—
5/19/2019	10:48AM	20	7482	109	968	S1	—	—	—	—	—	—
5/19/2019	10:51AM	23	7811	109.7	969	S1	—	—	—	—	—	9.41
5/19/2019	10:55AM	27	8260	112.3	—	S1	—	—	—	—	—	—
5/19/2019	11:35AM	—	8260	—	970	S1	—	—	—	—	—	7.64
5/19/2019	11:39AM	31	8684	106	971	S1	—	—	—	—	—	8.34
5/19/2019	11:42AM	34	9005	107	972	S1	—	—	—	—	—	—
5/19/2019	11:45AM	37	9307	100.7	973	S1	—	—	—	—	—	16.1
5/19/2019	11:48AM	40	9630	107.7	974	S1	—	—	—	—	—	15.8
5/19/2019	11:51AM	43	9969	113	975	S1	—	—	—	—	—	12.5
5/19/2019	11:54AM	46	10299	110	976	S1	—	—	—	—	—	12.5
5/19/2019	12:00PM	52	10906	101.2	977	S1	—	—	—	—	—	17.2
5/19/2019	12:03PM	55	11238	110.7	978	S1	—	—	—	—	—	13.8
5/19/2019	12:06PM	58	11568	110	979	S1	—	—	—	—	—	35
5/19/2019	12:09PM	61	11899	110.3	980	S1	—	—	—	—	—	37.5
5/19/2019	12:12PM	64	12205	102	981	S1	—	—	—	—	—	24.5
5/19/2019	12:15PM	67	12565	120	982	S1	—	—	—	—	—	51.8
5/19/2019	12:18PM	70	12892	109	983	S1	—	—	—	—	—	49.3

Table 8.1-2 (continued)

Date	Time	Elapse Time (min)	Totalizer (gal.)	Pumping Rate (gpm)	Intake Depth (linear ft)	Screen	Temp. (°C)	DO (mg/L)	Spec. Cond. (µS/cm)	pH	ORP (mV)	NTU
5/19/2019	12:21PM	73	13237	115	984	S1	—	—	—	—	—	37.7
5/19/2019	12:24PM	76	13561	108	985	S1	—	—	—	—	—	53.5
5/19/2019	12:27PM	79	13893	110.7	986	S1	—	—	—	—	—	52.4
5/19/2019	12:30PM	82	14225	110.7	987	S1	—	—	—	—	—	28.4
5/19/2019	12:33PM	85	14540	105	988	S1	—	—	—	—	—	69.7
5/19/2019	12:36PM	88	14866	108.7	989	S1	—	—	—	—	—	25.8
5/19/2019	12:39PM	91	15177	103.7	990	S1	—	—	—	—	—	72.5
5/19/2019	12:42PM	94	15524	106.8	—	S1	—	—	—	—	—	—
5/19/2019	1:46PM	96	15524	—	991	S1	—	—	—	—	—	—
5/19/2019	1:50PM	98	15590	106.5	992	S1	—	—	—	—	—	27.7
5/19/2019	1:53PM	101	16252	100.7	993	S1	—	—	—	—	—	23
5/19/2019	1:56PM	104	16641	129.7	994	S1	—	—	—	—	—	16.7
5/19/2019	1:59PM	107	16980	113	995	S1	—	—	—	—	—	25
5/19/2019	2:02PM	110	17300	106.7	996	S1	—	—	—	—	—	24.7
5/19/2019	2:05PM	113	17610	103.3	997	S1	—	—	—	—	—	15.6
5/19/2019	2:08PM	116	17919	103	998	S1	—	—	—	—	—	30.7
5/19/2019	2:11PM	119	18235	105.3	999	S1	—	—	—	—	—	30.5
5/19/2019	2:14PM	122	18571	112	1000	S1	—	—	—	—	—	18.3
5/19/2019	2:17PM	125	18888	105.7	1001	S1	—	—	—	—	—	19.3
5/19/2019	2:20PM	128	19208	106.7	1002	S1	—	—	—	—	—	28.8
5/19/2019	2:23PM	131	19522	104.7	1003	S1	—	—	—	—	—	17.9
5/19/2019	2:26PM	134	19853	110.3	1004	S1	—	—	—	—	—	27.5
5/19/2019	2:29PM	137	20172	106.4	1005	S1	—	—	—	—	—	18.3
5/19/2019	2:32PM	140	20490	106	—	—	—	—	—	—	—	19.9

Table 8.1-2 (continued)

Date	Time	Elapse Time (min)	Totalizer (gal.)	Pumping Rate (gpm)	Intake Depth (linear ft)	Screen	Temp. (°C)	DO (mg/L)	Spec. Cond. (µS/cm)	pH	ORP (mV)	NTU
Step-down Development of Screen 2 (no packer inflated - both screens open)												
5/19/2019	3:42PM	—	20490	—	1047	S2	—	—	—	—	—	17.7
5/19/2019	3:45PM	143	20795	101.7	1049	S2	—	—	—	—	—	49.9
5/19/2019	3:48PM	146	21108	104.3	1050	S2	—	—	—	—	—	52
5/19/2019	3:50PM	148	21320	106	1051	S2	—	—	—	—	—	80.4
5/19/2019	3:52PM	150	21530	105	1052	S2	—	—	—	—	—	29
5/19/2019	3:54PM	152	21740	105	1053	S2	—	—	—	—	—	108
5/19/2019	3:56PM	154	21952	106	—	S2	—	—	—	—	—	41.7
5/19/2019	4:45PM	—	21952	—	1054	S2	—	—	—	—	—	49
5/19/2019	4:48PM	157	22263	103.7	1056	S2	—	—	—	—	—	20.4
5/19/2019	4:51PM	160	22581	106	1058	S2	—	—	—	—	—	69.1
5/19/2019	4:54PM	163	22892	103.7	1060	S2	—	—	—	—	—	37.3
5/19/2019	4:57PM	166	23206	104.7	1062	S2	—	—	—	—	—	30.7
5/19/2019	5:00PM	169	23514	102.7	1064	S2	—	—	—	—	—	32.1
5/19/2019	5:03PM	172	23830	105.4	1066	S2	—	—	—	—	—	134.8
5/19/2019	5:06PM	175	24123	115.6	1068	S2	—	—	—	—	—	61.8
5/19/2019	5:09PM	—	24470	—	—	S2	—	—	—	—	—	—
Step-up Development of Screen 2 (no packer inflated - both screens open)												
5/19/2019	7:10PM	178	26189	0	1068	S2	—	—	—	—	—	—
5/19/2019	7:27PM	185	27025	119	1068	S2	—	—	—	—	—	—
5/19/2019	7:37PM	195	27522	49.7	1068	S2	—	—	—	—	—	3
5/19/2019	7:44PM	—	—	72	1068	S2	—	—	—	—	—	—
5/19/2019	8:10PM	219	28640	79.2	1068	S2	—	—	—	—	—	1.44
5/19/2019	8:40PM	249	30190	75.6	1068	S2	—	—	—	—	—	1.4
5/19/2019	9:14PM	283	31705	78	1068	S2	—	—	—	—	—	2.96

Table 8.1-2 (continued)

Date	Time	Elapse Time (min)	Totalizer (gal.)	Pumping Rate (gpm)	Intake Depth (linear ft)	Screen	Temp. (°C)	DO (mg/L)	Spec. Cond. (µS/cm)	pH	ORP (mV)	NTU
5/19/2019	9:56PM	325	33655	57	1067	S2	—	—	—	—	—	—
5/19/2019	10:16PM	355	35630	65.8	1066	S2	—	—	—	—	—	3.04
5/19/2019	10:33PM	372	37286	93.4	1065	S2	—	—	—	—	—	—
5/19/2019	10:49PM	388	38780	107.3	1064	S2	—	—	—	—	—	2.18
5/19/2019	11:03PM	402	40282	96.7	1063	S2	—	—	—	—	—	—
5/19/2019	11:18PM	417	41732	97.8	1062	S2	—	—	—	—	—	1.97
5/19/2019	11:33PM	432	43200	106.3	1061	S2	—	—	—	—	—	—
5/19/2019	11:48PM	447	44795	92.5	1060	S2	—	—	—	—	—	2.25
5/20/2019	12:04AM	462	46188	98.7	1059	S2	—	—	—	—	—	—
5/20/2019	12:19AM	477	47664	101.6	1058	S2	—	—	—	—	—	2.04
5/20/2019	12:34AM	492	49188	97.7	1057	S2	—	—	—	—	—	—
5/20/2019	12:49AM	507	50653	99.9	1056	S2	—	—	—	—	—	2.33
5/20/2019	01:05AM	522	52151	99.5	1055	S2	—	—	—	—	—	—
5/20/2019	01:20AM	537	53643	98.3	1054	S2	—	—	—	—	—	1.99
5/20/2019	01:35AM	552	55117	99.1	1053	S2	—	—	—	—	—	—
5/20/2019	01:50AM	567	56604	99.1	1052	S2	—	—	—	—	—	1.37
5/20/2019	02:05AM	582	58082	98.5	1051	S2	—	—	—	—	—	—
5/20/2019	02:20AM	597	59570	99.2	1050	S2	—	—	—	—	—	1.48
5/20/2019	02:35AM	612	61045	98.3	1049	S2	—	—	—	—	—	—
5/20/2019	02:50AM	627	62532	159.1	1048	S2	—	—	—	—	—	1.26
5/20/2019	03:05AM	642	64010	98.5	1047	S2	—	—	—	—	—	—
Additional Development of Screen 1 (no packer inflated - both screens open)												
5/20/2019	05:12AM	657	66158	142.9	1003	S1	—	—	—	—	—	10.7
5/20/2019	05:30AM	672	67653	100	1002	S1	—	—	—	—	—	—
5/20/2019	05:45AM	687	69350	113	1001	S1	—	—	—	—	—	2.81

Table 8.1-2 (continued)

Date	Time	Elapse Time (min)	Totalizer (gal.)	Pumping Rate (gpm)	Intake Depth (linear ft)	Screen	Temp. (°C)	DO (mg/L)	Spec. Cond. (µS/cm)	pH	ORP (mV)	NTU
5/20/2019	06:00AM	702	70812	97.5	1000	S1	—	—	—	—	—	—
5/20/2019	06:15AM	717	72287	98.3	999	S1	—	—	—	—	—	1.73
Screen 2 Development (packer inflated - screens isolated)												
5/20/2019	9:34AM	—	—	—	1011.53	S2	14.256	7.78	5	8.36	179.3	—
5/20/2019	9:43AM	—	72380	—	1011.53	S2	14.302	7.77	4.7	8.35	179.7	46.5
5/20/2019	10:13AM	732	73663	88.9	1011.53	S2	14.297	7.77	5	8.51	180.5	42.9
5/20/2019	10:43AM	747	74978	87.7	1011.53	S2	14.558	7.88	1.2	8.31	190.3	34.7
5/20/2019	11:13AM	762	76294	87.7	1011.53	S2	15.232	7.77	9.4	7.99	213.1	—
5/20/2019	11:43AM	777	77610	87.7	1011.53	S2	15.759	7.67	9.7	7.74	229.8	4.28
5/20/2019	12:13PM	792	78925	87.7	1011.53	S2	15.989	7.64	9.5	7.56	246.3	3.83
5/20/2019	12:43PM	807	80255	88.7	1011.53	S2	15.861	7.66	9.3	7.46	255.2	2.9
5/20/2019	1:13PM	822	81550	86.3	1011.53	S2	15.615	7.69	7.1	7.44	263.2	3.03
5/20/2019	1:48PM	837	82866	87.7	1011.53	S2	21.032	6.39	286.6	8.12	173.4	—
5/20/2019	2:06PM	852	84177	87.4	1011.53	S2	21.215	6.48	288.4	8.12	164.7	1.76
5/20/2019	2:36PM	867	85494	87.8	1011.53	S2	21.779	6.87	294.1	8.12	190.4	—
5/20/2019	3:06PM	—	—	—	1011.53	S2	21.527	6.15	290.1	8.13	199.5	—
5/20/2019	3:36PM	—	89544	—	1011.53	S2	19.708	6.16	289.4	8.12	209.5	1.2
Screen 2 Trial Test during Development (packer inflated - screens isolated)												
5/20/2019	4:01PM	—	92313	—	1011.53	S2	17.663	6.27	289.3	8.12	209.7	—
5/20/2019	4:31PM	30	93702	46.4	1011.53	S2	21.514	6.61	289	8.12	202.8	0.79
5/20/2019	5:01PM	60	95092	46.4	1011.53	S2	21.303	6.81	289.1	8.12	203.3	0.68
5/20/2019	5:31PM	90	96483	46.4	1011.53	S2	21.351	6.76	290.4	8.13	198.3	0.72
Screen 1 Trial Test during Development (packer inflated - screens isolated)												
5/20/2019	9:33PM	—	96947	93	1016.64	S1	18.19	7.75	290.9	8.14	194.8	3.7
5/20/2019	10:03PM	120	98458	100	1016.64	S1	21.097	6.32	192.1	8.15	210.4	3.25

Table 8.1-2 (continued)

Date	Time	Elapse Time (min)	Totalizer (gal.)	Pumping Rate (gpm)	Intake Depth (linear ft)	Screen	Temp. (°C)	DO (mg/L)	Spec. Cond. (µS/cm)	pH	ORP (mV)	NTU
5/20/2019	10:33PM	150	99738	45.7	1016.64	S1	20.849	6.47	195.3	8.1	220.6	2.01
5/20/2019	11:03PM	—	99738	—	1016.64	S1	16.611	6.78	193.4	8.14	217.8	1.99
5/20/2019	11:33PM	213	101520	59.4	1016.64	S1	19.134	6.59	200	8.14	209.8	2.15
5/21/2019	12:03AM	246	102812	39	1016.64	S1	20.761	6.46	193.6	8.14	225.8	1.76
5/21/2019	12:33AM	324	104552	45.8	1016.64	S1	21.365	7.55	198.6	8.15	222.6	1.4
5/21/2019	1:03AM	353	105933	47.6	1016.64	S1	21.271	7.78	191.9	8.15	219.3	2.04
5/21/2019	1:33AM	416	107023	47.4	1016.64	S1	21.368	7.76	191.7	8.15	221.7	1.4

Note: Field parameter data in grey (9:34 a.m.–1:13 p.m.) appear erroneous.

* — = No parameters collected.

Table 8.2-1
Water Produced During R-70 Extended Pumping

Date	Screen	Start Reading	End Reading	Volume (gal.)	Cumulative Volume (gal.)
5/22/2019	Both	107,780	109,406	1626	1626
5/23–5/24/2019	Upper	109,406	240,197	130,791	132,417
5/26–5/27/2019	Lower	240,727	370,151	129,424	261,841

Table 8.5-1
R-70 Survey Coordinates

Identification	Northing	Easting	Elevation (ft amsl)
R-70 brass cap embedded in pad	1768192.8201	1640837.3052	6692.62
R-70 ground surface near pad	1768195.3510	1640836.6308	6692.49
R-70 top of stainless-steel well casing	1768186.6876	1640838.0377	6694.56
R-70 top of 16-in. protective casing	1768187.7409	1640838.7232	6695.71

Note All coordinates are expressed in New Mexico State Plane Coordinate System Central Zone (NAD 83); elevation is expressed in ft above mean sea level (amsl) using National Geodetic Vertical Datum of 1929.

Table 8.6-1
Summary of Waste Characterization Samples Collected During Drilling, Construction, Development, and Sample System Installation at R-70

Location ID	Sample ID	Date	Depth (ft MD)	Type
R-70	WST05-19-167507	3/9/2019	75–80	Drill fluids
R-70	WST05-19-167513	3/9/2019	75–80	Drill fluids
R-70	WST05-19-167479	3/13/2019	n/a*	Cuttings
R-70	WST05-19-167468	3/16/2019	530–536	Cuttings
R-70	WST05-19-167508	3/16/2019	530–560	Drill fluids
R-70	WST05-19-167512	3/16/2019	530–560	Drill fluids
R-70	WST05-19-167509	3/26/2019	990–995	Drill fluids
R-70	WST05-19-167511	3/26/2019	990–995	Drill fluids
R-70	WST05-19-167478	4/8/2019	1100	Cuttings
R-70	WST05-19-167470	4/8/2019	1100	Cuttings
R-70	WST05-19-174841	5/6/2019	n/a	Decon. fluids
R-70	WST05-19-174843	5/6/2019	n/a	Decon. fluids
R-70	WST05-19-174844	5/6/2019	n/a	Decon. fluids
R-70	WST05-19-174846	5/7/2019	n/a	Decon. fluids
R-70	WST05-19-167503	5/30/2019	1100	Drill fluids
R-70	WST05-19-167506	5/30/2019	1100	Drill fluids
R-70	WST05-19-167510	5/30/2019	n/a	Drill fluids
R-70	WST05-19-167518	5/30/2019	1100	Drill fluids

Table 8.6-1 (continued)

Location ID	Sample ID	Date	Depth (ft MD)	Type
R-70	WST05-19-167750	5/30/2019	1100	Drill fluids
R-70	WST05-19-167516	6/10/2019	n/a	Drill fluids
R-70	WST05-19-175488	6/10/2019	n/a	Decon. fluids
R-70	WST05-19-175490	6/10/2019	n/a	Decon. fluids
R-70	WST05-19-175492	6/10/2019	n/a	Decon. fluids
R-70	WST05-19-175494	6/10/2019	n/a	Decon. fluids

* n/a = Not applicable.

Appendix A

Borehole R-70 Lithologic Log

BOREHOLE IDENTIFICATION (ID): R-70		TECHNICAL AREA (TA): 05
DRILLING COMPANY:	START DATE/TIME: 03/07/19; 0700	END DATE/TIME: 03/26/19; 1726
DRILLING METHOD:	MACHINE:	SAMPLING METHOD:
GROUND ELEVATION: 6691 FT AMSL		TOTAL DEPTH: 1100 ft measured distance (MD) down the borehole
DRILLERS:	D. Sandy, A. Soto, M. Hiatt, C. Perry, D. McDonald, L. Mitchell	SITE GEOLOGISTS: E. Tow, C. Goetz, G. WoldeGabriel
Depth (ft MD)	Lithology	Lithologic Symbol
0–35	Alluvium was encountered from 0 to 35 ft MD. The alluvium consists of moderately sorted and unconsolidated coarse sand. Light- to dark gray angular to subangular porphyritic felsic lava fragments are present. Quartz and feldspar crystals and rounded tuff fragments dominate the fine fraction. Minor obsidian clasts. Sorting, abundance of silt, and types of rock fragments vary with depth. The basal unit is matrix-supported, poorly sorted, and heavily coated clasts with tuffaceous silt, containing pinkish gray tuff fragments, quartz and feldspar grains, minor pumice, and sparse felsic lava fragments. Mineral content up to 35% in the finer fraction. The basal alluvium contains abundant white devitrified tuff in addition to the light pinkish gray tuff fragments, pumices, few grains of quartzite, and abundant quartz and feldspar. The amount of white, crystal-rich, and devitrified tuff fragments similar to Qbt 1v significantly increase as light pinkish gray tuff fragments decrease with depth. Quartz and feldspar grains are lightly coated with white pulverized tuffaceous silt. Minor pumice and light gray lava fragments.	Qal
35–60	Cuttings are matrix-supported, poorly sorted clasts embedded in a pumiceous coarse sand that consists of white devitrified tuff fragments mixed with abundant large (>1 cm) gray pumice clasts and minor felsic lava fragments. Pulverized tuffaceous matrix lightly coats the feldspar and quartz grains. The pumice fragments are mostly gray, inflated, and partially stretched. Minor light pinkish gray clasts. The finer fraction contains abundant crystals that decreased with depth.	Qbt 1g
60–280	Poorly sorted crystal-rich gravelly pumiceous sand, containing abundant feldspars and quartz grains in an ashy glassy matrix. Equal amounts of light gray and light brown pumice; light gray pumice up to 2 cm, angular to subangular, partially inflated; and light brown, subrounded, reworked, and coated by light brown tuffaceous silt. Lithic lava fragments are sparse. Minor coarse (>4 cm), unstained pumice. Abundant light gray and medium- to dark gray lava fragments increase at 80 to 85 ft. No recovery of cuttings from 100 to 105 ft. Lithic-rich ash-flow tuff, with abundant subrounded to rounded medium gray and pale red dacite lava fragments mixed with abundant rounded gray pumice and minor perlite and obsidian fragments. Pumice clasts lightly coated with light brown silt decrease with depth. Rendija Canyon lava fragments are common and more abundant than the other lava fragments. Lithic lava fragments are more abundant than pumices; crystals are sparse. Sparse perlite fragments persisted with depth. Rare rust-red pumice clasts. Generally, pumice clasts are coarser grained than lava fragments, but pumice content varies with depth. Locally there are more pumice clasts than lava fragments. At the base of the sequence, the pumices are coarser, inflated, relatively stretched, and more abundant than the medium- to dark gray lava fragments.	Qbo

Depth (ft MD)	Lithology	Lithologic Symbol
280–300	The Guaje Pumice Bed consists of dense white pumice fragments mixed with abundant medium- to dark gray, subrounded to rounded dacite lava fragments, and minor light gray and banded rhyolite. The bulk of the white pumice clasts are less inflated, coarser, and rounded than the lava fragments. Partially oxidized dacite lava fragments coated with reddish orange stain are common. A few Rendija Canyon lava fragments are present. Crystals are coarse and abundant.	Qbog
300–323	Abundant clast-supported, rounded, and indurated light brown silty sandstone mixed with medium to dark dacite lava and pumice fragments. The brown sandstone fragments decreased with depth, whereas the light- to medium gray felsic lava fragments significantly increased with depth. Crystals are generally sparse.	Tpf
323–500	Dark gray basalts mixed with abundant light brown silty sandstone fragments mark the transition to the Cerros del Rio basalt sequence. Basalt fragments are porphyritic, vesicular, massive, dark gray, and microcrystalline with fractured and partially altered mafic minerals of pyroxene, olivine, and plagioclase. No recovery of cuttings from 375 to 380 ft. Subequal amounts of medium to dark gray, weathered and oxidized, porphyritic, and vesicular basalt fragments and reddish brown scoriaceous clasts. The medium gray and reddish brown oxidized lava fragments persisted with depth. From 410 to 435 ft, reddish brown oxidized fragments significantly increased, with rare scoria. The reddish brown lava fragments decreased with depth and medium gray porphyritic and crystalline fragments became dominant. Partially altered dark gray basalt fragments are present. Dark gray basalt increased with depth from 480 to 490 ft. Partially altered porphyritic and massive medium gray basalt fragments mixed with minor reddish brown clasts are common.	Tb4
500–520	Light gray dacite fragments mixed with medium gray porphyritic and microcrystalline basalt lava clasts. Light- to medium gray basalt is more abundant than dacite. Dacite clasts decrease with depth. Minor rock fragments include Rendija Canyon dacite, perlite, banded rhyolite, and reddish brown oxidized basalt. The dacite fragments are subrounded to rounded, fine-grained, and porphyritic, containing coarse quartz, feldspar, few mafic minerals.	
520–600	Abundant microcrystalline and porphyritic light- to medium gray, dark gray, and fine-grained reddish brown basalt fragments; no dacite or rhyolite lava clasts. Fractured and altered olivine and pyroxene phenocrysts are common in the grayish and dark gray basalt fragments. The reddish brown oxidized lava fragments, partially scoriaceous, partially weathered, are less abundant. Vesicular and partially weathered dark gray basalt fragments increased with depth. No recovery of cuttings from 580 to 585 ft.	Tb4
600–605	Lithic fragments consist of minor reddish and dark gray scoria, pinkish gray porphyritic lava clasts similar to the Rendija Canyon dacite, and abundant light gray, sparsely vesicular, and altered dark gray basaltic lava fragments.	Tb4
605–620	Abundant pinkish gray lava clasts with light to medium and dark gray basalt fragments mixed with minor reddish brown basalt fragments and rare light pinkish gray claystone and pinkish gray dacite lava clasts.	Tb4

Depth (ft MD)	Lithology	Lithologic Symbol
620–660	Similar basaltic clasts as above, with some medium gray cement fragments used to stabilize the well.	Tb4
660–680	Light gray and pale red dacite, quartzite, and sandstone; coarse quartz and feldspar minerals; and minor basaltic fragments. The dacite clasts are mostly subrounded to rounded and larger in size (>0.5 in.) compared with the basalt fragments. Minerals and dacite fragments are partially coated with light brown and white crust. Rendija Canyon dacite fragments are common.	
685–725	Subequal amounts of dark and light- to medium gray basalt fragments, minor dacite, and light pinkish gray claystone fragments. No recovery of cuttings from 690 to 695 ft. Basaltic clasts as above. Some basalt fragments are heavily coated with pulverized rock dust. The lower part of the basaltic lava sequence is dominated by sparsely vesicular and partially weathered dark gray fragments mixed with subordinate light- to medium gray porphyritic crystalline lava clasts. Few reddish brown oxidized lava fragments are present.	Tb4
725–734	Abundant sparsely vesicular and partially weathered dark gray basaltic cuttings, minor light- to medium gray basalt clasts, and minor light pinkish gray claystone fragments.	Tb4
734–760	Two types of abundant basaltic lava clasts and minor dacite clasts dominated by Rendija Canyon lava fragments. No recovery of cuttings from 760 to 765 ft.	Tp
760–830	Abundant Puye Formation dacite fragments appeared at 765 ft. However, the gamma log defines the contact between the Cerros del Rio basalts and the Puye Formation at about 734 ft depth. Detailed examination of bulk cuttings simultaneously collected with the chip-tray samples from the 730- to 760-ft interval indicate the first appearance of abundant matrix-supported gravelly sand dominated by dacite lava fragments within the 730- to 740-ft depth interval. This observation is consistent with the stratigraphic contact established by gamma log data at 734 ft MD. Thereafter, the Puye Formation cuttings contain comparable amounts of light- to medium gray and pale red dacite lavas dominated by Rendija Canyon fragments mixed with minor basalt clasts as contaminants. Similar lithologies continued to 780 ft. No recovery of cuttings from 820 to 830 ft.	Tp
830-1050	Pale red fragments of the Rendija Canyon dacite predominate with depth. The base of the Puye Formation consists of pale red and medium gray dacite lava fragments, minor white lava clasts, and sparse quartz and feldspar grains.	Tp
1050–1100	Two types of abundant lava fragments, minor pumice clasts, and sparse mineral grains. The lava fragments consist of subrounded to rounded light- to medium gray and pale red porphyritic dacite clasts up to 6 cm. Abundant pale red Rendija Canyon dacite. Common white pumice fragments partially covered by light reddish brown silt. Pumice clasts increased with depth. Most pumice fragments are lightly covered by light brown silt. Quartz and feldspar grains are sparse.	Tp

Borehole Lithologic Log (continued)

ABBREVIATIONS

5YR 8/4 (example) = Munsell rock color notation where hue (e.g., 5YR), value (e.g., 8), and chroma (e.g., 4) are expressed. Hue indicates soil color's relation to red, yellow, green, blue, and purple. Value indicates soil color's lightness. Chroma indicates soil color's strength.

% = estimated percent by volume of a given sample constituent

AMSL = above mean sea level

bgs = below ground surface

MD = measured distance (down the borehole)

Qf = Post-Tshirege alluvial fan deposit

Qbt 4 = Unit 4 of the Tshirege Member of the Bandelier Tuff

Qbt 3t = Unit 3t of the Tshirege Member of the Bandelier Tuff

Qbt 3 = Unit 3 of the Tshirege Member of the Bandelier Tuff

Qbt 2 = Unit 2 of the Tshirege Member of the Bandelier Tuff

Qbt 1v = Unit 1v (vapor-phase) of the Tshirege Member of the Bandelier Tuff

Qbt 1g = Unit 1g (glassy) of the Tshirege Member of the Bandelier Tuff

Qct = Cerro Toledo interval

Qbo = Otowi Member of Bandelier Tuff

Qbog = Guaje Pumice Bed

Tpf = Puye Formation

+10F = plus No. 10 sieve sample fraction

+35F = plus No. 35 sieve sample fraction

WR = whole rock (unsieved sample)

1 mm = 0.039 in.

1 in. = 25.4 mm

Appendix B

Groundwater Screening Analytical Results for Well R-70

B-1.0 GROUNDWATER SCREENING ANALYSIS AT R-70

Well R-70 is a regional aquifer monitoring well located in Technical Area 05 (TA-05) that was installed as part of the Chromium Groundwater Project monitoring network. R-70 was drilled at a 25° angle from the vertical with two screens from 963.0 ft measured distance down the borehole (MD) to 1004.0 ft MD (screen 1) and from 1048.0 ft MD to 1068.5 ft MD (screen 2) in the Puye Formation. This appendix presents the screening results for samples collected during well development and extended pumping at R-70.

B-1.1 Laboratory Analysis

At the end of extended pumping of each screen, samples were collected and analyzed for the full groundwater characterization suite, total organic carbon (TOC), and tracers introduced in nearby wells.

Table B-1.1-1 lists the key analytical results for these two samples.

B-1.2 Field Analysis

Groundwater field parameters were collected during extended pumping from two samples that were subsequently submitted for laboratory analysis, one from each screen. Field parameters included temperature, pH, oxidation-reduction potential (ORP), dissolved oxygen (DO), specific conductance, and turbidity. The time of sample collection and discharge rate were also recorded for each of these samples. The field parameters were subsequently monitored during 24-hr pumping tests during extended pumping.

Table B-1.1-2 lists the field parameters recorded for these two samples.

B-2.0 SCREENING ANALYTICAL RESULTS

This section presents the TOC concentrations and field parameters measured during extended pumping.

B-2.1 Total Organic Carbon

TOC concentrations were below the target concentration of 2.0 mg/L in two groundwater samples collected during extended pumping at R-70 (Table B-1.1-1). All TOC analyses were performed according to U.S. Environmental Protection Agency method SW-846:9060.

B-2.2 Field Parameters

Table B-1.1-2 presents results of field parameters, including temperature, pH, ORP, DO, specific conductance, and turbidity, which were monitored for samples collected from each screen for analytical laboratory analysis. One sample each was collected from screen 1 and screen 2; in the following comparisons screen 1 data are always reported first. The two temperature measurements varied from 20.8° to 21.4°C and pH varied from 8.02 to 8.00 respectively. Concentrations of DO varied from 7.92 to 7.11 mg/L, and noncorrected values of ORP varied from 287.6 to 219.6 mV. Specific conductance varied from 197.6 to 293.4 µS/L, and turbidity varied from 0.55 to 0.61 nephelometric turbidity units (NTU).

Extended pumping was conducted for 8 days, from May 20 to May 28, 2019 (including trial testing of both screens on May 20 using the well development pump and packers). During extended pumping, several longer and shorter pumping intervals were conducted on each screen before the 24-hr pumping test for

each screen. During these pumping intervals of varying lengths, temperature, DO, specific conductance, pH, and ORP were monitored in approximately 30-min intervals. From May 20 to 21, 2019, temperature varied from 6.259° to 21.779°C, DO varied from 6.15 to 7.88 mg/L, specific conductance varied from 1.2 to 294.1 $\mu\text{S}/\text{cm}$, pH varied from 7.44 to 8.36, and ORP varied from 164.7 to 263.2 mV. From May 23 to 24, 2019, temperature varied from 20.573° to 21.234°C, DO varied from 5.62 to 8.24 mg/L, specific conductance varied from 0.6 to 253.9 $\mu\text{S}/\text{cm}$, pH varied from 7.48 to 8.03, and ORP varied from 167.9 to 286.6.

Table B-2.2-1 presents the field parameters monitored during the 24-hr extended pumping tests.

B-3.0 SUMMARY OF SCREENING ANALYTICAL RESULTS

TOC concentrations in screens 1 and 2 were below the target level of 2.0 mg/L and turbidities were from 0.55 to 0.61 NTU, respectively. Well R-70 will be sampled at the same intervals as the other Chromium Groundwater Project monitoring network wells. R-70 will also be sampled like the interim measures performance monitoring wells.

Table B-1.1-1
Analytical Results from Extended Pumping Samples

Screen	Sample ID	Sample Date	Analyte	Report Result ^a	Lab Qualifier
Screen 1	WST05-19-181523	05/24/2019	Chromium	15.2 µg/L	n/a ^b
	WST05-19-181523	05/24/2019	Nitrate	3.59	n/a
	WST05-19-181523	05/24/2019	Sulfate	6.77	n/a
	WST05-19-181523	05/24/2019	Perchlorate	0.657 µg/L	n/a
	WST05-19-181524	05/24/2019	Tritium	0.356 pCi/L	U ^c
	WST05-19-181522	05/24/2019	Naphthalene[1-] sulfonic acid	0.002	U
	WST05-19-181522	05/24/2019	Naphthalene[1,5-] disulfonic acid	0.002	U
	WST05-19-181522	05/24/2019	Naphthalene[2,7-] disulfonic acid	0.002	U
	WST05-19-181522	05/24/2019	Naphthalene[1,6-] disulfonic acid	0.002	U
	WST05-19-181522	05/24/2019	Naphthalene[2,6-] disulfonic acid	0.002	U
	WST05-19-181522	05/24/2019	Naphthalene[1,3,6-] trisulfonic acid	0.002	U
	WST05-19-181522	05/24/2019	Naphthalene[2-] sulfonic acid	0.002	U
	WST05-19-181522	05/24/2019	Naphthalene[1,3,5-] trisulfonic acid	0.002	U
Screen 2	WST05-19-181527	05/27/2019	Chromium	246 µg/L	n/a
	WST05-19-181527	05/27/2019	Nitrate	4.67	n/a
	WST05-19-181527	05/27/2019	Sulfate	28.1	n/a
	WST05-19-181527	05/27/2019	Perchlorate	0.93 µg/L	n/a
	WST05-19-181555	05/27/2019	Tritium	56.201 pCi/L	n/a
	WST05-19-181526	05/27/2019	Naphthalene[1-] sulfonic acid	0.002	U
	WST05-19-181526	05/27/2019	Naphthalene[1,5-] disulfonic acid	0.002	U
	WST05-19-181526	05/27/2019	Naphthalene[2,7-] disulfonic acid	0.002	U
	WST05-19-181526	05/27/2019	Naphthalene[1,6-] disulfonic acid	0.002	U
	WST05-19-181526	05/27/2019	Naphthalene[2,6-] disulfonic acid	0.002	U
	WST05-19-181526	05/27/2019	Naphthalene[1,3,6-] trisulfonic acid	0.002	U
	WST05-19-181526	05/27/2019	Naphthalene[2-] sulfonic acid	0.002	U
	WST05-19-181526	05/27/2019	Naphthalene[1,3,5-] trisulfonic acid	0.002	U
	WST05-19-181526	05/27/2019	Rhenium	0.1 µg/L	U
	WST05-19-181526	05/27/2019	Total organic carbon	0.685	n/a

^a Result reported in mg/L unless otherwise stated.

^b n/a = Not applicable.

^c U = The material was analyzed for but was not detected above the level of the detection limit.

Table B-1.1-2
Field Parameter Results from Extended Pumping Samples

Sample ID	Date	Time	Temperature (°C)	pH	ORP (mV)	DO (mg/L)	Spec. Cond. (µS/cm)	Turbidity (NTU) ^a	Discharge Rate (gpm) ^b
WST05-19-181522 ^c	05/24/2019	0713	20.8	8.02	287.6	7.92	197.6	0.55	91
WST05-19-181526 ^d	05/27/2019	0711	21.4	8	219.6	7.11	293.4	0.61	90

^a NTU = Nephelometric turbidity unit.

^b gpm = Gallons per minute.

^c Screen 1 sample.

^d Screen 2 sample.

Table B-2.2-1
Field Parameters Monitored during 24-hr Extended Pumping Tests

Date	Time	Temperature (°C)	Dissolved Oxygen (mg/L)	Specific Conductance (µS/cm)	pH	ORP (mV)
Screen 1 (24-hr Extended Pumping)						
5/23/2019	7:28:01	20.895	6.95	0.7	7.49	234.4
5/23/2019	7:37:05	20.807	7.05	0.6	7.48	239.6
5/23/2019	7:41:30	21.041	7.05	0.8	7.58	236.5
5/23/2019	8:04:01	20.573	5.62	253.9	7.69	199.6
5/23/2019	8:34:01	21.023	6.92	207.4	7.87	167.9
5/23/2019	9:04:01	21.033	6.97	196.9	7.9	172.8
5/23/2019	9:34:01	21.156	7.13	198.2	7.92	184.4
5/23/2019	10:04:01	21.198	7.25	195.8	7.93	192.5
5/23/2019	10:34:01	21.234	7.34	195.6	7.93	203.9
5/23/2019	11:04:01	21.194	7.41	196.7	7.94	213.1
5/23/2019	11:34:01	21.117	7.47	198.2	7.95	221.3
5/23/2019	12:04:01	21.096	7.51	197	7.96	228.1
5/23/2019	12:34:01	21.166	7.56	197	7.96	234.2
5/23/2019	13:04:01	21.141	7.59	196.4	7.97	236.6
5/23/2019	13:34:01	21.103	7.63	196.9	7.97	242
5/23/2019	14:04:01	21.125	7.67	197.2	7.97	244.2
5/23/2019	14:34:01	21.132	7.67	197.3	7.97	245.7
5/23/2019	15:04:01	21.051	7.77	196.9	7.98	246.1
5/23/2019	15:34:01	21.18	7.7	197.4	7.98	251.1
5/23/2019	16:04:01	21.099	7.69	197.9	7.98	251.7
5/23/2019	16:34:01	21.077	7.73	197	7.99	255.8
5/23/2019	17:04:01	21.06	7.75	197.6	7.99	254.9
5/23/2019	17:34:01	21.039	7.73	197.4	7.99	256.3
5/23/2019	18:04:01	21.038	7.73	197.5	7.99	258.6
5/23/2019	18:34:01	20.952	7.76	197.5	7.99	261.3
5/23/2019	19:04:01	21.004	7.73	197.7	7.99	263.8
5/23/2019	19:34:01	20.913	7.87	197.6	8	265.3
5/23/2019	20:04:01	20.909	7.87	197.7	8	267.3
5/23/2019	20:34:01	20.901	7.9	197.5	8	269.1
5/23/2019	21:04:01	20.851	7.82	197.7	8	272.1
5/23/2019	21:34:01	20.84	7.87	197.4	8	273.1
5/23/2019	22:04:01	20.827	7.83	197.7	8	273.6
5/23/2019	22:34:01	20.85	7.83	197.6	8	273.7
5/23/2019	23:04:01	20.788	7.83	197.3	8.01	274.6
5/23/2019	23:34:01	20.783	7.83	198.1	8.01	275.7

Table B-2.2-1 (continued)

Date	Time	Temperature (°C)	Dissolved Oxygen (mg/L)	Specific Conductance (µS/cm)	pH	ORP (mV)
5/24/2019	0:04:01	20.755	8.01	197.4	8.02	276.7
5/24/2019	0:34:01	20.711	7.9	197.3	8.01	276.6
5/24/2019	1:04:01	20.79	7.84	197.4	8.01	278.1
5/24/2019	1:34:01	20.709	7.85	197.4	8.01	282.8
5/24/2019	2:04:01	20.693	7.82	197.5	8.01	284.2
5/24/2019	2:34:01	20.737	7.86	197.3	8.02	280.1
5/24/2019	3:04:01	20.658	7.9	197.1	8.02	284.5
5/24/2019	3:34:01	20.678	7.87	197.6	8.01	283.2
5/24/2019	4:04:01	20.647	8.17	197.5	8.02	282.8
5/24/2019	4:34:01	20.643	7.88	197.4	8.02	283.7
5/24/2019	5:04:01	20.716	7.88	197.7	8.02	285.8
5/24/2019	5:34:01	20.663	7.88	197.5	8.02	286
5/24/2019	6:04:01	20.65	7.96	197.4	8.02	285.5
5/24/2019	6:34:01	20.665	7.95	197.8	8.02	285.9
5/24/2019	7:04:01	20.795	8.05	197.6	8.02	286.3
5/24/2019	7:34:01	20.938	8.24	197.7	8.02	286.6
5/24/2019	8:04:01	20.798	7.32	198.3	8.03	284.1
Screen 2 (24-hr Extended Pumping)						
5/26/2019	8:02:35	18.763	4.59	250	7.76	167.5
5/26/2019	8:32:35	21.615	6.16	292.7	7.97	132.5
5/26/2019	9:02:35	21.665	6.57	291.5	7.98	167.5
5/26/2019	9:32:35	21.836	6.74	291.6	7.99	182.9
5/26/2019	10:02:35	21.919	6.86	292.8	7.98	192
5/26/2019	10:32:35	21.987	6.96	292.1	7.99	199.1
5/26/2019	11:02:35	21.955	6.93	291.6	7.99	204.8
5/26/2019	11:32:35	22.021	6.97	292.6	7.99	210.2
5/26/2019	12:02:35	22.008	6.94	292.5	7.99	214.2
5/26/2019	12:32:35	21.955	6.97	292.3	7.99	217.8
5/26/2019	13:02:35	21.973	7.02	292.4	8	220.6
5/26/2019	13:32:35	21.915	7.05	293	7.99	221.5
5/26/2019	14:02:35	21.833	7.05	292.1	7.99	222.8
5/26/2019	14:32:35	21.978	6.87	292.9	7.99	219.4
5/26/2019	15:02:35	21.857	6.99	292.6	7.99	221.1
5/26/2019	15:32:35	21.733	7.04	292.7	7.99	221.1
5/26/2019	16:02:35	21.548	7.06	293	7.98	219.4
5/26/2019	16:32:35	21.425	7.18	292.2	7.99	218
5/26/2019	17:02:35	21.498	7.13	292.3	7.99	214.8
5/26/2019	17:32:35	21.621	7.16	294.2	7.98	212.5

Table B-2.2-1 (continued)

Date	Time	Temperature (°C)	Dissolved Oxygen (mg/L)	Specific Conductance (µS/cm)	pH	ORP (mV)
5/26/2019	18:02:35	21.632	7.1	293.5	7.98	210.8
5/26/2019	18:32:35	21.654	7.11	293	7.98	209.4
5/26/2019	19:02:35	21.646	7.09	292.5	7.99	208.9
5/26/2019	19:32:35	21.533	7.08	292.9	7.99	208.5
5/26/2019	20:02:35	21.427	7.28	293.4	7.98	208.8
5/26/2019	20:32:35	21.384	7.11	293.2	7.99	208
5/26/2019	21:02:35	21.358	7.1	292.9	7.99	207.2
5/26/2019	21:32:35	21.322	7.1	293.2	7.99	206.3
5/26/2019	22:02:35	21.312	7.15	293.8	7.99	206.4
5/26/2019	22:32:35	21.356	7.11	293.3	7.99	206.6
5/26/2019	23:02:35	21.275	7.1	292.9	8	207
5/26/2019	23:32:35	21.238	7.12	292.9	8	207.5
5/27/2019	0:02:35	21.261	7.11	293	8	208.4
5/27/2019	0:32:35	21.315	7.13	293	8	209.6
5/27/2019	1:02:35	21.224	7.14	293.1	8	210.4
5/27/2019	1:32:35	21.325	7.14	293.6	8	211.1
5/27/2019	2:02:35	21.281	7.11	293.2	8	211.5
5/27/2019	2:32:35	21.195	7.17	293.8	7.99	211.7
5/27/2019	3:02:35	21.144	7.17	293.6	7.99	212.6
5/27/2019	3:32:35	21.2	7.15	293.4	8	213.6
5/27/2019	4:02:35	21.265	7.14	293.2	7.99	214.7
5/27/2019	4:32:35	21.203	7.16	292.9	7.99	215.8
5/27/2019	5:02:35	21.221	7.16	293.8	8	217.1
5/27/2019	5:32:35	21.087	7.16	293.6	8	218.3
5/27/2019	6:02:35	21.075	7.17	293.2	7.99	219.5
5/27/2019	6:32:35	21.13	7.16	292.9	8	220.7
5/27/2019	7:02:35	21.277	7.14	293.4	8	218.2
5/27/2019	7:32:35	21.528	7.1	293.3	8	220.5
5/27/2019	8:02:35	21.721	7.07	292.8	8	218.4

Appendix C

*Geophysical Log
(on CD included with this document)*

Station	Iteration	Status	MotionStatus	Status	Inclination	Azimuth	GHS	ToolFace	Roll	Easting	Northing	Elevation	UpDown	LeftRight	Shortfall	DLS	Closure	ClosureBearing	Temperature	Battery	Gravity	GravityX	GravityY
0.00	100%	100%	100	-62.955551	20.368652	101.088324	120.269928	0.056580	1640840.606957	1768190.877591	0.000000	0.000000	0.000000	0.000000	0.000000	2412230.684871	42.860612	49.639136	8.330750	0.999726	-0.446090	0.087497	
10.00	CONT	100%	CONT	-63.071702	20.604874	91.149886	111.630111	0.024737	1640842.195120	1768195.128374	-8.911146	-0.010153	0.009336	-0.000013	1.580542	2412234.881037	42.860571	49.760852	8.330750	1.001317	-0.453212	0.000789	
20.00	CONT	100%	CONT	-63.084169	20.321764	92.375719	112.440376	0.027643	1640843.778065	1768199.370423	-17.827382	-0.031531	0.016819	-0.000040	1.287910	2412239.067252	42.860530	49.707932	8.330750	0.999866	-0.453699	0.013614	
30.00	CONT	100%	CONT	-62.697471	20.421937	98.361673	117.863175	0.042226	1640845.364387	1768203.642261	-26.728763	-0.020235	0.017100	-0.000066	3.893830	2412243.277602	42.860488	49.771436	8.330750	0.998677	-0.455868	0.055113	
40.00	CONT	100%	CONT	-62.727397	20.535849	90.727815	111.182765	0.029231	1640846.968352	1768207.937088	-35.615931	0.022187	0.025918	-0.000160	0.601903	2412247.516804	42.860447	49.797896	8.330750	0.998857	-0.458950	0.007732	
50.00	CONT	100%	CONT	-62.613677	20.507179	87.221496	108.039666	0.022601	1640848.577788	1768212.236806	-44.499743	0.071917	0.038165	-0.000293	1.144787	2412251.763316	42.860406	49.755560	8.330750	0.998537	-0.460349	-0.024322	
60.00	CONT	100%	CONT	-62.662879	20.561444	84.396240	105.580168	0.010004	1640850.189940	1768216.540848	-53.380969	0.127273	0.051452	-0.000456	0.551622	2412256.014845	42.860364	49.760852	8.330750	0.997879	-0.458331	-0.045136	
70.00	CONT	100%	CONT	-62.654070	20.492384	86.017799	106.953989	0.010680	1640851.800440	1768220.842166	-62.263815	0.179107	0.064138	-0.000598	0.329197	2412260.263254	42.860323	49.824356	8.330750	0.997846	-0.458428	-0.040322	
80.00	CONT	100%	CONT	-62.748287	20.224542	87.576294	108.069590	0.011099	1640853.39596	1768225.141975	-71.150084	0.223492	0.063339	-0.000700	1.548118	2412264.500395	42.860281	49.803188	8.330750	0.997575	-0.457424	-0.023882	
90.00	CONT	100%	CONT	-62.645883	20.504692	85.808649	106.780601	0.016203	1640854.992236	1768229.442207	-80.036026	0.268590	0.063036	-0.000805	1.643156	2412268.738311	42.860239	49.866692	8.330750	0.999816	-0.458271	-0.032162	
100.00	CONT	100%	CONT	-62.786615	20.592406	83.809965	105.083074	0.006885	1640856.601207	1768233.734528	-88.923496	0.310335	0.077420	-0.000905	1.463630	2412272.979090	42.860198	49.871984	8.330750	1.042946	-0.454531	-0.049834	
101.71	100%	100%	100	-62.790462	20.598189	83.818869	105.096605	0.008525	1640856.876685	1768234.467607	-90.446553	0.315322	0.080518	-0.000915	0.272582	2412273.703831	42.860191	49.861400	8.330750	0.999916	-0.454500	-0.049128	
110.00	CONT	100%	CONT	-62.816473	20.489209	89.967988	110.460733	0.029264	1640858.205874	1768238.014433	-97.817733	0.337302	0.092091	-0.000953	0.678036	2412277.207841	42.860157	50.067788	8.330750	1.002132	-0.456380	-0.002091	
120.00	CONT	100%	CONT	-62.696966	20.608240	86.684614	107.654318	0.015346	1640859.805211	1768242.282104	-106.719320	0.348159	0.106399	-0.000972	1.627931	2412281.423209	42.860116	50.115416	8.330750	1.007773	-0.453146	-0.025843	
130.00	CONT	100%	CONT	-62.961750	20.562993	90.430087	110.946075	0.025426	1640861.403338	1768246.536016	-115.626679	0.346331	0.123611	-0.000987	0.221460	2412285.629253	42.860075	50.215964	8.330750	0.998354	-0.454161	-0.000110	
140.00	CONT	100%	CONT	-63.178473	20.543724	85.212523	106.269278	0.010968	1640862.993379	1768250.776721	-124.542287	0.326315	0.138214	-0.001024	2.168991	2412289.819324	42.860034	50.131292	8.330750	0.998326	-0.448996	-0.041514	
150.00	CONT	100%	CONT	-63.163956	20.517074	83.065379	104.323147	0.008381	1640864.576198	1768255.003326	-133.465879	0.288659	0.150955	-0.001103	0.188530	2412293.994149	42.859993	50.226548	8.330750	1.000194	-0.446963	-0.057067	
160.00	CONT	100%	CONT	-63.378591	20.499128	78.342561	100.048753	0.006373	1640866.151912	1768259.215941	-142.397334	0.233543	0.161904	-0.001267	2.147871	2412298.153887	42.859952	50.258300	8.330750	0.999080	-0.438667	-0.088667	
170.00	CONT	100%	CONT	-63.450729	20.393066	83.560989	104.628206	0.003826	1640867.715256	1768263.409301	-151.340021	0.153409	0.167958	-0.001591	0.863532	2412302.291099	42.859912	50.221256	8.330750	0.998647	-0.443465	-0.055303	
180.00	CONT	100%	CONT	-63.640509	20.533288	85.018034	106.067101	0.003237	1640869.272677	1768267.583040	-160.292912	0.050416	0.175289	-0.002129	1.997963	2412306.409900	42.859872	50.332388	8.330750	0.998605	-0.442057	-0.038334	
190.00	CONT	100%	CONT	-63.666576	20.512247	88.732076	109.375862	0.026964	1640870.828542	1768271.739354	-169.254180	-0.071418	0.187227	-0.002878	0.276895	2412310.514871	42.859832	50.390600	8.330750	1.001924	-0.442954	-0.009213	
200.00	CONT	100%	CONT	-63.905986	20.656582	82.274965	103.710812	0.006136	1640872.381550	1768275.874548	-178.225701	-0.216433	0.203838	-0.003951	2.477529	2412314.602418	42.859792	50.364140	8.330750	1.024527	-0.435830	-0.058974	
201.63	100%	100%	100	-63.901898	20.645575	82.185359	103.619290	0.003525	1640872.634508	1768276.545715	-179.690054	-0.243430	0.207373	-0.004179	0.388598	2412315.266462	42.859785	50.374724	8.330750	0.999861	-0.435776	-0.059737	
210.00	CONT	100%	CONT	-63.915643	20.512718	86.267143	107.159145	0.017378	1640873.														

Station	Iteration	Status	MotionStatus	Status	Inclination	Azimuth	GHS	ToolFace	Roll	Eastng	Northng	Elevation	UpDown	LeftRight	Shortfall	DLS	Closure	ClosureBearing	Temperature	Battery	Gravity	GravityX	GravityY
710.00	CONT	100%	CONT	CONT	-65.959802	20.524348	87.380042	108.131369	0.019122	1640947.648780	1768472.941372	-642.516773	-23.444514	2.173882	-0.569693	2.202184	2412510.254983	42.857919	54.364892	8.330750	0.999021	-0.404955	-0.023446
720.00	CONT	100%	CONT	CONT	-66.081843	20.769253	82.621956	104.018677	0.005173	1640949.081765	1768476.744390	-651.653705	-23.979301	2.193591	-0.584026	1.574808	2412514.017450	42.857882	54.528944	8.330750	0.997979	-0.401085	-0.053452
730.00	CONT	100%	CONT	CONT	-65.901246	20.867377	86.838945	107.981342	0.022080	1640950.527820	1768480.547460	-660.788556	-24.509046	2.225534	-0.598123	1.849572	2412517.788846	42.857846	54.513068	8.330750	1.000540	-0.406441	-0.025192
740.00	CONT	100%	CONT	CONT	-65.995247	21.232431	84.550194	106.251487	0.006675	1640951.991674	1768484.351093	-669.920337	-25.031408	2.273969	-0.611897	1.759890	2412521.572762	42.857810	54.481316	8.330750	0.997505	-0.404077	-0.039372
750.00	CONT	100%	CONT	CONT	-65.934184	21.182435	89.423473	110.656018	0.033691	1640953.465059	1768488.148249	-679.053285	-25.556754	2.333591	-0.625884	0.643684	2412525.358413	42.857774	54.645368	8.330750	1.000153	-0.407352	-0.003943
760.00	CONT	100%	CONT	CONT	-66.012943	21.451830	84.832951	106.728909	0.012103	1640954.945182	1768491.941259	-688.186864	-26.083759	2.400974	-0.640010	1.350336	2412529.145610	42.857739	54.624200	8.330750	0.998630	-0.404850	-0.037428
770.00	CONT	100%	CONT	CONT	-65.858200	21.793304	85.165630	107.380017	0.020606	1640956.447781	1768495.731929	-697.317741	-26.604523	2.490242	-0.653984	2.081659	2412532.946379	42.857704	54.661244	8.330750	1.000210	-0.407099	-0.036077
780.00	CONT	100%	CONT	CONT	-65.895853	21.622941	87.855872	109.665619	0.015019	1640957.959464	1768499.529041	-706.444445	-27.115195	2.585784	-0.667489	0.791556	2412536.758051	42.857669	54.735332	8.366200	0.999093	-0.407738	-0.011960
790.00	CONT	100%	CONT	CONT	-65.813211	21.837303	93.873811	115.371953	0.051413	1640959.473938	1768503.328895	-715.569545	-27.621982	2.682987	-0.680814	1.204930	2412540.573631	42.857634	54.730040	8.330750	0.999712	-0.407719	0.027491
800.00	55%	100%	55	CONT	-65.929299	21.876863	85.144295	107.441632	0.016675	1640960.995824	1768507.122923	-724.695835	-28.131877	2.789167	-0.694388	1.172087	2412544.389984	42.857599	54.835880	8.330750	1.021166	-0.406379	-0.034789
801.28	100%	100%	100	CONT	-65.929299	21.876863	85.144295	107.441632	0.016585	1640961.190779	1768507.608456	-725.867094	-28.198588	2.802938	-0.696198	0.000000	2412544.878506	42.857594	54.962888	8.330750	0.999727	-0.406360	-0.034356
810.00	CONT	100%	CONT	CONT	-65.668690	22.135587	88.644759	110.900681	0.035178	1640962.529836	1768510.921592	-733.818153	-28.632332	2.905099	-0.707604	3.227682	2412548.217987	42.857564	55.275116	8.330750	0.992552	-0.410985	-0.006623
820.00	CONT	100%	CONT	CONT	-65.688535	22.595939	83.941315	107.074748	0.008975	1640964.097121	1768514.730238	-742.930657	-29.109679	3.048753	-0.720041	1.921490	2412552.075937	42.857530	55.370372	8.330750	0.999076	-0.408675	-0.044501
830.00	CONT	100%	CONT	CONT	-65.511121	22.584069	88.711022	111.411011	0.032923	1640965.684128	1768518.544310	-752.037478	-29.573798	3.209005	-0.732107	1.775306	2412555.951280	42.857496	55.396832	8.330750	0.999866	-0.413020	-0.008435
840.00	CONT	100%	CONT	CONT	-65.608887	22.459046	85.364646	108.235839	0.017926	1640967.268888	1768522.366168	-761.141428	-30.030808	3.364441	-0.743766	1.106069	2412559.830802	42.857462	55.412708	8.330750	0.998057	-0.410977	-0.023586
850.00	CONT	100%	CONT	CONT	-65.469880	22.564858	87.227639	110.042382	0.033533	1640968.854262	1768526.191318	-770.243887	-30.484200	3.519308	-0.755253	1.457487	2412563.713156	42.857428	55.486796	8.295300	0.998822	-0.412981	-0.021563
860.00	CONT	100%	CONT	CONT	-65.544175	22.468123	85.096287	108.002501	0.012942	1640970.441904	1768530.021092	-779.344008	-30.931965	3.674690	-0.766492	0.844287	2412567.600443	42.857393	55.481504	8.295300	0.999555	-0.411095	-0.036077
870.00	CONT	100%	CONT	CONT	-65.459505	22.577469	84.594153	107.657429	0.022926	1640972.030284	1768533.851452	-788.443754	-31.378842	3.830560	-0.777699	0.960462	2412551.488662	42.857359	55.545008	8.295300	0.997819	-0.411687	-0.038646
890.00	CONT	100%	CONT	CONT	-65.285478	22.446361	91.041860	113.392808	0.046609	1640975.221268	1768541.550725	-806.624471	-32.227460	4.142219	-0.798150	0.912011	2412579.303040	42.857290	55.539716	8.330750	1.001802	-0.415616	0.003538
900.00	CONT	100%	CONT	CONT	-65.438650	22.407545	84.047899	106.990648	0.018453	1640976.811701	1768545.404247	-815.714071	-32.649748	4.291952	-0.808195	1.540247	2412583.209637	42.857256	55.682600	8.330750	1.000715	-0.412063	-0.043992
910.00	CONT	100%	CONT	CONT	-65.302207	22.237819	89.128895	111.446388	0.032689	1640978.394594	1768549.259434	-824.804282	-33.073261	4.434038	-0.818181	1.536872	2412587.112327	42.857221	55.740812	8.330750	0.998956	-0.415416	-0.008035
920.00	CONT	100%	CONT	CONT	-65.347775	22.395907	84.164583	107.092765	0.013921	1640979.979965	1768553.121396	-833.891186	-33.488845	4.576088	-0.827831	0.814412	2412591.021670	42.857186	55.777856	8.330750	1.001442	-0.412846	-0.041739
930.00	CONT	100%	CONT	CONT	-65.294508	22.629059	82.620279	105.918352	0.015345	1640981.578756	1768553.978478	-842.977811	-33.904216	4.732418	-0.837686	1.096523	2412594.936566	42.857152					

GravityZ	TimeToStation	TimeInMotion	Note
0.890394	0.000000	0.000000	
0.892880	30.795000	7.660000	
0.890901	3.791000	3.795000	
0.886850	3.806000	3.820000	
0.887142	3.776000	3.785000	
0.885756	3.619000	3.630000	
0.885245	3.401000	3.405000	
0.885389	3.400000	3.410000	
0.886200	3.386000	3.395000	
0.888024	3.416000	3.420000	
0.937366	3.182000	3.195000	
0.889297	65.817000	40.760000 driftcheck	
0.892177	32.573000	6.845000	
0.899777	3.604000	3.610000	
0.889072	4.197000	4.205000	
0.890693	4.212000	4.225000	
0.892947	4.196000	4.205000	
0.893236	4.196000	4.205000	
0.893071	4.197000	4.205000	
0.894611	4.212000	4.220000	
0.898642	3.993000	4.005000	
0.925327	4.197000	4.205000	
0.897916	69.639000	43.505000 driftcheck	
0.893176	33.010000	7.060000	
0.905926	3.401000	3.405000	
0.899588	3.198000	3.210000	
0.901338	3.790000	3.800000	
0.900780	3.807000	3.810000	
0.904119	3.993000	4.005000	
0.907972	4.212000	4.220000	
0.904126	4.602000	4.615000	
0.907420	4.400000	4.410000	
0.906234	4.212000	4.220000	
0.906710	4.383000	4.395000	
0.905140	4.400000	4.405000	
0.907212	4.196000	4.205000	
0.907356	4.399000	4.410000	
0.906476	4.197000	4.205000	
0.907303	4.025000	4.035000	
0.906888	4.165000	4.175000	
0.911427	4.025000	4.030000	
0.907595	4.180000	4.190000	
0.930884	4.010000	4.020000	
0.910230	110.714000	83.925000 driftcheck	
0.901457	34.195000	6.695000	
0.908885	4.009000	4.020000	
0.905597	3.588000	3.590000	
0.913404	3.604000	3.615000	
0.910337	3.604000	3.615000	
0.915491	3.400000	3.410000	
0.912916	3.588000	3.595000	
0.917701	3.604000	3.610000	
0.913256	3.604000	3.615000	
0.912650	3.588000	3.595000	
0.910213	7.004000	7.020000	
0.912931	6.989000	6.995000	
0.914818	3.401000	3.415000	
0.912840	3.401000	3.410000	
0.914859	3.198000	3.200000	
0.911324	3.198000	3.210000	
0.912526	3.213000	3.225000	
0.914916	99.997000	74.975000 driftcheck	
0.916653	39.780000	11.280000	
0.909171	4.213000	4.220000	
0.911381	4.586000	4.595000	
0.912063	4.196000	4.210000	
0.914737	4.010000	4.020000	
0.915857	4.009000	4.015000	
0.912432	3.993000	4.000000	
0.909160	4.010000	4.020000	
0.913271	3.791000	3.800000	
0.914523	3.993000	4.005000	

GravityZ	TimeToStation	TimeInMotion	Note
0.912965	3.807000	3.815000	
0.912270	3.806000	3.810000	
0.913921	3.806000	3.820000	
0.911146	3.791000	3.800000	
0.913430	3.791000	3.800000	
0.912117	3.806000	3.810000	
0.912902	3.807000	3.820000	
0.912914	3.604000	3.610000	
0.912378	3.775000	3.785000	
0.936176	3.822000	3.725000	
0.912768	113.007000	80.520000 driftcheck	
0.903441	35.365000	7.045000	
0.910581	4.025000	4.035000	
0.910535	3.791000	3.800000	
0.908930	3.791000	3.800000	
0.909191	3.806000	3.815000	
0.910390	3.619000	3.625000	
0.908109	3.791000	3.800000	
0.911515	6.989000	7.000000	
0.910878	3.994000	4.005000	
0.908448	4.009000	4.020000	
0.911429	3.978000	3.985000	
0.908776	4.212000	4.225000	
0.910354	4.009000	4.015000	
0.912839	4.197000	4.205000	
0.908851	3.993000	4.005000	
0.912407	7.816000	7.830000	
0.921638	3.791000	3.795000	
0.909432	4.212000	4.220000	
0.913833	107.157000	83.750000 driftcheck	
0.906045	35.584000	11.860000	
0.911157	5.194000	5.205000	
0.912999	4.400000	4.410000	
0.914165	4.399000	4.410000	
0.909780	4.586000	4.595000	
0.916098	5.211000	5.220000	
0.897922	8.798000	8.815000	

DEPT[FT]	Gamma	Neutron	Neutron
3.8	21.0612	-99999	-99999
4	26.3022	-99999	-99999
4.2	11.2287	-99999	-99999
4.4	29.6423	-99999	-99999
4.6	22.376	-99999	-99999
4.8	26.9116	-99999	-99999
5	24.5852	-99999	-99999
5.2	25.1811	-99999	-99999
5.4	14.6189	-99999	-99999
5.6	32.8094	-99999	-99999
5.8	29.3248	-99999	-99999
6	33.9245	-99999	-99999
6.2	30.0859	-99999	-99999
6.4	22.4198	-99999	-99999
6.6	38.9975	-99999	-99999
6.8	38.6386	-99999	-99999
7	26.4874	-99999	-99999
7.2	22.1427	-99999	-99999
7.4	29.9716	-99999	-99999
7.6	30.2776	-99999	-99999
7.8	23.747	-99999	-99999
8	28.3341	-99999	-99999
8.2	27.821	-99999	-99999
8.4	27.2444	-99999	-99999
8.6	32.6448	-99999	-99999
8.8	27.0959	-99999	-99999
9	29.6915	-99999	-99999
9.2	19.2922	-99999	-99999
9.4	19.4078	-99999	-99999
9.6	23.791	-99999	-99999
9.8	28.6135	-99999	-99999
10	24.1191	-99999	-99999
10.2	27.2078	-99999	-99999
10.4	22.5554	-99999	-99999
10.6	51.3376	-99999	-99999
10.8	25.6017	-99999	-99999
11	40.0844	-99999	-99999
11.2	50.8302	-99999	-99999
11.4	40.9091	-99999	-99999
11.6	31.6254	-99999	-99999
11.8	31.7881	-99999	-99999
12	16.9832	-99999	-99999
12.2	16.9647	-99999	-99999
12.4	43.957	-99999	-99999
12.6	24.8855	-99999	-99999
12.8	15.0774	-99999	-99999

DEPT[FT]	Gamma	Neutron	Neutron
13	18.0995	-99999	-99999
13.2	29.7735	-99999	-99999
13.4	31.6116	-99999	-99999
13.6	20.9487	-99999	-99999
13.8	41.3943	-99999	-99999
14	13.9725	-99999	-99999
14.2	21.8615	-99999	-99999
14.4	10.7707	-99999	-99999
14.6	29.5057	-99999	-99999
14.8	21.0127	752.334	752.334
15	24.8045	790.947	790.947
15.2	12.027	790.567	790.567
15.4	36.3682	792.207	792.207
15.6	25.5961	802.829	802.829
15.8	18.0719	789.803	789.803
16	25.5734	766.784	766.784
16.2	18.0672	592.984	592.984
16.4	22.9456	796.565	796.565
16.6	27.398	847.153	847.153
16.8	39.0477	832.208	832.208
17	21.0804	752.072	752.072
17.2	12.0075	808.306	808.306
17.4	22.2632	792.342	792.342
17.6	27.1171	826.259	826.259
17.8	17.6554	880.054	880.054
18	26.6433	878.202	878.202
18.2	11.9286	936.63	936.63
18.4	24.9866	850.396	850.396
18.6	11.8207	829.862	829.862
18.8	14.9434	782.128	782.128
19	29.1644	806.059	806.059
19.2	1.86904	819.554	819.554
19.4	16.7514	921.871	921.871
19.6	34.0623	871.6	871.6
19.8	9.95189	899.392	899.392
20	24.5696	777.114	777.114
20.2	16.972	873.886	873.886
20.4	15.4622	975.525	975.525
20.6	15.4464	802.329	802.329
20.8	23.1238	810.002	810.002
21	32.2796	756.92	756.92
21.2	29.091	715.346	715.346
21.4	28.3122	763.629	763.629
21.6	25.2744	768.155	768.155
21.8	32.9536	969.912	969.912
22	19.4394	775.255	775.255

DEPT[FT]	Gamma	Neutron	Neutron
22.2	20.457	772.916	772.916
22.4	26.9014	671.415	671.415
22.6	30.4479	746.089	746.089
22.8	20.6082	827.086	827.086
23	39.0619	857.999	857.999
23.2	25.409	744.305	744.305
23.4	27.8827	788.291	788.291
23.6	37.1181	640.321	640.321
23.8	34.9439	962.031	962.031
24	16.2783	755.667	755.667
24.2	32.4353	731.683	731.683
24.4	27.5853	837.929	837.929
24.6	38.9169	806.103	806.103
24.8	36.3233	842.659	842.659
25	36.2906	795.874	795.874
25.2	40.168	945.175	945.175
25.4	40.4444	888.194	888.194
25.6	37.2199	794.711	794.711
25.8	46.8088	772.844	772.844
26	30.9793	793.229	793.229
26.2	34.9599	819.028	819.028
26.4	33.6329	910.577	910.577
26.6	33.2168	817.883	817.883
26.8	42.5309	835.576	835.576
27	25.2381	852.792	852.792
27.2	38.1744	820.133	820.133
27.4	31.1058	666.39	666.39
27.6	25.3678	816.847	816.847
27.8	38.6472	900.271	900.271
28	31.2021	879.035	879.035
28.2	52.5765	694.143	694.143
28.4	23.5605	853.292	853.292
28.6	36.2176	749.686	749.686
28.8	47.143	834.702	834.702
29	35.8954	781.433	781.433
29.2	43.6213	759.622	759.622
29.4	18.0496	768.413	768.413
29.6	36.6279	973.575	973.575
29.8	43.5319	781.717	781.717
30	30.8638	834.742	834.742
30.2	40.2114	722.964	722.964
30.4	23.7509	787.843	787.843
30.6	25.4708	725.189	725.189
30.8	47.4296	697.936	697.936
31	39.6015	783.261	783.261
31.2	37.2874	859.587	859.587

DEPT[FT]	Gamma	Neutron	Neutron
31.4	49.5998	869.314	869.314
31.6	31.6795	673.346	673.346
31.8	45.1691	812.26	812.26
32	39.3925	807.143	807.143
32.2	39.3591	797.685	797.685
32.4	41.347	797.251	797.251
32.6	39.9945	628.513	628.513
32.8	51.1766	726.976	726.976
33	47.2625	726.363	726.363
33.2	64.5492	643.788	643.788
33.4	42.37	857.079	857.079
33.6	29.764	798.754	798.754
33.8	30.5834	773.705	773.705
34	29.0614	885.872	885.872
34.2	36.5208	807.574	807.574
34.4	34.6424	842.674	842.674
34.6	48.8881	755.053	755.053
34.8	53.1049	780.22	780.22
35	24.1264	726.83	726.83
35.2	42.9466	696.453	696.453
35.4	29.4813	966.834	966.834
35.6	25.1692	813.035	813.035
35.8	31.6742	838.797	838.797
36	37.1872	822.1	822.1
36.2	32.9803	824.375	824.375
36.4	47.1482	642.166	642.166
36.6	25.7768	771.949	771.949
36.8	31.5232	850.05	850.05
37	42.2906	713.714	713.714
37.2	44.2407	932.117	932.117
37.4	33.8075	710.906	710.906
37.6	50.7318	883.623	883.623
37.8	29.9176	751.891	751.891
38	23.0606	824.394	824.394
38.2	48.7095	722.46	722.46
38.4	29.43	741.589	741.589
38.6	33.6371	854.324	854.324
38.8	41.9846	763.72	763.72
39	45.6003	691.362	691.362
39.2	37.0309	808.154	808.154
39.4	39.7705	738.431	738.431
39.6	24.0202	705.539	705.539
39.8	19.4947	757.918	757.918
40	48.0437	695.763	695.763
40.2	12.6914	791.883	791.883
40.4	34.3227	705.444	705.444

DEPT[FT]	Gamma	Neutron	Neutron
40.6	35.0917	823.801	823.801
40.8	50.9057	763.725	763.725
41	26.544	752.969	752.969
41.2	24.5084	794.546	794.546
41.4	31.7706	662.503	662.503
41.6	37.0539	722.285	722.285
41.8	27.5545	627.325	627.325
42	32.8677	724.408	724.408
42.2	41.5896	605.759	605.759
42.4	48.7551	724.14	724.14
42.6	33.5687	755.828	755.828
42.8	31.7362	594.826	594.826
43	31.25	615.624	615.624
43.2	44.4958	699.66	699.66
43.4	21.7668	827.112	827.112
43.6	51.6432	837.42	837.42
43.8	41.5613	699.326	699.326
44	52.0003	768.821	768.821
44.2	29.8664	741.521	741.521
44.4	33.0419	747.05	747.05
44.6	52.0147	690.147	690.147
44.8	32.3226	719.295	719.295
45	59.0731	776.035	776.035
45.2	48.8094	607.157	607.157
45.4	45.1131	767.145	767.145
45.6	44.5889	785.231	785.231
45.8	38.1972	633.642	633.642
46	41.9563	757.201	757.201
46.2	45.2567	675.603	675.603
46.4	54.0952	704.775	704.775
46.6	45.3244	665.13	665.13
46.8	49.7441	745.682	745.682
47	55.1615	795.395	795.395
47.2	51.1562	703.8	703.8
47.4	46.1594	716.118	716.118
47.6	37.2093	740.076	740.076
47.8	50.5799	795.138	795.138
48	31.9859	706.946	706.946
48.2	13.5451	831.482	831.482
48.4	54.0522	626.302	626.302
48.6	58.0348	741.852	741.852
48.8	40.3616	723.67	723.67
49	58.5421	758.615	758.615
49.2	23.0862	680.722	680.722
49.4	54.3187	746.654	746.654
49.6	71.0429	741.629	741.629

DEPT[FT]	Gamma	Neutron	Neutron
49.8	36.5319	737.977	737.977
50	53.6935	617.912	617.912
50.2	35.8457	759.158	759.158
50.4	23.5963	816.719	816.719
50.6	48.0248	625.106	625.106
50.8	40.4634	913.631	913.631
51	40.1324	739.162	739.162
51.2	24.8417	620.906	620.906
51.4	27.5229	826.511	826.511
51.6	54.18	775.925	775.925
51.8	41.5094	686.412	686.412
52	30.5948	846.941	846.941
52.2	22.2608	792.54	792.54
52.4	38.2781	738.273	738.273
52.6	53.9807	734.845	734.845
52.8	46.1888	668.523	668.523
53	40.6862	739.167	739.167
53.2	42.264	750.456	750.456
53.4	19.1246	696.858	696.858
53.6	25.1091	695.828	695.828
53.8	49.8655	639.009	639.009
54	38.2732	739.063	739.063
54.2	60.1956	767.184	767.184
54.4	72.4277	712.535	712.535
54.6	22.5365	870.658	870.658
54.8	59.4206	716.302	716.302
55	49.9025	672.291	672.291
55.2	27.7203	639.428	639.428
55.4	39.293	838.843	838.843
55.6	35.3558	813.231	813.231
55.8	29.2404	769.069	769.069
56	47.2179	702.953	702.953
56.2	28.2649	740.681	740.681
56.4	40.263	707.228	707.228
56.6	39.0321	660.576	660.576
56.8	43.5142	794.606	794.606
57	29.4739	501.728	501.728
57.2	19.4716	686.961	686.961
57.4	46.5081	661.795	661.795
57.6	57.0668	837.384	837.384
57.8	51.9889	662.668	662.668
58	64.8663	778.791	778.791
58.2	58.3392	705.24	705.24
58.4	71.2902	833.587	833.587
58.6	44.75	767.816	767.816
58.8	46.3494	781.614	781.614

DEPT[FT]	Gamma	Neutron	Neutron
59	27.2166	998.402	998.402
59.2	51.1726	772.854	772.854
59.4	43.3262	1147.07	1147.07
59.6	43.8514	843.19	843.19
59.8	41.4965	732.33	732.33
60	47.4734	860.663	860.663
60.2	48.3991	1004.2	1004.2
60.4	37.167	883.793	883.793
60.6	35.3354	897.184	897.184
60.8	32.6821	784.822	784.822
61	41.2844	782.944	782.944
61.2	41.8074	826.111	826.111
61.4	38.3249	900.536	900.536
61.6	43.5286	863.455	863.455
61.8	35.0093	947.082	947.082
62	40.9386	865.23	865.23
62.2	44.4084	888.058	888.058
62.4	40.6691	955.484	955.484
62.6	44.7119	814.31	814.31
62.8	53.614	700.649	700.649
63	55.189	982.547	982.547
63.2	75.8725	963.359	963.359
63.4	32.7721	972.543	972.543
63.6	44.8855	791.191	791.191
63.8	36.2069	751.1	751.1
64	60.6225	791.697	791.697
64.2	47.1545	768.625	768.625
64.4	43.8344	1014.71	1014.71
64.6	55.7676	739.192	739.192
64.8	54.2255	928.815	928.815
65	58.8235	942.614	942.614
65.2	31.0963	730.404	730.404
65.4	48.9213	747.359	747.359
65.6	38.3397	735.767	735.767
65.8	43.2455	756.953	756.953
66	40.7336	831.582	831.582
66.2	40.727	800.771	800.771
66.4	49.1469	894.172	894.172
66.6	37.1358	911.962	911.962
66.8	32.8471	875.257	875.257
67	34.9673	733.603	733.603
67.2	39.7661	806.068	806.068
67.4	40.9846	863.236	863.236
67.6	62.9382	735.451	735.451
67.8	33.3716	782.549	782.549
68	41.0953	872.83	872.83

DEPT[FT]	Gamma	Neutron	Neutron
68.2	50.3585	802.489	802.489
68.4	54.8352	877.22	877.22
68.6	48.0546	920.451	920.451
68.8	31.5514	843.049	843.049
69	50.0822	778.246	778.246
69.2	55.1227	879.631	879.631
69.4	47.6609	890.97	890.97
69.6	52.1233	865.171	865.171
69.8	36.1608	898.426	898.426
70	45.3613	986.532	986.532
70.2	26.3074	956.277	956.277
70.4	43.136	958.866	958.866
70.6	28.5097	974.746	974.746
70.8	39.7709	818.042	818.042
71	42.3896	910.353	910.353
71.2	26.6688	928.355	928.355
71.4	30.9128	842.864	842.864
71.6	24.2238	981.923	981.923
71.8	30.3836	899.385	899.385
72	43.421	842.623	842.623
72.2	49.8214	1119.08	1119.08
72.4	34.765	907.227	907.227
72.6	50.2447	899.856	899.856
72.8	46.1057	867.515	867.515
73	39.0512	1009.12	1009.12
73.2	35.6916	1027.58	1027.58
73.4	43.9641	972.418	972.418
73.6	24.0525	863.635	863.635
73.8	49.9478	910.14	910.14
74	32.4356	842.836	842.836
74.2	23.4949	1015.88	1015.88
74.4	37.0739	941.025	941.025
74.6	27.0022	1068.99	1068.99
74.8	45.5987	1103.77	1103.77
75	39.9223	1015.33	1015.33
75.2	28.7937	902.642	902.642
75.4	30.7427	864.702	864.702
75.6	32.7881	925.907	925.907
75.8	16.0238	942.292	942.292
76	44.4966	932.263	932.263
76.2	46.7975	920.216	920.216
76.4	35.8806	950.665	950.665
76.6	28.0401	842.516	842.516
76.8	34.7551	954.768	954.768
77	33.9682	881.129	881.129
77.2	29.9279	972.068	972.068

DEPT[FT]	Gamma	Neutron	Neutron
77.4	30.1592	860.18	860.18
77.6	34.9275	974.006	974.006
77.8	42.2483	1114.04	1114.04
78	54.5876	985.716	985.716
78.2	29.9905	890.425	890.425
78.4	33.8862	903.944	903.944
78.6	39.2408	796.608	796.608
78.8	35.9585	825.659	825.659
79	23.8228	810.977	810.977
79.2	37.7662	904.674	904.674
79.4	56.1237	834.345	834.345
79.6	45.3952	852.414	852.414
79.8	53.5671	992.959	992.959
80	39.9509	894.19	894.19
80.2	49.3782	999.253	999.253
80.4	35.6912	864.147	864.147
80.6	44.8044	876.067	876.067
80.8	35.4964	945.713	945.713
81	38.0555	987.827	987.827
81.2	45.0324	941.308	941.308
81.4	49.1744	961.771	961.771
81.6	39.1827	756.273	756.273
81.8	55.5646	836.372	836.372
82	38.3777	875.378	875.378
82.2	50.9802	919.857	919.857
82.4	23.8781	892.896	892.896
82.6	53.9368	889.883	889.883
82.8	66.6226	781.018	781.018
83	47.7129	807.942	807.942
83.2	33.0648	792.945	792.945
83.4	28.8387	997.767	997.767
83.6	47.0325	911.796	911.796
83.8	55.5011	974.983	974.983
84	32.8832	883.835	883.835
84.2	36.4785	843.904	843.904
84.4	42.167	756.734	756.734
84.6	52.6921	849.416	849.416
84.8	30.2085	842.007	842.007
85	38.4158	977.748	977.748
85.2	36.6142	854.272	854.272
85.4	61.7159	753.678	753.678
85.6	28.6553	926.314	926.314
85.8	46.6884	938.934	938.934
86	33.7843	856.244	856.244
86.2	28.9761	1022.63	1022.63
86.4	41.0575	902.795	902.795

DEPT[FT]	Gamma	Neutron	Neutron
86.6	50.4972	880.829	880.829
86.8	41.2639	906.322	906.322
87	33.8306	876.86	876.86
87.2	25.9692	959.618	959.618
87.4	33.7276	1021.83	1021.83
87.6	45.2489	874.831	874.831
87.8	42.8692	906.367	906.367
88	40.0895	861.823	861.823
88.2	42.6602	851.937	851.937
88.4	54.506	812.207	812.207
88.6	33.0839	867.991	867.991
88.8	47.1416	1078.64	1078.64
89	53.5897	892.812	892.812
89.2	51.4042	835.453	835.453
89.4	34.2367	973.926	973.926
89.6	39.8466	838.754	838.754
89.8	49.0512	871.837	871.837
90	32.5581	1031.99	1031.99
90.2	32.7132	833.727	833.727
90.4	28.0654	801.941	801.941
90.6	28.5902	825.072	825.072
90.8	31.0498	790.964	790.964
91	45.9724	994.657	994.657
91.2	30.7343	953.953	953.953
91.4	36.0519	910.12	910.12
91.6	30.6721	904.704	904.704
91.8	27.4284	1014.04	1014.04
92	45.262	918.416	918.416
92.2	33.7358	852.04	852.04
92.4	31.0465	1134.62	1134.62
92.6	32.3302	893.875	893.875
92.8	36.3564	810.765	810.765
93	56.4819	961.926	961.926
93.2	27.5967	910	910
93.4	44.1238	882.835	882.835
93.6	57.6743	925.505	925.505
93.8	53.7257	667.3	667.3
94	20.2303	916.743	916.743
94.2	13.7061	907.379	907.379
94.4	19.6443	1066.73	1066.73
94.6	19.003	834.173	834.173
94.8	58.411	816.066	816.066
95	23.0448	886.582	886.582
95.2	75.8433	1057.89	1057.89
95.4	31.6722	993.099	993.099
95.6	27.0725	912.167	912.167

DEPT[FT]	Gamma	Neutron	Neutron
95.8	31.6717	875.398	875.398
96	31.4542	876.379	876.379
96.2	40.8632	856.541	856.541
96.4	54.1199	810.326	810.326
96.6	40.5771	942.513	942.513
96.8	27.8069	928.666	928.666
97	48.5595	1033.27	1033.27
97.2	22.5202	974.177	974.177
97.4	23.0213	899.03	899.03
97.6	31.6736	931.021	931.021
97.8	40.5405	991.314	991.314
98	45.0758	948.782	948.782
98.2	48.7605	873.873	873.873
98.4	41.0632	973.426	973.426
98.6	46.5779	1103.74	1103.74
98.8	81.3999	880.929	880.929
99	19.4624	688.026	688.026
99.2	23.9498	915.451	915.451
99.4	33.0467	1032.39	1032.39
99.6	40.8111	979.173	979.173
99.8	40.378	1024.62	1024.62
100	56.7251	972.991	972.991
100.2	31.8901	874.728	874.728
100.4	44.8258	947.38	947.38
100.6	45.1981	897.899	897.899
100.8	52.9656	740.549	740.549
101	27.2211	801.444	801.444
101.2	40.5798	1006.86	1006.86
101.4	51.2227	1026.12	1026.12
101.6	47.4971	1043.98	1043.98
101.8	45.7607	954.865	954.865
102	17.6072	765.333	765.333
102.2	45.6473	882.014	882.014
102.4	36.1777	833.759	833.759
102.6	38.8995	886.762	886.762
102.8	38.0363	963.625	963.625
103	34.7928	865.479	865.479
103.2	49.0452	914.618	914.618
103.4	41.6922	828.665	828.665
103.6	47.3938	956.515	956.515
103.8	42.8328	1037.78	1037.78
104	19.1389	1037.29	1037.29
104.2	34.065	954.594	954.594
104.4	44.6053	888.909	888.909
104.6	59.2837	955.263	955.263
104.8	52.6199	977.538	977.538

DEPT[FT]	Gamma	Neutron	Neutron
105	44.843	943.526	943.526
105.2	58.7551	907.76	907.76
105.4	38.6995	788.446	788.446
105.6	29.5698	870.181	870.181
105.8	37.662	996.042	996.042
106	55.7288	978.438	978.438
106.2	37.9332	938.196	938.196
106.4	34.2559	845.646	845.646
106.6	44.8873	1139.07	1139.07
106.8	15.5691	983.002	983.002
107	59.8656	1081.68	1081.68
107.2	39.8574	803.181	803.181
107.4	29.9487	848.492	848.492
107.6	16.8748	1094.73	1094.73
107.8	43.4626	881.126	881.126
108	29.6096	767.323	767.323
108.2	41.3253	935.332	935.332
108.4	26.5423	866.457	866.457
108.6	52.3617	784.5	784.5
108.8	46.0234	1076.94	1076.94
109	31.8874	905.141	905.141
109.2	46.9169	1159.58	1159.58
109.4	17.9393	729.995	729.995
109.6	22.4241	728.391	728.391
109.8	31.6335	873.896	873.896
110	34.1001	774.624	774.624
110.2	25.273	1077.01	1077.01
110.4	51.6632	876.576	876.576
110.6	41.653	1079.6	1079.6
110.8	25.616	809.996	809.996
111	23.8516	869.115	869.115
111.2	34.6231	1053.33	1053.33
111.4	29.6317	1001.85	1001.85
111.6	64.8383	857.651	857.651
111.8	46.5737	882.634	882.634
112	43.6285	910.969	910.969
112.2	43.8676	962.821	962.821
112.4	51.0211	899.792	899.792
112.6	24.717	751.497	751.497
112.8	55.0459	981.502	981.502
113	38.7492	992.79	992.79
113.2	38.9446	984.759	984.759
113.4	23.1933	956.734	956.734
113.6	63.2232	858.121	858.121
113.8	44.485	787.071	787.071
114	59.183	909.87	909.87

DEPT[FT]	Gamma	Neutron	Neutron
114.2	34.7628	911.551	911.551
114.4	31.5159	879.748	879.748
114.6	36.6492	868.852	868.852
114.8	36.8779	843.916	843.916
115	58.8746	842.698	842.698
115.2	40.0243	865.151	865.151
115.4	38.5794	825.187	825.187
115.6	47.2677	1151.69	1151.69
115.8	42.8698	861.565	861.565
116	31.4136	959.441	959.441
116.2	33.4309	932.808	932.808
116.4	33.6602	806.13	806.13
116.6	44.9688	832.118	832.118
116.8	52.5612	808.286	808.286
117	35.1069	808.163	808.163
117.2	52.3243	882.283	882.283
117.4	37.2128	941.537	941.537
117.6	48.5305	812.847	812.847
117.8	30.893	838.49	838.49
118	24.5447	969.049	969.049
118.2	61.2854	796.906	796.906
118.4	62.0188	1022.93	1022.93
118.6	53.7545	881.648	881.648
118.8	49.6887	947.397	947.397
119	28.8097	961.638	961.638
119.2	54.4928	938.882	938.882
119.4	49.1416	903.131	903.131
119.6	28.8124	1133.18	1133.18
119.8	52.0881	933.871	933.871
120	46.9983	866.455	866.455
120.2	34.0419	981.93	981.93
120.4	34.0681	842.796	842.796
120.6	31.3066	834.132	834.132
120.8	57.1408	865.665	865.665
121	18.2608	972.406	972.406
121.2	30.8328	748.272	748.272
121.4	51.794	893.796	893.796
121.6	49.576	953.158	953.158
121.8	32.1836	1007.41	1007.41
122	53.1615	1054.34	1054.34
122.2	46.8367	920.262	920.262
122.4	33.4833	839.086	839.086
122.6	20.6618	897.277	897.277
122.8	31.2317	860.943	860.943
123	26.0297	972.13	972.13
123.2	48.7561	875.977	875.977

DEPT[FT]	Gamma	Neutron	Neutron
123.4	22.0859	1004.7	1004.7
123.6	19.4852	975.755	975.755
123.8	20.2311	844.782	844.782
124	57.1136	829.018	829.018
124.2	35.0595	837.631	837.631
124.4	42.8206	1021	1021
124.6	39.3803	763.266	763.266
124.8	31.6123	877.276	877.276
125	37.3747	846.794	846.794
125.2	51.0977	821.752	821.752
125.4	43.6027	989.592	989.592
125.6	29.394	812.209	812.209
125.8	22.1834	937.452	937.452
126	33.3895	898.559	898.559
126.2	36.1623	976.074	976.074
126.4	36.4583	1006.04	1006.04
126.6	35.2595	947.937	947.937
126.8	31.5193	824.056	824.056
127	31.8547	879.054	879.054
127.2	32.0612	808.87	808.87
127.4	33.5887	831.088	831.088
127.6	33.7224	979.901	979.901
127.8	58.4929	931.406	931.406
128	39.0758	867.417	867.417
128.2	36.962	967.17	967.17
128.4	19.0407	898.511	898.511
128.6	29.5661	985.453	985.453
128.8	48.1689	877.392	877.392
129	52.0712	769.615	769.615
129.2	25.3172	771.251	771.251
129.4	72.8419	976.412	976.412
129.6	36.5344	1014.09	1014.09
129.8	38.5647	929.694	929.694
130	37.5364	1079.67	1079.67
130.2	40.3666	949.611	949.611
130.4	37.0858	956.626	956.626
130.6	47.7361	1003.44	1003.44
130.8	46.875	915.639	915.639
131	38.6085	967.204	967.204
131.2	26.1154	850.675	850.675
131.4	30.0632	931.026	931.026
131.6	38.5623	853.443	853.443
131.8	30.5499	804.124	804.124
132	29.1027	939.468	939.468
132.2	26.3126	866.995	866.995
132.4	46.5736	723.053	723.053

DEPT[FT]	Gamma	Neutron	Neutron
132.6	42.6078	995.034	995.034
132.8	33.3193	916.577	916.577
133	54.0026	909.759	909.759
133.2	15.6624	974.553	974.553
133.4	49.3249	831.765	831.765
133.6	53.2246	972.18	972.18
133.8	51.9288	1023.3	1023.3
134	40.1195	930.528	930.528
134.2	74.9615	1083.44	1083.44
134.4	36.7155	969.152	969.152
134.6	31.3812	946.028	946.028
134.8	45.2491	949.118	949.118
135	43.8732	886.998	886.998
135.2	27.5268	1155.67	1155.67
135.4	35.5421	989.094	989.094
135.6	61.8448	931.101	931.101
135.8	44.9007	979.733	979.733
136	55.079	815.748	815.748
136.2	45.598	907.738	907.738
136.4	15.0836	996.891	996.891
136.6	32.606	867.464	867.464
136.8	61.5937	883.817	883.817
137	34.0619	809.453	809.453
137.2	42.586	827.127	827.127
137.4	63.8298	1031.43	1031.43
137.6	56.013	848.118	848.118
137.8	30.438	1011.27	1011.27
138	65.4075	894.544	894.544
138.2	43.8467	880.644	880.644
138.4	47.464	1010.52	1010.52
138.6	45.2745	855.771	855.771
138.8	44.1906	909.016	909.016
139	38.2697	861.088	861.088
139.2	31.9124	1007.67	1007.67
139.4	41.8163	986.519	986.519
139.6	36.9909	841.424	841.424
139.8	35.6806	837.628	837.628
140	22.194	1072.62	1072.62
140.2	41.6845	842.669	842.669
140.4	36.4207	813.303	813.303
140.6	37.034	916.32	916.32
140.8	26.8779	849.426	849.426
141	25.754	1010.91	1010.91
141.2	52.1461	951.932	951.932
141.4	17.5197	832.076	832.076
141.6	47.3404	848.36	848.36

DEPT[FT]	Gamma	Neutron	Neutron
141.8	37.2938	904.326	904.326
142	22.1026	843.752	843.752
142.2	57.553	820.651	820.651
142.4	26.1263	888.424	888.424
142.6	51.1688	837.303	837.303
142.8	46.2901	971.371	971.371
143	56.258	922.1	922.1
143.2	21.6597	1005.89	1005.89
143.4	47.1957	936.502	936.502
143.6	67.3614	933.234	933.234
143.8	36.3874	919.238	919.238
144	36.4444	1028.03	1028.03
144.2	36.6492	1132	1132
144.4	57.3548	934.879	934.879
144.6	67.6008	758.719	758.719
144.8	26.1854	971.235	971.235
145	57.4928	1011.56	1011.56
145.2	52.3352	934.924	934.924
145.4	40.5377	810.776	810.776
145.6	45.151	873.467	873.467
145.8	41.3728	1043.25	1043.25
146	31.5667	864.781	864.781
146.2	40.5969	847.111	847.111
146.4	51.0204	895.311	895.311
146.6	30.8958	885.56	885.56
146.8	44.9876	922.391	922.391
147	54.0943	1017.51	1017.51
147.2	48.3587	931.433	931.433
147.4	38.8705	860.024	860.024
147.6	42.8453	989.235	989.235
147.8	33.7738	1056.61	1056.61
148	27.6173	1035.76	1035.76
148.2	44.5326	904.213	904.213
148.4	55.8244	796.549	796.549
148.6	25.6429	983.287	983.287
148.8	31.292	1029.04	1029.04
149	26.3026	1122.69	1122.69
149.2	33.7673	783.605	783.605
149.4	54.5068	769.979	769.979
149.6	33.583	942.41	942.41
149.8	58.9006	935.779	935.779
150	38.1165	795.369	795.369
150.2	53.9406	759.977	759.977
150.4	45.2319	875.295	875.295
150.6	23.3934	754.273	754.273
150.8	26.6033	835.455	835.455

DEPT[FT]	Gamma	Neutron	Neutron
151	31.6909	760.875	760.875
151.2	39.3701	969.044	969.044
151.4	39.2811	823.718	823.718
151.6	33.029	882.667	882.667
151.8	28.7677	901.767	901.767
152	34.5264	994.453	994.453
152.2	41.3294	883.563	883.563
152.4	34.4744	798.417	798.417
152.6	32.9328	974.612	974.612
152.8	38.7503	1099.75	1099.75
153	30.8438	872.514	872.514
153.2	57.5273	934.308	934.308
153.4	42.5899	865.553	865.553
153.6	33.5049	994.913	994.913
153.8	33.3244	766.736	766.736
154	36.5331	1110.78	1110.78
154.2	40.8492	1096.17	1096.17
154.4	32.9405	866.829	866.829
154.6	37.6447	686.73	686.73
154.8	55.6735	1023.16	1023.16
155	42.7097	1028.24	1028.24
155.2	43.99	977.61	977.61
155.4	30.467	855.422	855.422
155.6	43.2148	865.568	865.568
155.8	46.3577	829.171	829.171
156	33.826	1011.37	1011.37
156.2	48.9624	840.352	840.352
156.4	30.7067	1213.56	1213.56
156.6	40.7984	799.055	799.055
156.8	40.5758	979.935	979.935
157	38.3749	1251.93	1251.93
157.2	47.1734	999.652	999.652
157.4	39.0772	776.488	776.488
157.6	24.3724	928.884	928.884
157.8	22.5628	1189.03	1189.03
158	42.3769	890.498	890.498
158.2	36.2622	1030.28	1030.28
158.4	28.8737	781.254	781.254
158.6	42.5209	971.63	971.63
158.8	42.1586	993.587	993.587
159	21.5084	873.288	873.288
159.2	31.508	741.661	741.661
159.4	56.2176	1002.31	1002.31
159.6	34.628	897.211	897.211
159.8	44.7574	932.881	932.881
160	46.2753	931.266	931.266

DEPT[FT]	Gamma	Neutron	Neutron
160.2	29.9469	919.968	919.968
160.4	33.4233	962.494	962.494
160.6	49.7232	959.565	959.565
160.8	72.5192	902.919	902.919
161	59.1962	884.171	884.171
161.2	34.1186	1009.68	1009.68
161.4	48.6064	839.395	839.395
161.6	46.5753	871.276	871.276
161.8	50.3397	850.158	850.158
162	33.0211	842.817	842.817
162.2	47.9602	875.629	875.629
162.4	34.2218	992.459	992.459
162.6	24.0846	879.547	879.547
162.8	39.3876	1045.77	1045.77
163	43.5069	844.046	844.046
163.2	34.4965	863.832	863.832
163.4	54.7045	734.821	734.821
163.6	33.7103	845.41	845.41
163.8	52.8802	917.022	917.022
164	37.4726	815.482	815.482
164.2	40.6208	963.386	963.386
164.4	58.789	993.801	993.801
164.6	34.1779	915.36	915.36
164.8	35.4735	838.262	838.262
165	45.3394	943.244	943.244
165.2	34.0813	1176.78	1176.78
165.4	38.71	964.744	964.744
165.6	43.9836	950.028	950.028
165.8	40.0906	972.984	972.984
166	44.5476	927.927	927.927
166.2	54.0475	876.831	876.831
166.4	37.8718	866.535	866.535
166.6	32.0095	942.221	942.221
166.8	47.6843	1012.59	1012.59
167	35.2536	713.191	713.191
167.2	53.6339	1015.81	1015.81
167.4	29.7938	1031.48	1031.48
167.6	45.407	1004.48	1004.48
167.8	40.5378	994.218	994.218
168	45.5086	942.148	942.148
168.2	50.8911	901.709	901.709
168.4	38.1484	918.726	918.726
168.6	32.7069	974.299	974.299
168.8	87.7275	1075.79	1075.79
169	53.3019	827.263	827.263
169.2	36.229	900.178	900.178

DEPT[FT]	Gamma	Neutron	Neutron
169.4	31.0121	1056.79	1056.79
169.6	44.07	1000.07	1000.07
169.8	41.5513	825.972	825.972
170	28.2948	968.669	968.669
170.2	15.2706	952.095	952.095
170.4	31.9373	907.031	907.031
170.6	43.4217	761.014	761.014
170.8	32.4715	1137.73	1137.73
171	28.6727	987.912	987.912
171.2	51.8715	876.878	876.878
171.4	43.3429	893.996	893.996
171.6	36.3174	963.435	963.435
171.8	52.4272	1002.03	1002.03
172	32.2925	900.586	900.586
172.2	39.1843	945.576	945.576
172.4	57.2301	832.501	832.501
172.6	36.6749	989.137	989.137
172.8	38.4575	879.808	879.808
173	23.4652	974.74	974.74
173.2	33.2257	1058.35	1058.35
173.4	43.8496	1021.18	1021.18
173.6	36.7206	869.936	869.936
173.8	32.0666	935.464	935.464
174	31.3521	849.35	849.35
174.2	48.0789	881.419	881.419
174.4	38.0246	848.609	848.609
174.6	30.6096	735.474	735.474
174.8	39.2856	1004.44	1004.44
175	37.2443	975.422	975.422
175.2	21.9327	991.836	991.836
175.4	34.8443	1143.07	1143.07
175.6	50.5935	1001.83	1001.83
175.8	37.389	1105.91	1105.91
176	43.8562	1002.06	1002.06
176.2	33.7311	821.482	821.482
176.4	50.7614	706.94	706.94
176.6	49.3902	1007.12	1007.12
176.8	32.1302	895.661	895.661
177	22.1723	870.242	870.242
177.2	24.9836	1100.34	1100.34
177.4	35.1073	857.354	857.354
177.6	47.4404	984.601	984.601
177.8	41.4205	868.077	868.077
178	50.6015	955.543	955.543
178.2	46.4617	970.433	970.433
178.4	61.0968	986.976	986.976

DEPT[FT]	Gamma	Neutron	Neutron
178.6	50.8457	781.321	781.321
178.8	39.9819	744.694	744.694
179	29.5501	731.075	731.075
179.2	49.4807	887.069	887.069
179.4	38.9334	819.702	819.702
179.6	38.0122	999.304	999.304
179.8	45.3957	1089.53	1089.53
180	44.1739	894.612	894.612
180.2	54.3072	1087.4	1087.4
180.4	64.6699	893.811	893.811
180.6	55.2764	991.12	991.12
180.8	40.4105	873.747	873.747
181	44.456	854.864	854.864
181.2	42.8138	963.189	963.189
181.4	38.4573	762.082	762.082
181.6	18.5824	945.564	945.564
181.8	36.1797	1005.34	1005.34
182	42.4252	797.249	797.249
182.2	47.6121	1036.26	1036.26
182.4	29.4237	867.33	867.33
182.6	30.7558	811.893	811.893
182.8	70.09	912.792	912.792
183	29.9426	877.078	877.078
183.2	49.479	999.494	999.494
183.4	26.1284	1030.15	1030.15
183.6	33.2069	918.669	918.669
183.8	49.0439	935.49	935.49
184	40.6444	917.826	917.826
184.2	41.9013	982.477	982.477
184.4	32.4299	880.282	880.282
184.6	50.4771	941.623	941.623
184.8	40.9137	921.216	921.216
185	43.9024	1052.54	1052.54
185.2	58.4953	1047.98	1047.98
185.4	36.9764	944.908	944.908
185.6	24.8189	884.893	884.893
185.8	36.2686	966.319	966.319
186	36.6908	865.515	865.515
186.2	29.649	969.236	969.236
186.4	32.7883	941.976	941.976
186.6	46.2047	925.282	925.282
186.8	62.1078	874.376	874.376
187	45.5648	865.963	865.963
187.2	26.9168	911.309	911.309
187.4	47.4547	992.299	992.299
187.6	45.7782	875.79	875.79

DEPT[FT]	Gamma	Neutron	Neutron
187.8	26.4654	1012.56	1012.56
188	53.0635	895.538	895.538
188.2	40.6464	995.621	995.621
188.4	57.446	958.108	958.108
188.6	40.5898	900.416	900.416
188.8	21.2556	863.376	863.376
189	50.2681	943.386	943.386
189.2	16.4692	895.058	895.058
189.4	16.5429	943.291	943.291
189.6	65.7471	1101.51	1101.51
189.8	3.00978	1067.96	1067.96
190	34.6751	801.7	801.7
190.2	40.1956	1082.05	1082.05
190.4	30.6844	971.088	971.088
190.6	45.4545	776.133	776.133
190.8	49.9248	980.912	980.912
191	30.9108	994.81	994.81
191.2	30.2481	948.162	948.162
191.4	64.0339	929.881	929.881
191.6	34.6	905.966	905.966
191.8	44.6551	1088.55	1088.55
192	34.9219	809.038	809.038
192.2	75	1049.28	1049.28
192.4	74.4446	901.584	901.584
192.6	44.5145	947.667	947.667
192.8	29.5751	851.063	851.063
193	44.0282	1148.67	1148.67
193.2	59.1184	980.566	980.566
193.4	20.0271	903.875	903.875
193.6	38.6968	900.976	900.976
193.8	71.5716	793.95	793.95
194	40.049	1159.33	1159.33
194.2	59.333	1002.13	1002.13
194.4	35.6976	1129.78	1129.78
194.6	35.0995	1044.13	1044.13
194.8	27.2982	934.011	934.011
195	31.3353	996.056	996.056
195.2	41.6709	909.528	909.528
195.4	22.7692	924.324	924.324
195.6	41.1259	905.774	905.774
195.8	20.9072	936.704	936.704
196	7.21474	856.791	856.791
196.2	25.6143	859.918	859.918
196.4	36.2601	955.43	955.43
196.6	17.1942	1028.9	1028.9
196.8	39.5196	830.716	830.716

DEPT[FT]	Gamma	Neutron	Neutron
197	35.6394	944.023	944.023
197.2	48.0912	767.697	767.697
197.4	21.4336	830.936	830.936
197.6	21.2658	908.729	908.729
197.8	50.2516	1000.02	1000.02
198	34.3044	987.695	987.695
198.2	38.7483	824.095	824.095
198.4	43.3594	944.205	944.205
198.6	44.6786	871.982	871.982
198.8	33.1013	828.557	828.557
199	49.7392	878.529	878.529
199.2	42.0537	984.003	984.003
199.4	47.7995	826.979	826.979
199.6	45.4545	1050.96	1050.96
199.8	29.6118	1007.69	1007.69
200	29.7204	920.422	920.422
200.2	49.035	962.063	962.063
200.4	32.0311	816.298	816.298
200.6	44.9522	682.235	682.235
200.8	55.2544	1050.27	1050.27
201	31.1271	1069.65	1069.65
201.2	35.5523	987.425	987.425
201.4	33.1154	1012.7	1012.7
201.6	34.0537	962.313	962.313
201.8	43.6171	822.638	822.638
202	46.2024	947.26	947.26
202.2	39.0342	1100.64	1100.64
202.4	36.2466	767.35	767.35
202.6	36.4486	858.668	858.668
202.8	13.4095	792.087	792.087
203	62.5618	927.167	927.167
203.2	28.7259	1032.63	1032.63
203.4	42.9208	876.148	876.148
203.6	35.2607	1081.75	1081.75
203.8	52.9025	805.698	805.698
204	36.1934	965.602	965.602
204.2	32.828	973.515	973.515
204.4	35.3974	921.947	921.947
204.6	35.2811	1097.63	1097.63
204.8	39.1249	1138.27	1138.27
205	36.7007	663.092	663.092
205.2	49.0045	993.459	993.459
205.4	42.2844	1040.53	1040.53
205.6	39.4947	839.044	839.044
205.8	47.2616	794.273	794.273
206	29.4844	773.494	773.494

DEPT[FT]	Gamma	Neutron	Neutron
206.2	40.7238	818.688	818.688
206.4	45.6321	907.729	907.729
206.6	53.5094	971.155	971.155
206.8	40.2142	995.018	995.018
207	37.8989	742.398	742.398
207.2	36.6249	1220.78	1220.78
207.4	52.3444	728.226	728.226
207.6	28.3218	877.914	877.914
207.8	45.7496	714.999	714.999
208	43.6861	958.581	958.581
208.2	32.0293	1014.67	1014.67
208.4	32.1576	896.878	896.878
208.6	41.722	772.287	772.287
208.8	40.5382	903.349	903.349
209	42.0918	1242.2	1242.2
209.2	37.8791	1029.4	1029.4
209.4	30.3582	819.291	819.291
209.6	50.4249	940.363	940.363
209.8	26.2281	839.137	839.137
210	16.1667	861.523	861.523
210.2	32.1842	1036.32	1036.32
210.4	31.0881	1109.69	1109.69
210.6	20.7254	1092.28	1092.28
210.8	50.8925	929.223	929.223
211	39.5535	889.134	889.134
211.2	25.6102	846.724	846.724
211.4	18.3684	818.954	818.954
211.6	46.0882	744.367	744.367
211.8	46.5599	1036.93	1036.93
212	25.5256	977.316	977.316
212.2	41.5578	938.752	938.752
212.4	47.0532	814.425	814.425
212.6	44.3644	915.202	915.202
212.8	30.2377	856.145	856.145
213	28.6346	970.417	970.417
213.2	37.7249	742.158	742.158
213.4	29.4169	1013.83	1013.83
213.6	16.3225	894.451	894.451
213.8	45.3289	879.038	879.038
214	29.8515	1104.87	1104.87
214.2	39.9748	918.329	918.329
214.4	35.9565	777.566	777.566
214.6	49.1578	902.376	902.376
214.8	30.53	967.238	967.238
215	43.9775	950.435	950.435
215.2	42.7917	1024.08	1024.08

DEPT[FT]	Gamma	Neutron	Neutron
215.4	54.2197	1087.33	1087.33
215.6	35.7054	923.892	923.892
215.8	36.1291	803.565	803.565
216	15.273	943.338	943.338
216.2	35.3535	773.998	773.998
216.4	30.1176	1026.53	1026.53
216.6	62.5486	802.875	802.875
216.8	47.7917	822.897	822.897
217	49.6753	827.882	827.882
217.2	47.9516	937.133	937.133
217.4	52.3876	1030.3	1030.3
217.6	34.2984	935.501	935.501
217.8	56.0154	833.196	833.196
218	30.467	927.749	927.749
218.2	47.2409	943.166	943.166
218.4	31.6233	1006.64	1006.64
218.6	17.4253	932.733	932.733
218.8	48.4915	847.157	847.157
219	39.2087	914.063	914.063
219.2	38.5128	983.98	983.98
219.4	50.5659	1024.07	1024.07
219.6	19.915	855.668	855.668
219.8	33.5049	885.874	885.874
220	39.0106	892.506	892.506
220.2	31.0189	992.58	992.58
220.4	39.0072	1089.33	1089.33
220.6	44.9962	861.504	861.504
220.8	48.0136	967.407	967.407
221	45.7756	858.544	858.544
221.2	28.2056	861.127	861.127
221.4	45.5911	1038.09	1038.09
221.6	47.4007	869.452	869.452
221.8	30.53	866.459	866.459
222	44.0561	919.969	919.969
222.2	28.2181	959.594	959.594
222.4	15.6782	1081.9	1081.9
222.6	40.0738	1015	1015
222.8	21.5057	925.454	925.454
223	49.0861	966.594	966.594
223.2	42.0642	1034.52	1034.52
223.4	21.9049	949.241	949.241
223.6	38.4621	871.108	871.108
223.8	28.3253	1034.55	1034.55
224	28.9996	1067.58	1067.58
224.2	24.0072	1129.27	1129.27
224.4	35.9612	890.339	890.339

DEPT[FT]	Gamma	Neutron	Neutron
224.6	22.4837	892.463	892.463
224.8	29.0838	842.614	842.614
225	41.1604	1049.58	1049.58
225.2	20.8229	906.789	906.789
225.4	40.9221	1061.48	1061.48
225.6	55.5349	880.813	880.813
225.8	34.2014	995.969	995.969
226	48.0769	1085.53	1085.53
226.2	57.2527	767.934	767.934
226.4	34.4133	864.632	864.632
226.6	11.4187	1163.88	1163.88
226.8	24.1724	978.244	978.244
227	60	910.753	910.753
227.2	27.6463	971.103	971.103
227.4	42.5415	974.039	974.039
227.6	36.2384	896.507	896.507
227.8	29.0698	854.766	854.766
228	54.2052	851.082	851.082
228.2	35.1243	1034.63	1034.63
228.4	51.9413	934.753	934.753
228.6	29.346	718.353	718.353
228.8	31.9022	952.207	952.207
229	54.626	948.422	948.422
229.2	37.1225	836.29	836.29
229.4	30.8775	886.015	886.015
229.6	32.3985	917.494	917.494
229.8	29.5053	889.21	889.21
230	20.4428	1012.07	1012.07
230.2	62.8556	768.475	768.475
230.4	16.1038	915.807	915.807
230.6	57.9543	835.283	835.283
230.8	36.4167	856.315	856.315
231	44.0381	970.268	970.268
231.2	37.0239	899.708	899.708
231.4	28.303	1008.69	1008.69
231.6	50.6407	1163.14	1163.14
231.8	66.5773	811.32	811.32
232	54.3723	873.69	873.69
232.2	38.5451	1000.68	1000.68
232.4	68.7154	881.309	881.309
232.6	33.8807	929.71	929.71
232.8	55.1284	1067.03	1067.03
233	45.6853	1002.91	1002.91
233.2	45.171	903.522	903.522
233.4	44.7145	994.891	994.891
233.6	38.8878	1002.67	1002.67

DEPT[FT]	Gamma	Neutron	Neutron
233.8	55.3546	899.582	899.582
234	59.461	913.068	913.068
234.2	56.701	999.073	999.073
234.4	33.9868	851.674	851.674
234.6	58.8557	744.646	744.646
234.8	56.3417	984.257	984.257
235	34.4382	767.865	767.865
235.2	33.7334	773.294	773.294
235.4	62.259	838.69	838.69
235.6	46.9267	851.371	851.371
235.8	63.307	973.899	973.899
236	65.7075	933.939	933.939
236.2	44.821	900.368	900.368
236.4	35.3394	890.959	890.959
236.6	34.6339	808.821	808.821
236.8	44.1377	836.986	836.986
237	50.3547	745.42	745.42
237.2	45.5437	935.693	935.693
237.4	50.7165	907.359	907.359
237.6	21.5703	902.457	902.457
237.8	47.6467	876.996	876.996
238	30.4446	896.025	896.025
238.2	17.2119	876.143	876.143
238.4	72.5389	985.629	985.629
238.6	46.7534	793.6	793.6
238.8	41.032	890.351	890.351
239	30.1792	933.04	933.04
239.2	59.6001	907.614	907.614
239.4	29.9399	821.221	821.221
239.6	55	1005.98	1005.98
239.8	70.5179	943.931	943.931
240	39.7778	936.358	936.358
240.2	64.6766	767.662	767.662
240.4	55.0539	896.004	896.004
240.6	35.2911	985.332	985.332
240.8	55.2142	849.964	849.964
241	60.7425	1061.5	1061.5
241.2	49.7993	812.089	812.089
241.4	40.2433	1077.17	1077.17
241.6	49.148	841.274	841.274
241.8	31.6092	753.134	753.134
242	64.0857	978.818	978.818
242.2	59.5807	682.667	682.667
242.4	31.8459	864.782	864.782
242.6	37.6803	934.126	934.126
242.8	75.292	855.889	855.889

DEPT[FT]	Gamma	Neutron	Neutron
243	10.8577	1045.22	1045.22
243.2	45.6534	811.925	811.925
243.4	34.3579	879.436	879.436
243.6	30.9958	813.205	813.205
243.8	54.592	744.753	744.753
244	79.5208	853.144	853.144
244.2	30.8088	913.165	913.165
244.4	65	894.296	894.296
244.6	32.3013	863.157	863.157
244.8	33.7428	768.988	768.988
245	38.0235	940.49	940.49
245.2	70.7034	854.314	854.314
245.4	39.6614	958.766	958.766
245.6	70.5581	1018.3	1018.3
245.8	38.6825	856.414	856.414
246	28.6374	855.889	855.889
246.2	28.7835	879.781	879.781
246.4	64.7204	795.986	795.986
246.6	54.4625	832.629	832.629
246.8	42.0681	810.569	810.569
247	55.9692	913.549	913.549
247.2	41.9833	947.849	947.849
247.4	37.0427	772.242	772.242
247.6	58.7279	790.905	790.905
247.8	31.7106	894.753	894.753
248	42.1823	919.436	919.436
248.2	30.9638	845.763	845.763
248.4	49.2513	986.282	986.282
248.6	43.4902	1014.42	1014.42
248.8	52.3251	908.431	908.431
249	37.8796	987.697	987.697
249.2	43.9519	846.47	846.47
249.4	65.0921	819.442	819.442
249.6	47.279	947.811	947.811
249.8	41.2005	803.128	803.128
250	48.2069	923.086	923.086
250.2	38.0598	1006.38	1006.38
250.4	50.7662	1107	1107
250.6	39.1636	800.306	800.306
250.8	45.1764	1013.95	1013.95
251	63.1009	984.215	984.215
251.2	25.2236	1018.06	1018.06
251.4	55.8376	1053.13	1053.13
251.6	52.364	941.982	941.982
251.8	44.97	815.69	815.69
252	50.4372	1098.93	1098.93

DEPT[FT]	Gamma	Neutron	Neutron
252.2	71.2874	986.522	986.522
252.4	37.3347	813.894	813.894
252.6	37.2952	925.649	925.649
252.8	44.1447	898.162	898.162
253	43.3444	922.992	922.992
253.2	45.3545	776.929	776.929
253.4	67.3382	844.831	844.831
253.6	47.2744	1052.08	1052.08
253.8	40.6433	1102.31	1102.31
254	54.8048	994.34	994.34
254.2	43.0495	913.363	913.363
254.4	48.7699	839.348	839.348
254.6	49.9007	749.859	749.859
254.8	47.6161	1006.13	1006.13
255	53.2587	904.322	904.322
255.2	36.5563	962.305	962.305
255.4	36.475	638.967	638.967
255.6	35	1137.47	1137.47
255.8	52.2083	924.642	924.642
256	62.4988	960.935	960.935
256.2	45.766	811.822	811.822
256.4	58.4813	796.254	796.254
256.6	52.7346	828.127	828.127
256.8	39.4594	785.068	785.068
257	50.5643	972.89	972.89
257.2	40.5562	764.835	764.835
257.4	33.3882	686.92	686.92
257.6	49.8411	803.137	803.137
257.8	66.0137	914.53	914.53
258	47.9955	788.822	788.822
258.2	52.3584	1176.75	1176.75
258.4	59.8144	880.512	880.512
258.6	34.5753	806.905	806.905
258.8	50.6822	856.603	856.603
259	46.5714	948.548	948.548
259.2	48.2911	749.487	749.487
259.4	65.2012	1025.84	1025.84
259.6	34.0477	846.814	846.814
259.8	41.1114	817.014	817.014
260	33.3198	1116.41	1116.41
260.2	39.4576	1004.08	1004.08
260.4	53.1196	1016.41	1016.41
260.6	59.2625	932.61	932.61
260.8	46.9063	870.053	870.053
261	69.7888	954.925	954.925
261.2	64.6223	722.69	722.69

DEPT[FT]	Gamma	Neutron	Neutron
261.4	59.401	834.945	834.945
261.6	39.1139	917.091	917.091
261.8	30.7207	781.72	781.72
262	36.7925	918.218	918.218
262.2	60.3025	896.506	896.506
262.4	41.9187	918.234	918.234
262.6	40.1886	819.086	819.086
262.8	51.2798	855.042	855.042
263	40.1796	868.056	868.056
263.2	45.7305	893.067	893.067
263.4	37.7709	974.944	974.944
263.6	55.3289	881.133	881.133
263.8	69.3747	917.055	917.055
264	55.1078	792.863	792.863
264.2	29.9774	882.315	882.315
264.4	32.3578	982.093	982.093
264.6	52.7997	884.818	884.818
264.8	47.4298	795.85	795.85
265	50.3742	827.725	827.725
265.2	38.2952	812.03	812.03
265.4	58.4477	936.604	936.604
265.6	38.7116	1010.22	1010.22
265.8	35.7366	967.067	967.067
266	40.9663	820.933	820.933
266.2	44.2979	773.523	773.523
266.4	47.9974	779.344	779.344
266.6	56.81	755.381	755.381
266.8	76.02	920.439	920.439
267	32.7186	681.663	681.663
267.2	51.1392	840.249	840.249
267.4	21.3046	871.338	871.338
267.6	37.1593	963.791	963.791
267.8	42.7845	989.185	989.185
268	50	938.559	938.559
268.2	76.0571	859.324	859.324
268.4	53.7923	989.658	989.658
268.6	38.2806	874.612	874.612
268.8	13.1593	897.534	897.534
269	64.0166	865.794	865.794
269.2	38.0426	853.123	853.123
269.4	48.2762	1049.3	1049.3
269.6	48.2964	946.709	946.709
269.8	53.2098	982.992	982.992
270	31.1787	795.856	795.856
270.2	47.3446	858.126	858.126
270.4	37.2097	997.742	997.742

DEPT[FT]	Gamma	Neutron	Neutron
270.6	55.091	952.628	952.628
270.8	37.5661	731.828	731.828
271	51.1279	637.613	637.613
271.2	37.4675	869.97	869.97
271.4	24.7786	760.388	760.388
271.6	26.7659	1061.75	1061.75
271.8	53.7146	876.462	876.462
272	15.0828	899.545	899.545
272.2	34.9812	749.895	749.895
272.4	36.4898	837.1	837.1
272.6	43.5745	917.759	917.759
272.8	41.1938	833.481	833.481
273	42.9388	922.238	922.238
273.2	43.8546	902.749	902.749
273.4	31.9714	847.329	847.329
273.6	45.139	887.69	887.69
273.8	34.6238	989.395	989.395
274	26.6657	957.352	957.352
274.2	46.0653	995.963	995.963
274.4	28.9892	894.102	894.102
274.6	36.3497	810.314	810.314
274.8	32.2192	989.096	989.096
275	25.583	781.921	781.921
275.2	47.1457	958.13	958.13
275.4	43.8627	981.492	981.492
275.6	29.0837	817.189	817.189
275.8	38.7567	826.383	826.383
276	38.5736	859.76	859.76
276.2	34.9562	888.164	888.164
276.4	38.7726	872.349	872.349
276.6	36.0546	900.739	900.739
276.8	38.3217	957.163	957.163
277	71.5493	901.245	901.245
277.2	43.6281	775.89	775.89
277.4	29.526	926.636	926.636
277.6	63.3371	818.644	818.644
277.8	52.7711	819.607	819.607
278	48.0985	1063.25	1063.25
278.2	57.4859	858.661	858.661
278.4	77.6248	968.215	968.215
278.6	58.0341	839.056	839.056
278.8	39.3387	877.165	877.165
279	52.1948	835.062	835.062
279.2	46.4298	867.67	867.67
279.4	43.534	873.49	873.49
279.6	29.3893	992.631	992.631

DEPT[FT]	Gamma	Neutron	Neutron
279.8	40.1201	914.71	914.71
280	33.3802	1001.83	1001.83
280.2	72.3729	956.124	956.124
280.4	42.6322	865.2	865.2
280.6	41.3908	1051.26	1051.26
280.8	37.9255	888.531	888.531
281	63.6512	898.396	898.396
281.2	79.441	955.902	955.902
281.4	45.9776	688.015	688.015
281.6	62.6336	833.22	833.22
281.8	70.322	718.939	718.939
282	59.7406	734.475	734.475
282.2	49.5515	705.596	705.596
282.4	55.8927	1027.67	1027.67
282.6	43.2242	843.486	843.486
282.8	99.338	750.118	750.118
283	49.1225	928.574	928.574
283.2	64.2146	856.58	856.58
283.4	31.7954	853.123	853.123
283.6	68.4683	852.307	852.307
283.8	62.2883	905.262	905.262
284	80.6379	794.655	794.655
284.2	81.6681	791.834	791.834
284.4	55.4482	928.086	928.086
284.6	60.2784	859.24	859.24
284.8	45.1335	695.27	695.27
285	64.333	975.408	975.408
285.2	45.8537	889.555	889.555
285.4	51.1576	1035.32	1035.32
285.6	32.0769	918.886	918.886
285.8	25.7938	825.607	825.607
286	60.4305	793.322	793.322
286.2	73.9792	898.891	898.891
286.4	93.6671	832.688	832.688
286.6	35.6832	644.583	644.583
286.8	83.6637	745.408	745.408
287	65.3179	759.974	759.974
287.2	40.4466	765.753	765.753
287.4	64.7263	857.845	857.845
287.6	89.9542	944.409	944.409
287.8	54.8495	715.933	715.933
288	50.5321	887.36	887.36
288.2	80.8081	907.459	907.459
288.4	50.7614	989.309	989.309
288.6	71.2527	925.108	925.108
288.8	51.4284	844.172	844.172

DEPT[FT]	Gamma	Neutron	Neutron
289	57.0113	833.308	833.308
289.2	106.073	673.963	673.963
289.4	56.1542	750.45	750.45
289.6	74.8633	724.307	724.307
289.8	98.5689	830.836	830.836
290	49.1093	855.361	855.361
290.2	49.49	746.273	746.273
290.4	51.0442	809.936	809.936
290.6	45.2288	840.513	840.513
290.8	60.4902	1002.68	1002.68
291	22.802	776.33	776.33
291.2	79.1585	817.09	817.09
291.4	83.3103	875.019	875.019
291.6	46.3575	922.356	922.356
291.8	55.2561	783.596	783.596
292	74.9812	932.684	932.684
292.2	64.703	768.319	768.319
292.4	57.4253	859.119	859.119
292.6	59.1807	839.147	839.147
292.8	34.5661	734.087	734.087
293	63.2813	762.443	762.443
293.2	65.9854	723.239	723.239
293.4	30.3795	644.116	644.116
293.6	51.8817	803.831	803.831
293.8	49.2269	850.679	850.679
294	86.1056	801.939	801.939
294.2	55.6529	869.628	869.628
294.4	61.8384	746.589	746.589
294.6	50.4051	786.882	786.882
294.8	47.9169	1090.12	1090.12
295	43.062	868.061	868.061
295.2	84.5372	846.642	846.642
295.4	63.4797	1030.49	1030.49
295.6	68.9087	786.898	786.898
295.8	38.4297	836.151	836.151
296	55.232	757.406	757.406
296.2	46.6028	996.646	996.646
296.4	52.3252	949.291	949.291
296.6	36.5504	845.325	845.325
296.8	49.433	773.325	773.325
297	40.6505	1050.04	1050.04
297.2	32.9488	965.006	965.006
297.4	23.1321	933.649	933.649
297.6	48.7931	966.777	966.777
297.8	21.3718	751.875	751.875
298	22.695	833.17	833.17

DEPT[FT]	Gamma	Neutron	Neutron
298.2	35.0184	834.685	834.685
298.4	18.8345	727.385	727.385
298.6	19.4888	830.898	830.898
298.8	38.0408	923.979	923.979
299	51.5671	840.528	840.528
299.2	32.6431	1075.28	1075.28
299.4	19.1543	919.031	919.031
299.6	33.5849	813.717	813.717
299.8	21.0934	903.214	903.214
300	39.8985	1156.51	1156.51
300.2	34.7394	756.814	756.814
300.4	14.9254	688.932	688.932
300.6	28.846	861.962	861.962
300.8	35.13	787.256	787.256
301	40.5534	945.398	945.398
301.2	34.9532	1096.83	1096.83
301.4	30.488	1003.61	1003.61
301.6	23.3772	875.26	875.26
301.8	29.4981	1004.49	1004.49
302	22.3914	1007.22	1007.22
302.2	31.3303	878.477	878.477
302.4	38.5237	988.482	988.482
302.6	45.8249	832.215	832.215
302.8	24.6659	1203.17	1203.17
303	55.458	936.306	936.306
303.2	41.9495	706.201	706.201
303.4	43.7729	920.622	920.622
303.6	18.0316	1026.43	1026.43
303.8	26.7761	893.661	893.661
304	23.1256	1136.41	1136.41
304.2	13.2454	897.794	897.794
304.4	19.9532	1006.72	1006.72
304.6	38.0855	715.298	715.298
304.8	29.9487	902.268	902.268
305	23.2606	618.683	618.683
305.2	42.7434	779.184	779.184
305.4	41.6527	811.736	811.736
305.6	26.7226	1100.9	1100.9
305.8	26.769	832.617	832.617
306	18.06	742.43	742.43
306.2	19.9005	720.567	720.567
306.4	38.3677	741.823	741.823
306.6	20.2411	839.441	839.441
306.8	38.5831	1091.5	1091.5
307	23.6027	851.08	851.08
307.2	21.4428	889.898	889.898

DEPT[FT]	Gamma	Neutron	Neutron
307.4	35.7368	782.129	782.129
307.6	33.5387	851.175	851.175
307.8	40.0951	1008.53	1008.53
308	23.9807	792.386	792.386
308.2	28.8559	728.88	728.88
308.4	47.4326	758.825	758.825
308.6	29.6185	867.848	867.848
308.8	24.8582	693.781	693.781
309	32.8442	998.012	998.012
309.2	15.937	879.654	879.654
309.4	34.4091	812.609	812.609
309.6	30.4676	832.647	832.647
309.8	30.0342	792.564	792.564
310	17.7749	955.406	955.406
310.2	26.8435	877.024	877.024
310.4	31.3432	730.629	730.629
310.6	29.4976	891.887	891.887
310.8	26.5864	830.998	830.998
311	14.7544	813.739	813.739
311.2	25.4047	909.531	909.531
311.4	30.5888	926.522	926.522
311.6	33.221	896.413	896.413
311.8	25.577	820.1	820.1
312	33.497	860.038	860.038
312.2	20.4233	836.991	836.991
312.4	28.0648	683.81	683.81
312.6	32.3542	749.205	749.205
312.8	47.3718	705.497	705.497
313	24.7546	844.022	844.022
313.2	17.5629	939.108	939.108
313.4	44.2757	726.793	726.793
313.6	16.7452	925.305	925.305
313.8	27.2853	870.918	870.918
314	19.1328	926.59	926.59
314.2	16.637	1045.88	1045.88
314.4	23.6224	976.274	976.274
314.6	20.074	877.781	877.781
314.8	26.3176	857.899	857.899
315	19.7687	841.146	841.146
315.2	29.0031	793.635	793.635
315.4	30.4361	853.906	853.906
315.6	25.2763	947.034	947.034
315.8	19.5122	915.244	915.244
316	17.276	926.645	926.645
316.2	21.6023	1059.52	1059.52
316.4	4.9505	850.363	850.363

DEPT[FT]	Gamma	Neutron	Neutron
316.6	27.6335	889.109	889.109
316.8	11.1912	944.572	944.572
317	19.1697	972.775	972.775
317.2	30.9302	836.076	836.076
317.4	34.4452	898.068	898.068
317.6	25.7201	945.036	945.036
317.8	12.1683	985.935	985.935
318	18.1201	1034.67	1034.67
318.2	16.8397	1073.73	1073.73
318.4	15.3145	914.597	914.597
318.6	31.2145	995.166	995.166
318.8	31.8004	912.72	912.72
319	19.3501	791.326	791.326
319.2	28.6583	883.437	883.437
319.4	14.4197	816.201	816.201
319.6	16.0648	989.395	989.395
319.8	25.5971	1093.89	1093.89
320	12.9139	957.428	957.428
320.2	19.3809	921.184	921.184
320.4	9.77235	907.906	907.906
320.6	29.2287	1035.53	1035.53
320.8	19.7392	779.279	779.279
321	14.8017	1140.58	1140.58
321.2	16.4734	913.962	913.962
321.4	23.2447	747.45	747.45
321.6	25.1751	954.021	954.021
321.8	7.63213	870.228	870.228
322	17.116	936.799	936.799
322.2	13.6516	820.727	820.727
322.4	32.6811	814.551	814.551
322.6	28.8598	942.312	942.312
322.8	19.0102	931.438	931.438
323	29.5031	836.606	836.606
323.2	25.174	805.63	805.63
323.4	23.6175	931.605	931.605
323.6	34.6366	954.022	954.022
323.8	10.9272	868.564	868.564
324	19.9114	728.464	728.464
324.2	26.8095	851.504	851.504
324.4	17.3433	993.222	993.222
324.6	29.445	812.823	812.823
324.8	33.0142	794.524	794.524
325	11.9095	971.115	971.115
325.2	17.2821	834.508	834.508
325.4	20.2627	1016.8	1016.8
325.6	19.628	781.095	781.095

DEPT[FT]	Gamma	Neutron	Neutron
325.8	9.42319	835.763	835.763
326	25.075	897.434	897.434
326.2	13.3659	1031.44	1031.44
326.4	19.4681	813.744	813.744
326.6	11.2798	1014.5	1014.5
326.8	14.2952	1127.96	1127.96
327	13.193	1009.75	1009.75
327.2	6.03993	974.762	974.762
327.4	23.2567	1089.73	1089.73
327.6	12.5902	997.201	997.201
327.8	6.06999	1049.81	1049.81
328	14.5703	856.81	856.81
328.2	6.9	955.015	955.015
328.4	12.0579	1033.54	1033.54
328.6	14.7097	1019.08	1019.08
328.8	5.15883	1090.51	1090.51
329	10.3627	982.654	982.654
329.2	5.92001	977.793	977.793
329.4	15.4755	996.439	996.439
329.6	3.63227	975.734	975.734
329.8	3.49807	1035.85	1035.85
330	0.687129	1038.19	1038.19
330.2	14.7435	994.974	994.974
330.4	5.15137	1076.16	1076.16
330.6	5.74045	914.06	914.06
330.8	3.53456	899.214	899.214
331	16.6834	917.392	917.392
331.2	4.98316	989.729	989.729
331.4	5.00783	1050.56	1050.56
331.6	4.97757	1018.67	1018.67
331.8	14.4704	1087.84	1087.84
332	14.5485	1090.4	1090.4
332.2	0.864619	1008.28	1008.28
332.4	4.63628	1037.3	1037.3
332.6	5.41584	1003.72	1003.72
332.8	10.5141	1025.37	1025.37
333	14.4461	855.151	855.151
333.2	29.3611	1021.47	1021.47
333.4	0.612697	1052.55	1052.55
333.6	9.66984	977.812	977.812
333.8	1.07492	961.022	961.022
334	5.2746	1095.97	1095.97
334.2	5.10089	1044.2	1044.2
334.4	10.1011	991.028	991.028
334.6	5.31153	939.862	939.862
334.8	30.2778	1130.67	1130.67

DEPT[FT]	Gamma	Neutron	Neutron
335	5.58814	955.43	955.43
335.2	5.12759	1086.07	1086.07
335.4	20.0022	1013.46	1013.46
335.6	14.8474	1110.51	1110.51
335.8	0	1103.93	1103.93
336	15.47	913.014	913.014
336.2	5.18135	917.456	917.456
336.4	5.12821	922.985	922.985
336.6	10.0063	1266.57	1266.57
336.8	19.953	939.328	939.328
337	9.93208	985.102	985.102
337.2	5.08053	1077.86	1077.86
337.4	10.4688	829.402	829.402
337.6	5.3455	987.916	987.916
337.8	29.9812	1012.06	1012.06
338	5.3349	902.034	902.034
338.2	5.35298	892.681	892.681
338.4	24.6946	985.36	985.36
338.6	14.9207	858.623	858.623
338.8	24.5939	1125.54	1125.54
339	0.848421	1211.03	1211.03
339.2	10.6135	964.774	964.774
339.4	5.80636	899.093	899.093
339.6	0.715663	912.31	912.31
339.8	6.03748	763.15	763.15
340	19.3415	961.419	961.419
340.2	5.56965	1059.6	1059.6
340.4	18.779	944.042	944.042
340.6	10.2087	966.108	966.108
340.8	11.2108	976.056	976.056
341	14.892	1018.93	1018.93
341.2	12.3985	994.67	994.67
341.4	16.017	1123.01	1123.01
341.6	10.8919	934.646	934.646
341.8	24.0303	996.752	996.752
342	1.84192	883.009	883.009
342.2	20.8071	954.704	954.704
342.4	5.16141	907.264	907.264
342.6	12.3612	935.308	935.308
342.8	0	1002.29	1002.29
343	13.6921	1132.6	1132.6
343.2	10.0722	872.723	872.723
343.4	4.35215	963.584	963.584
343.6	9.38829	970.419	970.419
343.8	3.17358	1132.36	1132.36
344	15.1762	1276.39	1276.39

DEPT[FT]	Gamma	Neutron	Neutron
344.2	13.3848	833.404	833.404
344.4	8.32205	1056.86	1056.86
344.6	17.4148	796.955	796.955
344.8	13.1189	879.789	879.789
345	13.9686	866.04	866.04
345.2	9.03184	1178.77	1178.77
345.4	10.0314	923.974	923.974
345.6	13.0712	794.748	794.748
345.8	7.00644	1029.04	1029.04
346	22.9885	900.24	900.24
346.2	14.0933	852.715	852.715
346.4	7.12996	829.266	829.266
346.6	8.92095	899.319	899.319
346.8	9.91172	949.291	949.291
347	5.52168	865.136	865.136
347.2	22.3748	870.713	870.713
347.4	1.16287	1110.21	1110.21
347.6	8.96187	867.306	867.306
347.8	7.34695	1204.67	1204.67
348	21.7107	843.228	843.228
348.2	21.6366	779.451	779.451
348.4	28.1679	1074.85	1074.85
348.6	20.3631	899.256	899.256
348.8	25.6803	885.35	885.35
349	8.10529	781.763	781.763
349.2	24.0099	776.888	776.888
349.4	38.2397	1016.77	1016.77
349.6	14.5035	1049.18	1049.18
349.8	23.5866	954.651	954.651
350	12.589	867.233	867.233
350.2	6.69272	780.835	780.835
350.4	19.1863	1096.87	1096.87
350.6	12.5316	1046.12	1046.12
350.8	10.3627	1378.79	1378.79
351	18.308	964.143	964.143
351.2	14.3108	940.465	940.465
351.4	10.1227	1139.23	1139.23
351.6	16.9489	1022.02	1022.02
351.8	3.42401	1012.71	1012.71
352	6.55396	1175.22	1175.22
352.2	11.8681	988.819	988.819
352.4	3.41366	1236.15	1236.15
352.6	12.4193	1198.61	1198.61
352.8	10.2031	975.677	975.677
353	1.75953	1005.14	1005.14
353.2	1.74697	1239.02	1239.02

DEPT[FT]	Gamma	Neutron	Neutron
353.4	13.1422	1112.52	1112.52
353.6	14.6087	1050.74	1050.74
353.8	13.069	1172.46	1172.46
354	9.95025	1014.31	1014.31
354.2	13.6204	914.512	914.512
354.4	11.1491	840.551	840.551
354.6	4.97512	1074.23	1074.23
354.8	18.0788	1044.3	1044.3
355	15.8101	1032.86	1032.86
355.2	9.77056	957.24	957.24
355.4	13.9881	948.428	948.428
355.6	7.94508	1084.47	1084.47
355.8	5.97821	1050.71	1050.71
356	0	949.627	949.627
356.2	13.8781	998.082	998.082
356.4	25.1055	1012.42	1012.42
356.6	16.5189	966.825	966.825
356.8	15.876	1139.48	1139.48
357	5.72968	987.944	987.944
357.2	14.2825	943.012	943.012
357.4	7.19745	977.609	977.609
357.6	7.19073	1259.32	1259.32
357.8	15.3549	1118.96	1118.96
358	7.17385	1111.77	1111.77
358.2	15.3172	1174.64	1174.64
358.4	6.85062	936.872	936.872
358.6	20.9205	1136.73	1136.73
358.8	12.8818	1041.77	1041.77
359	14.9571	1029.78	1029.78
359.2	10.0971	1132.17	1132.17
359.4	5.05189	872.824	872.824
359.6	10.3368	1013.32	1013.32
359.8	0	1128.82	1128.82
360	2.55234	1011.24	1011.24
360.2	5.21644	988.403	988.403
360.4	15.42	963.646	963.646
360.6	5.15452	987.094	987.094
360.8	12.561	963.628	963.628
361	12.9588	1031.89	1031.89
361.2	7.69099	1068.61	1068.61
361.4	9.98526	1067.71	1067.71
361.6	15.1975	1010.84	1010.84
361.8	8.50625	1233.51	1233.51
362	8.05716	958.089	958.089
362.2	10.3588	1345.47	1345.47
362.4	5.56167	894.037	894.037

DEPT[FT]	Gamma	Neutron	Neutron
362.6	17.3179	1036.96	1036.96
362.8	15.9055	1003.06	1003.06
363	5.11108	1174.48	1174.48
363.2	5.0991	894.066	894.066
363.4	10.2795	1021.44	1021.44
363.6	0	1060.28	1060.28
363.8	12.548	1075.57	1075.57
364	19.2145	1032.28	1032.28
364.2	13.3673	1053.77	1053.77
364.4	3.02668	834.617	834.617
364.6	6.06352	1197.03	1197.03
364.8	6.17265	937.792	937.792
365	13.4798	1059.28	1059.28
365.2	14.5427	1086.99	1086.99
365.4	12.5982	1156.06	1156.06
365.6	8.39076	1258.46	1258.46
365.8	14.5948	1063.24	1063.24
366	10.5136	1092.82	1092.82
366.2	1.98026	958.103	958.103
366.4	3.94176	1165.7	1165.7
366.6	7.15583	1070.52	1070.52
366.8	7.05786	944.22	944.22
367	5.14743	876.142	876.142
367.2	8.4509	935.662	935.662
367.4	10.3438	1077.9	1077.9
367.6	17.0703	1200.86	1200.86
367.8	6.7863	1098.63	1098.63
368	6.99195	1164.46	1164.46
368.2	20.5464	1077.53	1077.53
368.4	10.3449	1108.78	1108.78
368.6	13.9157	1054.49	1054.49
368.8	5.03836	840.058	840.058
369	1.65954	1141.21	1141.21
369.2	4.86196	1190.31	1190.31
369.4	3.25015	1115.16	1115.16
369.6	8.85155	1071.61	1071.61
369.8	8.87531	908.274	908.274
370	3.68698	943.062	943.062
370.2	11.19	970.36	970.36
370.4	7.54046	1296.99	1296.99
370.6	17.3902	934.084	934.084
370.8	5.24339	1023.55	1023.55
371	3.757	1074.17	1074.17
371.2	8.94098	1115.19	1115.19
371.4	3.74165	1022.84	1022.84
371.6	5.12821	1069.8	1069.8

DEPT[FT]	Gamma	Neutron	Neutron
371.8	8.91358	1006.3	1006.3
372	15.4639	1300.35	1300.35
372.2	18.7544	910.949	910.949
372.4	16.1724	954.27	954.27
372.6	8.72987	983.47	983.47
372.8	6.18629	900.418	900.418
373	11.1851	958.72	958.72
373.2	12.6037	1022.02	1022.02
373.4	0	985.499	985.499
373.6	3.83921	1055.18	1055.18
373.8	7.2198	1123.14	1123.14
374	14.1482	1038.74	1038.74
374.2	0	1048.83	1048.83
374.4	10.1416	1009.95	1009.95
374.6	1.03382	1056.84	1056.84
374.8	5.12299	1038.69	1038.69
375	7.13215	1145.22	1145.22
375.2	10.5856	984.945	984.945
375.4	12.8351	888.06	888.06
375.6	6.13884	1000.44	1000.44
375.8	6.10982	1083.12	1083.12
376	1.82576	988.402	988.402
376.2	9.42247	954.123	954.123
376.4	9.40364	1092.29	1092.29
376.6	5.92871	988.177	988.177
376.8	4.31917	1169.81	1169.81
377	5.93903	1127.02	1127.02
377.2	0.770546	1130.81	1130.81
377.4	9.51406	1100.72	1100.72
377.6	22.8654	1157.03	1157.03
377.8	14.8283	1172.32	1172.32
378	5.84696	1008.77	1008.77
378.2	5.15808	953.048	953.048
378.4	9.07093	1199.63	1199.63
378.6	9.74216	924.681	924.681
378.8	3.03998	1028.17	1028.17
379	1.16786	1181.58	1181.58
379.2	15.2277	959.697	959.697
379.4	23.4598	1052.01	1052.01
379.6	9.94975	1125.11	1125.11
379.8	5.26053	1097.75	1097.75
380	5.65439	1091.28	1091.28
380.2	0	1146.87	1146.87
380.4	4.7267	1110.43	1110.43
380.6	10.7644	1106.38	1106.38
380.8	5.56334	1173.16	1173.16

DEPT[FT]	Gamma	Neutron	Neutron
381	9.53337	964.624	964.624
381.2	0.341315	949.467	949.467
381.4	5.77127	954.343	954.343
381.6	20.0213	920.158	920.158
381.8	10.0298	841.643	841.643
382	0	1086.17	1086.17
382.2	15.4639	969.191	969.191
382.4	10.3093	944.453	944.453
382.6	5.75046	1079.23	1079.23
382.8	5.32405	926.83	926.83
383	5.40871	1043.64	1043.64
383.2	0.127389	975.582	975.582
383.4	15.679	1092.99	1092.99
383.6	0	928.998	928.998
383.8	0.128076	861.566	861.566
384	5.29101	1024.95	1024.95
384.2	10.4167	1068.07	1068.07
384.4	5.20833	931.522	931.522
384.6	5.20797	1083.85	1083.85
384.8	5.18088	864.076	864.076
385	5.06261	880.003	880.003
385.2	10.3452	969.157	969.157
385.4	15.3061	892.805	892.805
385.6	5.41783	878.497	878.497
385.8	5.17977	1012.28	1012.28
386	5.49846	850.814	850.814
386.2	0.97611	777.871	777.871
386.4	0.217027	1012.46	1012.46
386.6	0.475773	982.986	982.986
386.8	9.84027	949.321	949.321
387	0.564009	919.629	919.629
387.2	0.605747	949.758	949.758
387.4	5.53153	1009.09	1009.09
387.6	5.16004	1161.83	1161.83
387.8	0.37294	930.861	930.861
388	6.02708	1127.24	1127.24
388.2	4.87033	1028.7	1028.7
388.4	4.87489	922.445	922.445
388.6	10.1175	950.78	950.78
388.8	5.21084	935.877	935.877
389	14.1276	1114.81	1114.81
389.2	25.8933	1119.59	1119.59
389.4	9.72524	1061.05	1061.05
389.6	9.70234	991.763	991.763
389.8	4.57285	1032.91	1032.91
390	10.3093	1252.86	1252.86

DEPT[FT]	Gamma	Neutron	Neutron
390.2	1.87336	947.808	947.808
390.4	10.1719	1005.05	1005.05
390.6	10.3627	1019.17	1019.17
390.8	17.8667	1152.86	1152.86
391	1.42692	994.039	994.039
391.2	9.58624	858.886	858.886
391.4	14.7193	1035.42	1035.42
391.6	17.7086	1076.38	1076.38
391.8	9.52117	936.424	936.424
392	15.625	1128.47	1128.47
392.2	7.83335	1004.44	1004.44
392.4	14.0384	913.815	913.815
392.6	9.67805	1078.42	1078.42
392.8	9.59875	1097.46	1097.46
393	4.34324	1218.78	1218.78
393.2	0.961239	1122.96	1122.96
393.4	18.8716	1168.53	1168.53
393.6	12.4327	791.928	791.928
393.8	0	1079.63	1079.63
394	6.17576	1014.06	1014.06
394.2	2.10736	1120.28	1120.28
394.4	9.19407	1107.76	1107.76
394.6	15.4185	741.748	741.748
394.8	18.3955	928.456	928.456
395	9.16443	1241.19	1241.19
395.2	12.6701	930.124	930.124
395.4	11.5139	1155.85	1155.85
395.6	18.2138	1187.61	1187.61
395.8	6.38027	1199.63	1199.63
396	3.88956	896.703	896.703
396.2	5.14127	1471.38	1471.38
396.4	0	1145.09	1145.09
396.6	7.85562	1257.81	1257.81
396.8	28.8569	1184.95	1184.95
397	10.5409	1101.88	1101.88
397.2	22.132	988.755	988.755
397.4	1.4319	1036.44	1036.44
397.6	7.67043	1128.93	1128.93
397.8	10.4409	1331.55	1331.55
398	0	1336.89	1336.89
398.2	8.7363	1261.78	1261.78
398.4	13.8593	1203.22	1203.22
398.6	14.3681	1224.83	1224.83
398.8	3.60799	1210.55	1210.55
399	10.2564	1070.68	1070.68
399.2	13.7877	1109.26	1109.26

DEPT[FT]	Gamma	Neutron	Neutron
399.4	8.37645	1216.59	1216.59
399.6	15.4893	1034.75	1034.75
399.8	8.49009	1236.65	1236.65
400	13.7897	881.256	881.256
400.2	10.3739	1158.88	1158.88
400.4	8.5483	1104.47	1104.47
400.6	17.0765	1050.29	1050.29
400.8	5.12002	1233.19	1233.19
401	3.37308	880.469	880.469
401.2	12.2403	1166.31	1166.31
401.4	11.8345	1251.52	1251.52
401.6	3.34159	1056.84	1056.84
401.8	12.37	1127.62	1127.62
402	11.9312	1334.05	1334.05
402.2	6.58685	1289.37	1289.37
402.4	18.213	1112.58	1112.58
402.6	5.12821	1142.67	1142.67
402.8	7.07743	1163.61	1163.61
403	13.3698	921.106	921.106
403.2	0	1111.46	1111.46
403.4	7.18999	1024.04	1024.04
403.6	8.16429	1096.73	1096.73
403.8	7.22221	920.612	920.612
404	18.5459	1075.72	1075.72
404.2	4.252	1028.4	1028.4
404.4	12.4246	1099.2	1099.2
404.6	10.318	984.37	984.37
404.8	14.6471	1115.33	1115.33
405	0	1035.35	1035.35
405.2	11.0412	1049.69	1049.69
405.4	12.07	994.263	994.263
405.6	7.53867	819.243	819.243
405.8	13.4478	1086.14	1086.14
406	16.7825	1000.9	1000.9
406.2	8.15353	1025.62	1025.62
406.4	16.2065	931.088	931.088
406.6	4.86845	1089.86	1089.86
406.8	18.3082	1014.17	1014.17
407	2.71395	1320.2	1320.2
407.2	7.56304	971.946	971.946
407.4	12.7232	943.172	943.172
407.6	23.3374	1213.86	1213.86
407.8	17.8442	891.416	891.416
408	10.1933	945.5	945.5
408.2	25.8184	905.094	905.094
408.4	10.2922	952.857	952.857

DEPT[FT]	Gamma	Neutron	Neutron
408.6	7.67237	1042.53	1042.53
408.8	15.4639	1066.9	1066.9
409	18.0498	1144.3	1144.3
409.2	28.701	972.026	972.026
409.4	2.45927	945.477	945.477
409.6	23.0679	1116.39	1116.39
409.8	10.6205	1049.7	1049.7
410	5.18135	972.851	972.851
410.2	7.69738	1013.28	1013.28
410.4	15.3552	955.627	955.627
410.6	11.0537	1082.36	1082.36
410.8	13.445	945.904	945.904
411	15.2911	970.059	970.059
411.2	13.2994	847.337	847.337
411.4	16.6841	1043.72	1043.72
411.6	2.90431	1022.95	1022.95
411.8	9.45422	1167.47	1167.47
412	14.5595	1131.94	1131.94
412.2	20.9772	1074.34	1074.34
412.4	19.5716	974.128	974.128
412.6	17.4585	984.609	984.609
412.8	19.3361	1082.59	1082.59
413	15.4795	1227.38	1227.38
413.2	2.05205	1238.28	1238.28
413.4	11.2409	1011.08	1011.08
413.6	16.5771	1258.29	1258.29
413.8	14.6326	1208.23	1208.23
414	6.32054	1239.37	1239.37
414.2	10.35	1085.94	1085.94
414.4	3.87083	1029.72	1029.72
414.6	12.3835	1045.32	1045.32
414.8	6.62887	1209.13	1209.13
415	12.7834	1062.13	1062.13
415.2	27.7249	1107.28	1107.28
415.4	10.0836	1039.34	1039.34
415.6	6.76678	1010.8	1010.8
415.8	8.5693	1156.28	1156.28
416	8.50199	1093.68	1093.68
416.2	12.0317	1105.1	1105.1
416.4	18.7043	1038.15	1038.15
416.6	0	910.522	910.522
416.8	6.95734	1035.58	1035.58
417	10.0712	1185.35	1185.35
417.2	13.722	1154.84	1154.84
417.4	6.75158	1066.29	1066.29
417.6	11.8036	1108.04	1108.04

DEPT[FT]	Gamma	Neutron	Neutron
417.8	13.7685	1235.32	1235.32
418	11.7973	1087.72	1087.72
418.2	5.12821	1212.69	1212.69
418.4	26.3861	1137.09	1137.09
418.6	13.8682	1184.26	1184.26
418.8	12.6198	1188.37	1188.37
419	14.1533	1190.61	1190.61
419.2	14.7592	1239.87	1239.87
419.4	22.5749	1079.71	1079.71
419.6	0	955.17	955.17
419.8	20.5655	1114.44	1114.44
420	11.7248	1168.44	1168.44
420.2	10.3662	1138.96	1138.96
420.4	15.3846	973.699	973.699
420.6	8.78063	1116.05	1116.05
420.8	15.9791	1137.25	1137.25
421	6.14151	1261.44	1261.44
421.2	8.78121	1144.76	1144.76
421.4	12.6331	1158.65	1158.65
421.6	3.35332	1050.94	1050.94
421.8	13.8251	1100.33	1100.33
422	3.89423	1159.22	1159.22
422.2	29.9682	1025.69	1025.69
422.4	15.9457	1179.58	1179.58
422.6	16.7632	1290.93	1290.93
422.8	26.4575	1177.87	1177.87
423	18.5428	1136.52	1136.52
423.2	7.06299	977.449	977.449
423.4	15.9408	1191.83	1191.83
423.6	9.12537	1278.32	1278.32
423.8	0.898143	933.904	933.904
424	7.16794	1129.84	1129.84
424.2	4.22653	1099.98	1099.98
424.4	6.76835	1180.01	1180.01
424.6	10.0669	1060.93	1060.93
424.8	12.5589	1008.78	1008.78
425	14.094	1093.68	1093.68
425.2	2.23555	1038.27	1038.27
425.4	13.3356	924.441	924.441
425.6	13.4456	1234.9	1234.9
425.8	5.60583	1100.31	1100.31
426	19.9787	1174.28	1174.28
426.2	10.6031	1037.06	1037.06
426.4	4.32734	1145.97	1145.97
426.6	10.5021	975.415	975.415
426.8	4.99421	1080.91	1080.91

DEPT[FT]	Gamma	Neutron	Neutron
427	5.02228	1055.57	1055.57
427.2	23.1416	1037.07	1037.07
427.4	0.52697	1161.22	1161.22
427.6	5.47938	940.966	940.966
427.8	14.6601	1152.71	1152.71
428	6.82296	1238.58	1238.58
428.2	15.4502	1083.11	1083.11
428.4	14.7241	1162.15	1162.15
428.6	28.2884	1275.48	1275.48
428.8	15.9068	1210.6	1210.6
429	15.0754	1212.23	1212.23
429.2	9.95359	1073.95	1073.95
429.4	4.66059	1135.45	1135.45
429.6	0.592072	1252.18	1252.18
429.8	10.7661	1190.42	1190.42
430	9.95025	1447.09	1447.09
430.2	24.8715	1057.15	1057.15
430.4	9.90521	1071.27	1071.27
430.6	9.90287	980.626	980.626
430.8	28.8589	1020.25	1020.25
431	5.09851	1117.09	1117.09
431.2	9.90225	1180.32	1180.32
431.4	15.2474	1199.31	1199.31
431.6	24.404	1017.44	1017.44
431.8	19.8321	1095.81	1095.81
432	15.1328	1252.47	1252.47
432.2	5.07577	1025.91	1025.91
432.4	15.1515	964.695	964.695
432.6	25.3807	952.431	952.431
432.8	15.1468	1048.27	1048.27
433	9.97943	1048.93	1048.93
433.2	10.1322	1299.96	1299.96
433.4	5.42603	1275.71	1275.71
433.6	5.1157	1202.63	1202.63
433.8	10.1785	1097.46	1097.46
434	9.74448	961.994	961.994
434.2	10.0676	1183.89	1183.89
434.4	15.0242	1194.71	1194.71
434.6	14.6902	1024.08	1024.08
434.8	19.3717	1047.14	1047.14
435	5.1907	1073.42	1073.42
435.2	19.8892	1205.15	1205.15
435.4	0.909123	1129.38	1129.38
435.6	14.6592	1144.64	1144.64
435.8	14.088	1064.19	1064.19
436	0.728038	1176.16	1176.16

DEPT[FT]	Gamma	Neutron	Neutron
436.2	5.74246	1112.95	1112.95
436.4	24.1602	1238.78	1238.78
436.6	14.1281	970.125	970.125
436.8	9.99101	1078.24	1078.24
437	24.0517	1075.34	1075.34
437.2	5.51687	976.579	976.579
437.4	9.57662	1028.92	1028.92
437.6	24.4848	1131.78	1131.78
437.8	5.63838	1181.3	1181.3
438	29.114	1175.37	1175.37
438.2	9.30221	1163.39	1163.39
438.4	14.0927	1077.7	1077.7
438.6	9.80392	1144.52	1144.52
438.8	4.25263	1043.8	1043.8
439	5.53093	1119.27	1119.27
439.2	6.21242	1145.48	1145.48
439.4	3.55411	1232.08	1232.08
439.6	7.1205	957.395	957.395
439.8	16.2676	1100.89	1100.89
440	9.83708	1298.55	1298.55
440.2	5.74992	1085.07	1085.07
440.4	13.151	1018.82	1018.82
440.6	21.3753	1248.91	1248.91
440.8	27.067	1094.98	1094.98
441	15.7353	1211.67	1211.67
441.2	14.7917	1184.6	1184.6
441.4	13.9553	1198.77	1198.77
441.6	1.92593	1088.58	1088.58
441.8	23.9245	935.117	935.117
442	12.8315	1005.9	1005.9
442.2	19.8206	973.825	973.825
442.4	30.5653	955.73	955.73
442.6	16.5827	1380.81	1380.81
442.8	13.6825	1148.78	1148.78
443	2.16521	1464.84	1464.84
443.2	16.3899	1125.86	1125.86
443.4	17.9678	1055.23	1055.23
443.6	6.04264	1023.3	1023.3
443.8	12.3852	1265	1265
444	9.80392	1186.35	1186.35
444.2	19.7044	1079.5	1079.5
444.4	18.3879	992.284	992.284
444.6	9.87641	1252.85	1252.85
444.8	21.0086	1084.97	1084.97
445	11.1023	1069.27	1069.27
445.2	14.1829	1251.25	1251.25

DEPT[FT]	Gamma	Neutron	Neutron
445.4	5.14254	1137.89	1137.89
445.6	10.6902	1132.89	1132.89
445.8	7.98756	1114.57	1114.57
446	5.20072	1202.63	1202.63
446.2	12.6329	1108.76	1108.76
446.4	11.929	1071.01	1071.01
446.6	3.08935	872.252	872.252
446.8	13.4995	1243.15	1243.15
447	8.74711	1041.03	1041.03
447.2	13.7376	1327.71	1327.71
447.4	16.7362	1201.56	1201.56
447.6	1.60205	882.042	882.042
447.8	8.26171	1171.51	1171.51
448	23.471	1099.7	1099.7
448.2	10.0165	1126.25	1126.25
448.4	10.1352	1059.62	1059.62
448.6	10.109	1080.1	1080.1
448.8	8.50927	1174.61	1174.61
449	8.66188	1181.91	1181.91
449.2	5.36996	1008.17	1008.17
449.4	5.37923	1161.78	1161.78
449.6	8.79231	994.066	994.066
449.8	14.9549	1134.18	1134.18
450	12.0652	1075.22	1075.22
450.2	3.79276	924.999	924.999
450.4	25.5921	1470.09	1470.09
450.6	6.4142	1249.64	1249.64
450.8	5.13832	1055.94	1055.94
451	10.3835	891.01	891.01
451.2	11.4832	1260.53	1260.53
451.4	23.9029	1438.85	1438.85
451.6	24.4795	1043.84	1043.84
451.8	16.3573	1170.8	1170.8
452	12.4089	1333.94	1333.94
452.2	24.5065	1211.24	1211.24
452.4	7.69197	926.879	926.879
452.6	18.5405	1196.59	1196.59
452.8	8.90931	997.216	997.216
453	9.61539	1026.76	1026.76
453.2	19.3906	1050.35	1050.35
453.4	7.61882	867.53	867.53
453.6	11.9308	982.6	982.6
453.8	7.09184	1345.99	1345.99
454	5.4597	1005.3	1005.3
454.2	11.5782	1131.07	1131.07
454.4	14.739	1153.11	1153.11

DEPT[FT]	Gamma	Neutron	Neutron
454.6	12.1851	1105.77	1105.77
454.8	7.5813	1127.49	1127.49
455	21.6329	1091.75	1091.75
455.2	9.97381	1115.78	1115.78
455.4	5.16897	1216.66	1216.66
455.6	4.96437	1130.53	1130.53
455.8	24.7525	1093.14	1093.14
456	14.4898	1161.29	1161.29
456.2	9.68555	1123.73	1123.73
456.4	12.0555	1080.82	1080.82
456.6	12.1761	1149.74	1149.74
456.8	12.1596	1006.17	1006.17
457	17.3155	1155.36	1155.36
457.2	12.0017	1034.18	1034.18
457.4	14.123	1012.38	1012.38
457.6	17.3588	987.891	987.891
457.8	12.1184	1095.4	1095.4
458	16.6594	1197.51	1197.51
458.2	17.3162	1246.19	1246.19
458.4	17.0531	982.154	982.154
458.6	26.9146	1196.09	1196.09
458.8	4.89117	1244.14	1244.14
459	16.276	1114.29	1114.29
459.2	2.74606	1222	1222
459.4	14.1627	1170.99	1170.99
459.6	20.7917	1299.79	1299.79
459.8	10	1038.11	1038.11
460	5.01442	1173.22	1173.22
460.2	15.5844	919.999	919.999
460.4	9.13662	1265.56	1265.56
460.6	11.8051	1217.59	1217.59
460.8	12.6584	852.478	852.478
461	8.76195	1239.19	1239.19
461.2	16.3886	1203.9	1203.9
461.4	25.1131	1043.2	1043.2
461.6	16.6466	962.025	962.025
461.8	11.6231	1201.68	1201.68
462	6.73712	1198.62	1198.62
462.2	11.5844	1164.1	1164.1
462.4	14.0664	1023.94	1023.94
462.6	4.90196	978.566	978.566
462.8	17.7445	1056.94	1056.94
463	6.70273	1176.46	1176.46
463.2	8.09764	1048.95	1048.95
463.4	24.1828	1102.72	1102.72
463.6	8.3897	1235.22	1235.22

DEPT[FT]	Gamma	Neutron	Neutron
463.8	15.0055	990.422	990.422
464	4.9505	1129.26	1129.26
464.2	8.28397	1286.81	1286.81
464.4	11.5517	1123.5	1123.5
464.6	4.94243	1202.54	1202.54
464.8	11.5572	1009.49	1009.49
465	22.8648	998.947	998.947
465.2	13.1473	997.586	997.586
465.4	9.80392	1305.33	1305.33
465.6	16.5579	949.323	949.323
465.8	14.7059	1105.02	1105.02
466	10.3218	1011.66	1011.66
466.2	8.34612	1264.17	1264.17
466.4	7.77476	1091.29	1091.29
466.6	19.7459	1067.45	1067.45
466.8	5.57835	1178	1178
467	9.72204	1071.99	1071.99
467.2	10.1555	884.628	884.628
467.4	4.88899	1081.22	1081.22
467.6	4.88446	1008.94	1008.94
467.8	7.52517	827.278	827.278
468	11.1131	1109.29	1109.29
468.2	13.6422	986.454	986.454
468.4	19.877	1182.17	1182.17
468.6	4.97512	1033.26	1033.26
468.8	6.17324	1093.2	1093.2
469	7.31811	1056.24	1056.24
469.2	15.8248	1141.27	1141.27
469.4	28.506	1169.81	1169.81
469.6	3.30282	1189.29	1189.29
469.8	9.71926	1198.71	1198.71
470	20.2197	1059.25	1059.25
470.2	29.2078	1161.85	1161.85
470.4	12.0783	1170.07	1170.07
470.6	16.589	1002.94	1002.94
470.8	12.0766	1204	1204
471	9.25566	1170.59	1170.59
471.2	18.4573	961.214	961.214
471.4	17.6026	1013.23	1013.23
471.6	7.93452	1050.01	1050.01
471.8	10.2041	1194.22	1194.22
472	8.31699	1086.08	1086.08
472.2	14.4345	1021.04	1021.04
472.4	10.2564	1024.71	1024.71
472.6	13.5611	1041.26	1041.26
472.8	3.27299	1045.14	1045.14

DEPT[FT]	Gamma	Neutron	Neutron
473	11.9798	1049.35	1049.35
473.2	15.5886	1183.43	1183.43
473.4	11.9882	1134.64	1134.64
473.6	5.22784	1120.38	1120.38
473.8	12.4586	1047.32	1047.32
474	10.9486	949.552	949.552
474.2	13.2351	1014.18	1014.18
474.4	10.1655	1063.74	1063.74
474.6	4.47741	1237.58	1237.58
474.8	6.29204	1019.5	1019.5
475	14.1358	1195.42	1195.42
475.2	5.63365	1166.07	1166.07
475.4	15.2979	967.079	967.079
475.6	14.2667	1139.95	1139.95
475.8	15.2911	1058.33	1058.33
476	15.7628	1158.58	1158.58
476.2	20.3138	1146.95	1146.95
476.4	15.2995	1183.03	1183.03
476.6	20.0023	1194.15	1194.15
476.8	10.2122	1134.57	1134.57
477	10.1637	1100.24	1100.24
477.2	1.05524	1145.77	1145.77
477.4	11.2126	1338.05	1338.05
477.6	15.0727	1045.06	1045.06
477.8	9.68547	1088.04	1088.04
478	9.77158	1150.53	1150.53
478.2	5.318	1104.94	1104.94
478.4	15.7459	1092.96	1092.96
478.6	5.8857	1023.39	1023.39
478.8	14.796	1117.06	1117.06
479	15.0731	1098.17	1098.17
479.2	4.94115	1093.38	1093.38
479.4	15.0757	1134.81	1134.81
479.6	5.17033	1009.87	1009.87
479.8	5.27737	1147.29	1147.29
480	30.5597	1099.57	1099.57
480.2	5.10671	1056.64	1056.64
480.4	10.2564	1035	1035
480.6	10.101	1069.32	1069.32
480.8	15.1823	1182.31	1182.31
481	0.214931	1245.47	1245.47
481.2	0.23158	1096.25	1096.25
481.4	5.26752	1167.83	1167.83
481.6	0	999.571	999.571
481.8	15.3997	906.656	906.656
482	5.17967	992.623	992.623

DEPT[FT]	Gamma	Neutron	Neutron
482.2	19.7821	1212.98	1212.98
482.4	5.33569	884.448	884.448
482.6	11.0428	1073.74	1073.74
482.8	10.446	1280.46	1280.46
483	5.05051	1113.88	1113.88
483.2	5.36395	1097.29	1097.29
483.4	5.0746	1185.89	1185.89
483.6	15.4096	943.114	943.114
483.8	24.2039	1025.84	1025.84
484	10.5721	1267.25	1267.25
484.2	39.0402	1093.7	1093.7
484.4	9.73524	1103.03	1103.03
484.6	9.28165	960.16	960.16
484.8	2.29118	1112.27	1112.27
485	20.3241	1025.47	1025.47
485.2	9.1127	1107.03	1107.03
485.4	18.7519	1198.43	1198.43
485.6	18.7773	1324.96	1324.96
485.8	33.6141	1237.95	1237.95
486	9.57753	1109.67	1109.67
486.2	14.2303	1455.15	1455.15
486.4	15.3061	1347.46	1347.46
486.6	49.221	1292.27	1292.27
486.8	1.36228	905.21	905.21
487	24.3766	900.248	900.248
487.2	19.1761	1071.2	1071.2
487.4	4.38972	1213.08	1213.08
487.6	4.34685	1010.04	1010.04
487.8	9.38055	1081.8	1081.8
488	5.03311	1137.77	1137.77
488.2	19.5024	1241.36	1241.36
488.4	14.3203	1269.46	1269.46
488.6	14.3726	1199.59	1199.59
488.8	11.8852	982.776	982.776
489	9.30086	1120.09	1120.09
489.2	11.9543	1115.99	1115.99
489.4	18.3413	1221.32	1221.32
489.6	12.2017	1298.31	1298.31
489.8	5.12821	1125.9	1125.9
490	2.03174	1114.2	1114.2
490.2	17.3695	1201.84	1201.84
490.4	15.5441	1457.34	1457.34
490.6	12.1502	1148	1148
490.8	16.0277	1123.88	1123.88
491	13.5407	1041.9	1041.9
491.2	8.51512	956.837	956.837

DEPT[FT]	Gamma	Neutron	Neutron
491.4	12.9378	1105.07	1105.07
491.6	10.1404	1006.53	1006.53
491.8	17.9908	1390.33	1390.33
492	8.68444	1108.63	1108.63
492.2	3.83831	1273.29	1273.29
492.4	7.57328	951.225	951.225
492.6	16.5411	1413.9	1413.9
492.8	7.65944	987.296	987.296
493	10.1257	1190	1190
493.2	15.1719	1170.7	1170.7
493.4	17.6239	1016.56	1016.56
493.6	13.8722	1171.28	1171.28
493.8	6.41945	1184.88	1184.88
494	21.0096	951.344	951.344
494.2	16.7039	1131.03	1131.03
494.4	5.90547	1377.55	1377.55
494.6	11.6545	1107.39	1107.39
494.8	15.8309	1130.79	1130.79
495	5.11793	1229.94	1229.94
495.2	10.7255	1152.46	1152.46
495.4	17.8497	1154.42	1154.42
495.6	18.3353	1094.31	1094.31
495.8	16.5614	1237.2	1237.2
496	8.27078	1402.15	1402.15
496.2	18.0937	1094.13	1094.13
496.4	8.17267	1101.13	1101.13
496.6	19.3907	1183.09	1183.09
496.8	3.48399	1139.33	1139.33
497	21.9608	1049.75	1049.75
497.2	3.25978	976.435	976.435
497.4	22.9831	1006.18	1006.18
497.6	17.8478	1024.89	1024.89
497.8	0	1345.33	1345.33
498	9.70874	1192.11	1192.11
498.2	5.37074	1205.35	1205.35
498.4	18.8781	1288.51	1288.51
498.6	14.6885	1082.21	1082.21
498.8	16.8891	1246.71	1246.71
499	18.4819	1159.56	1159.56
499.2	14.5478	1313.58	1313.58
499.4	12.5453	1092.32	1092.32
499.6	27.2549	1092.29	1092.29
499.8	19.589	1229.52	1229.52
500	13.5645	1414.59	1414.59
500.2	18.2946	1205.28	1205.28
500.4	32.2441	1462.87	1462.87

DEPT[FT]	Gamma	Neutron	Neutron
500.6	11.4531	1354.56	1354.56
500.8	22.5071	1490.7	1490.7
501	27.7086	1270.33	1270.33
501.2	9.78331	1361.85	1361.85
501.4	12.7884	1221.56	1221.56
501.6	23.7329	1221.57	1221.57
501.8	7.85831	1439.69	1439.69
502	17.9075	1340.52	1340.52
502.2	34.6869	1351.1	1351.1
502.4	23.0808	1398.84	1398.84
502.6	11.8599	1514.26	1514.26
502.8	23.1113	1138.58	1138.58
503	17.1152	1288.25	1288.25
503.2	9.60078	1204.17	1204.17
503.4	26.1692	1201.11	1201.11
503.6	14.4506	1203.77	1203.77
503.8	19.4047	1310.71	1310.71
504	22.3662	1231.13	1231.13
504.2	19.6035	1268.4	1268.4
504.4	12.2069	1128.9	1128.9
504.6	17.1827	1196.16	1196.16
504.8	26.7387	1487.9	1487.9
505	14.6707	1415.15	1415.15
505.2	12.0653	1338.41	1338.41
505.4	38.8428	1341.21	1341.21
505.6	23.934	1438.04	1438.04
505.8	14.7301	1323.75	1323.75
506	14.5927	1239.84	1239.84
506.2	14.3361	1159.14	1159.14
506.4	19.4686	1269.52	1269.52
506.6	28.4734	1240.49	1240.49
506.8	15.943	1452.04	1452.04
507	26.1794	1341.34	1341.34
507.2	7.6329	1395.83	1395.83
507.4	29.2519	1162.95	1162.95
507.6	27.8072	1446.87	1446.87
507.8	19.1112	1407.82	1407.82
508	20.993	1440.92	1440.92
508.2	22.9152	1575.74	1575.74
508.4	10.8505	1379.7	1379.7
508.6	19.2693	1297.51	1297.51
508.8	16.4744	1358.14	1358.14
509	27.9644	1353.13	1353.13
509.2	13.5203	1574.6	1574.6
509.4	8.70817	1322.98	1322.98
509.6	20.1506	1473.49	1473.49

DEPT[FT]	Gamma	Neutron	Neutron
509.8	6.63938	1616.24	1616.24
510	16.1167	1305.6	1305.6
510.2	26.7152	1390.46	1390.46
510.4	24.3292	1390.56	1390.56
510.6	34.9437	1190.6	1190.6
510.8	4.73934	1365.22	1365.22
511	19.8149	1199.36	1199.36
511.2	12.5245	1315.78	1315.78
511.4	22.4435	1219.76	1219.76
511.6	29.5602	1245.77	1245.77
511.8	22.2151	1506.13	1506.13
512	33.178	999.016	999.016
512.2	17.5323	1242.51	1242.51
512.4	17.5105	1343.7	1343.7
512.6	22.2487	1364.95	1364.95
512.8	12.7971	1392.75	1392.75
513	27.3212	1169.45	1169.45
513.2	17.5333	1186.79	1186.79
513.4	9.52173	1497.18	1497.18
513.6	15.8877	1299.7	1299.7
513.8	10.9763	1323.51	1323.51
514	18.5971	1581.28	1581.28
514.2	33.2083	1325.82	1325.82
514.4	13.1779	1345.94	1345.94
514.6	23.154	1605.31	1605.31
514.8	20.4421	1318.18	1318.18
515	23.2029	1448.59	1448.59
515.2	17.7058	1239.05	1239.05
515.4	13.4255	1326.89	1326.89
515.6	15.1275	1470.72	1470.72
515.8	10.7038	1279.51	1279.51
516	21.2201	1499.64	1499.64
516.2	16.5984	1412.6	1412.6
516.4	16.432	1307.37	1307.37
516.6	2.35421	1207.69	1207.69
516.8	19.1388	1328.06	1328.06
517	7.03346	1357.67	1357.67
517.2	13.2785	1225.9	1225.9
517.4	16.2878	1264.53	1264.53
517.6	28.0868	1183.07	1183.07
517.8	16.5997	1277.57	1277.57
518	27.871	1246.31	1246.31
518.2	31.3874	1492.62	1492.62
518.4	15.255	1340.23	1340.23
518.6	11.0704	1339.46	1339.46
518.8	15.0561	1158.1	1158.1

DEPT[FT]	Gamma	Neutron	Neutron
519	10.3426	1409.88	1409.88
519.2	24.3858	1498.92	1498.92
519.4	21.4872	1186.36	1186.36
519.6	24.6431	1201.84	1201.84
519.8	28.9924	1304.61	1304.61
520	8.12662	1138.52	1138.52
520.2	26.9338	1343.31	1343.31
520.4	11.1113	1402.84	1402.84
520.6	19.7579	1333.8	1333.8
520.8	18.1832	1300.17	1300.17
521	16.728	1378.57	1378.57
521.2	13.502	1153.87	1153.87
521.4	14.1982	1263.37	1263.37
521.6	21.7523	1228.95	1228.95
521.8	26.4576	1254.09	1254.09
522	17.6035	1297.74	1297.74
522.2	18.4897	1187.94	1187.94
522.4	10.2302	1254.84	1254.84
522.6	15.5304	1199.45	1199.45
522.8	22.581	1346.18	1346.18
523	23.0405	1386.14	1386.14
523.2	9.43396	1348.1	1348.1
523.4	22.3844	1603.6	1603.6
523.6	30.1242	1257.76	1257.76
523.8	19.3342	1408.73	1408.73
524	16.1909	1315.36	1315.36
524.2	9.26315	1277.88	1277.88
524.4	11.8218	1360.54	1360.54
524.6	30.944	1304.17	1304.17
524.8	18.8679	1359.26	1359.26
525	22.8845	1317.91	1317.91
525.2	22.4891	1160.3	1160.3
525.4	15.282	1347.11	1347.11
525.6	20.4031	1438.93	1438.93
525.8	14.0161	1184.35	1184.35
526	24.0773	1379.75	1379.75
526.2	42.8317	1522.42	1522.42
526.4	5.63679	1300.23	1300.23
526.6	42.0946	1279.68	1279.68
526.8	28.3131	1516.12	1516.12
527	0.596427	1184.09	1184.09
527.2	23.2454	1205.02	1205.02
527.4	23.1431	1310.53	1310.53
527.6	14.0212	1301.71	1301.71
527.8	23.5866	1383.95	1383.95
528	23.6385	1443.11	1443.11

DEPT[FT]	Gamma	Neutron	Neutron
528.2	4.7842	1396.96	1396.96
528.4	18.7793	1376.53	1376.53
528.6	28.3019	1470.88	1470.88
528.8	9.55773	1311.96	1311.96
529	23.7235	1340.7	1340.7
529.2	10.3983	1373.8	1373.8
529.4	9.99041	1363.32	1363.32
529.6	20.027	1617.75	1617.75
529.8	14.7097	1206.94	1206.94
530	20.2077	1248.1	1248.1
530.2	14.5087	1589.86	1589.86
530.4	14.469	1280.19	1280.19
530.6	10.2401	1369.61	1369.61
530.8	14.7745	1346.24	1346.24
531	10.1516	1391.3	1391.3
531.2	25.2224	1316.44	1316.44
531.4	10.6384	1160.17	1160.17
531.6	13.8297	1470.23	1470.23
531.8	32.1648	1273.5	1273.5
532	28.2234	1263.8	1263.8
532.2	23.7621	1437.6	1437.6
532.4	23.6083	1456.22	1456.22
532.6	15.4164	1176.57	1176.57
532.8	23.7339	1594.43	1594.43
533	14.1169	1369.97	1369.97
533.2	27.3834	1210.71	1210.71
533.4	35.243	1278.82	1278.82
533.6	28.1314	1089.55	1089.55
533.8	16.9337	1366.21	1366.21
534	21.9456	1194.37	1194.37
534.2	17.8702	1338.08	1338.08
534.4	11.0697	1229.29	1229.29
534.6	24.646	1205.26	1205.26
534.8	11.9013	1079.06	1079.06
535	31.0179	1289.6	1289.6
535.2	7.68032	1190.62	1190.62
535.4	27.5908	1134.1	1134.1
535.6	30.9878	1367.01	1367.01
535.8	0.740336	1269.78	1269.78
536	1.52418	1142.48	1142.48
536.2	22.8573	1132.22	1132.22
536.4	14.7059	1214.8	1214.8
536.6	8.19781	1209.08	1209.08
536.8	5.73162	1433	1433
537	29.7081	1249.29	1249.29
537.2	13.6867	1253.16	1253.16

DEPT[FT]	Gamma	Neutron	Neutron
537.4	25.5584	1196.38	1196.38
537.6	16.5783	1251.41	1251.41
537.8	13.7619	1191.63	1191.63
538	23.5627	1087.16	1087.16
538.2	20.6611	1301.49	1301.49
538.4	23.6196	1384.09	1384.09
538.6	16.4581	1160.31	1160.31
538.8	13.0239	1292.68	1292.68
539	20.6469	1238.21	1238.21
539.2	6.07849	1176.41	1176.41
539.4	10.8866	1363.19	1363.19
539.6	21.0777	1181.03	1181.03
539.8	14.1549	1137.63	1137.63
540	8.22327	1414.73	1414.73
540.2	21.3102	1268.76	1268.76
540.4	11.7558	1510.85	1510.85
540.6	10.5199	1089.52	1089.52
540.8	18.757	960.869	960.869
541	13.1048	1172.46	1172.46
541.2	11.84	1138.29	1138.29
541.4	19.8214	1158.3	1158.3
541.6	13.1317	1135.72	1135.72
541.8	15.975	1511.02	1511.02
542	16.2266	1219.35	1219.35
542.2	28.3019	1248.11	1248.11
542.4	24.9091	1296.04	1296.04
542.6	16.8997	1218.53	1218.53
542.8	19.3646	1431.97	1431.97
543	30.7703	1434.89	1434.89
543.2	11.3011	1321.85	1321.85
543.4	30.8255	1473.82	1473.82
543.6	6.41024	1583.29	1583.29
543.8	13.0824	1520.24	1520.24
544	8.2757	1485.2	1485.2
544.2	18.1709	1340.54	1340.54
544.4	6.55493	1289.3	1289.3
544.6	21.309	1285.77	1285.77
544.8	16.435	1336.73	1336.73
545	16.1705	1532.54	1532.54
545.2	8.06321	1119.2	1119.2
545.4	13.4102	1416.29	1416.29
545.6	12.8844	1278.72	1278.72
545.8	10.3987	1773.59	1773.59
546	23.0686	1461.25	1461.25
546.2	17.7786	1497.55	1497.55
546.4	20.6588	1210.69	1210.69

DEPT[FT]	Gamma	Neutron	Neutron
546.6	11.0142	1204.64	1204.64
546.8	28.6871	1335.6	1335.6
547	10.5513	1293.35	1293.35
547.2	27.1171	1416.19	1416.19
547.4	21.8851	1304.93	1304.93
547.6	26.6913	1686.03	1686.03
547.8	12.8044	1214.67	1214.67
548	10.8855	1355.14	1355.14
548.2	21.779	1317.9	1317.9
548.4	15.8044	1309.11	1309.11
548.6	17.6731	1390.95	1390.95
548.8	16.4396	1059	1059
549	11.7767	1307.97	1307.97
549.2	19.3771	1489.34	1489.34
549.4	15.1302	1368.52	1368.52
549.6	13.9843	1395.63	1395.63
549.8	28.1567	1534.34	1534.34
550	4.85196	1207.78	1207.78
550.2	28.4427	1283.23	1283.23
550.4	30.6736	1176.85	1176.85
550.6	20.3268	1178.91	1178.91
550.8	21.3382	1081.34	1081.34
551	14.3886	1361.09	1361.09
551.2	14.4279	1329.75	1329.75
551.4	14.6683	1270.42	1270.42
551.6	24.6992	1439.86	1439.86
551.8	16.8998	1316.84	1316.84
552	17.0991	1363.79	1363.79
552.2	22.0705	1228.77	1228.77
552.4	7.38643	1593.91	1593.91
552.6	24.8756	1279.84	1279.84
552.8	7.4285	1241.21	1241.21
553	15.0497	1397.45	1397.45
553.2	24.9316	1255.61	1255.61
553.4	12.2683	1335.31	1335.31
553.6	17.3926	1374.77	1374.77
553.8	12.0129	1354.74	1354.74
554	14.5592	1296.96	1296.96
554.2	19.0488	1155.44	1155.44
554.4	20.087	1206.32	1206.32
554.6	17.9444	1280.61	1280.61
554.8	26.8474	1240.37	1240.37
555	17.2046	1189.87	1189.87
555.2	2.16047	1208.9	1208.9
555.4	20.061	1155.02	1155.02
555.6	22.4498	1327.91	1327.91

DEPT[FT]	Gamma	Neutron	Neutron
555.8	16.7454	1170.77	1170.77
556	27.967	1145.18	1145.18
556.2	20.2237	1207.88	1207.88
556.4	11.3731	1182.06	1182.06
556.6	12.6669	1231.44	1231.44
556.8	17.9186	1148.61	1148.61
557	26.6446	1061.67	1061.67
557.2	26.5045	1085.47	1085.47
557.4	21.4605	1170.06	1170.06
557.6	20.1706	1196.84	1196.84
557.8	24.3316	1234.31	1234.31
558	19.3097	1131.1	1131.1
558.2	12.6612	1469.88	1469.88
558.4	14.6341	1407.41	1407.41
558.6	24.2428	1249.55	1249.55
558.8	13.3389	1096.62	1096.62
559	6.12773	1215.3	1215.3
559.2	17.4163	1263.68	1263.68
559.4	24.3569	1182.62	1182.62
559.6	16.3588	1188.52	1188.52
559.8	8.0443	1193.92	1193.92
560	11.3845	1147.4	1147.4
560.2	14.5873	1150.78	1150.78
560.4	16.0882	1287.05	1287.05
560.6	13.0114	1142.42	1142.42
560.8	27.8696	1233.83	1233.83
561	31.1702	1240.17	1240.17
561.2	20.9555	1462.52	1462.52
561.4	13.128	1395.38	1395.38
561.6	30.1753	1407.58	1407.58
561.8	19.4269	1402.1	1402.1
562	16.1238	1427.1	1427.1
562.2	19.3518	1801.28	1801.28
562.4	19.2582	1660.57	1660.57
562.6	2.80693	1546.78	1546.78
562.8	7.60391	1632.64	1632.64
563	17.2432	1355.15	1355.15
563.2	15.2761	1678.21	1678.21
563.4	18.107	1443.69	1443.69
563.6	9.76901	1378.19	1378.19
563.8	15.0316	1494.68	1494.68
564	24.3632	1557.29	1557.29
564.2	9.7561	1650.74	1650.74
564.4	44.8218	1335.82	1335.82
564.6	6.06492	1442.99	1442.99
564.8	14.5806	1610.75	1610.75

DEPT[FT]	Gamma	Neutron	Neutron
565	27.9838	1395.49	1395.49
565.2	8.34384	1406.58	1406.58
565.4	18.8231	1249.5	1249.5
565.6	24.4825	1409.93	1409.93
565.8	25.0064	1234.72	1234.72
566	11.4666	1487.18	1487.18
566.2	23.5652	1314.04	1314.04
566.4	14.5781	1512.63	1512.63
566.6	8.6637	1276.82	1276.82
566.8	18.4266	1420.74	1420.74
567	11.6051	1425.72	1425.72
567.2	8.62145	1181.34	1181.34
567.4	15.4732	1449.89	1449.89
567.6	12.4495	1412.69	1412.69
567.8	23.6916	1460.93	1460.93
568	15.4225	1381.95	1381.95
568.2	27.5156	1355.4	1355.4
568.4	23.2211	1576.62	1576.62
568.6	23.435	1344.86	1344.86
568.8	3.13173	1347.38	1347.38
569	6.40009	1446.18	1446.18
569.2	13.1362	1203.44	1203.44
569.4	22.8422	1366.77	1366.77
569.6	22.6171	1339.59	1339.59
569.8	25.2501	1376.94	1376.94
570	8.50267	1430.49	1430.49
570.2	15.2951	1505.14	1505.14
570.4	15.2876	1495.91	1495.91
570.6	31.4391	1482.03	1482.03
570.8	20.4872	1186.22	1186.22
571	12.3542	1269.83	1269.83
571.2	13.883	1364.56	1364.56
571.4	20.7622	1634.02	1634.02
571.6	23.0304	1428.07	1428.07
571.8	14.62	1556.15	1556.15
572	10.6726	1361.14	1361.14
572.2	32.3589	1428.2	1428.2
572.4	24.2617	1401.08	1401.08
572.6	19.1025	1284.82	1284.82
572.8	19.1143	1521.5	1521.5
573	14.5631	1529.06	1529.06
573.2	33.4445	1231.41	1231.41
573.4	23.3042	1313.79	1313.79
573.6	19.2308	1334.96	1334.96
573.8	28.5614	1392.18	1392.18
574	14.6341	1415.14	1415.14

DEPT[FT]	Gamma	Neutron	Neutron
574.2	9.75847	1295.82	1295.82
574.4	28.969	1547.44	1547.44
574.6	15.7998	1328.94	1328.94
574.8	15.0056	1387.53	1387.53
575	5.01579	1416.11	1416.11
575.2	24.0164	1493.76	1493.76
575.4	9.57051	1375.96	1375.96
575.6	28.4806	1315.84	1315.84
575.8	14.5124	1509.03	1509.03
576	23.9281	1434.4	1434.4
576.2	28.7697	1431.14	1431.14
576.4	9.61539	1566.13	1566.13
576.6	38.4615	1545.77	1545.77
576.8	0	1567.39	1567.39
577	0.285546	1366.06	1366.06
577.2	9.9311	1552.13	1552.13
577.4	9.61618	1287.35	1287.35
577.6	28.3406	1414.03	1414.03
577.8	0.608622	1309.1	1309.1
578	14.7124	1245.28	1245.28
578.2	5.67511	1348.5	1348.5
578.4	6.36962	1234.4	1234.4
578.6	19.5163	1322.45	1322.45
578.8	15.0165	1441.48	1441.48
579	14.5631	1204.09	1204.09
579.2	13.9679	1303.29	1303.29
579.4	14.9808	1376.14	1376.14
579.6	10.4337	1392.11	1392.11
579.8	19.1388	1453.76	1453.76
580	18.5538	1198.96	1198.96
580.2	8.93465	1310.7	1310.7
580.4	19.3237	1387.7	1387.7
580.6	9.61928	1232.81	1232.81
580.8	14.9064	1310.99	1310.99
581	24.9514	1338.13	1338.13
581.2	20.2363	1190.76	1190.76
581.4	23.2	1410.28	1410.28
581.6	25.0463	1544.78	1544.78
581.8	27.9283	1644.37	1644.37
582	14.4309	1407.33	1407.33
582.2	19.8061	1446.27	1446.27
582.4	6.05347	1346.36	1346.36
582.6	17.1483	1207.36	1207.36
582.8	13.4417	1450.79	1450.79
583	13.4055	1125.02	1125.02
583.2	14.7783	1262.17	1262.17

DEPT[FT]	Gamma	Neutron	Neutron
583.4	22.3636	1428.07	1428.07
583.6	10.4477	1375.6	1375.6
583.8	26.6617	1453.41	1453.41
584	29.0515	1349.92	1349.92
584.2	26.4118	1619.52	1619.52
584.4	6.32926	1552.63	1552.63
584.6	19.9696	1252.08	1252.08
584.8	30.2278	1207.78	1207.78
585	4.76589	1483.49	1483.49
585.2	29.6518	1396.27	1396.27
585.4	12.302	1528.15	1528.15
585.6	13.6433	1456.47	1456.47
585.8	16.6231	1379.79	1379.79
586	16.447	1388.34	1388.34
586.2	16.4972	1330.59	1330.59
586.4	17.4348	1275.25	1275.25
586.6	22.2306	1462.05	1462.05
586.8	21.2785	1530.6	1530.6
587	10.7975	1126.28	1126.28
587.2	15.6348	1309.44	1309.44
587.4	17.2302	1400.12	1400.12
587.6	8.2176	1642.24	1642.24
587.8	13.1138	1382.31	1382.31
588	23.578	1599.48	1599.48
588.2	16.8547	1608.63	1608.63
588.4	32.5525	1252	1252
588.6	23.0336	1429.94	1429.94
588.8	30.285	1230.56	1230.56
589	8.64202	1293.79	1293.79
589.2	9.61539	1402.69	1402.69
589.4	14.7833	1383.47	1383.47
589.6	6.0996	1131.39	1131.39
589.8	29.8059	1554.67	1554.67
590	21.4397	1616.86	1616.86
590.2	17.1615	1240.73	1240.73
590.4	24.6092	1126.31	1126.31
590.6	16.7515	1215.85	1215.85
590.8	20.1082	1153.65	1153.65
591	12.6785	1691.15	1691.15
591.2	17.6772	1514.85	1514.85
591.4	18.8753	1392.17	1392.17
591.6	19.3029	1289.66	1289.66
591.8	11.3232	1480.64	1480.64
592	16.2469	1208.27	1208.27
592.2	9.71037	1293.64	1293.64
592.4	22.3487	1434.29	1434.29

DEPT[FT]	Gamma	Neutron	Neutron
592.6	17.555	1558.69	1558.69
592.8	16.0131	1246.09	1246.09
593	14.3541	1375.22	1375.22
593.2	17.4831	1481.97	1481.97
593.4	24.3425	1426.32	1426.32
593.6	17.8292	1231.95	1231.95
593.8	7.95538	1519.1	1519.1
594	16.2222	1271.24	1271.24
594.2	30.2318	1442.38	1442.38
594.4	13.1466	1436.62	1436.62
594.6	23.5583	1116.71	1116.71
594.8	10.276	1020.5	1020.5
595	15.529	970.241	970.241
595.2	34.737	1262.31	1262.31
595.4	18.5104	1269.93	1269.93
595.6	21.18	1176.16	1176.16
595.8	18.3806	1235.11	1235.11
596	9.67219	1137.66	1137.66
596.2	21.6328	1239.6	1239.6
596.4	15.7711	1079.84	1079.84
596.6	11.6751	1106.41	1106.41
596.8	14.4057	1105.42	1105.42
597	18.3246	1135.7	1135.7
597.2	21.1425	1152.1	1152.1
597.4	17.0753	1258.33	1258.33
597.6	9.56938	1230.35	1230.35
597.8	12.2609	1222.1	1222.1
598	19.6905	1121	1121
598.2	17.4702	1225.73	1225.73
598.4	21.6459	1317.39	1317.39
598.6	30.9803	1165.71	1165.71
598.8	19.0412	1188.23	1188.23
599	26.7597	1193.09	1193.09
599.2	18.9485	1201.1	1201.1
599.4	33.7245	1183.22	1183.22
599.6	16.7986	1405.79	1405.79
599.8	14.1801	1270.68	1270.68
600	26.8771	1144.94	1144.94
600.2	9.66088	1141.73	1141.73
600.4	12.2533	1317.85	1317.85
600.6	24.2301	1360.34	1360.34
600.8	12.1079	1102.4	1102.4
601	14.5438	1433.66	1433.66
601.2	16.9294	1129.52	1129.52
601.4	11.9836	1311.33	1311.33
601.6	17.0018	1336.61	1336.61

DEPT[FT]	Gamma	Neutron	Neutron
601.8	11.8369	1233.57	1233.57
602	26.6017	928.61	928.61
602.2	14.4928	1205.9	1205.9
602.4	17.0714	1108.6	1108.6
602.6	17.8341	1115.71	1115.71
602.8	12.1417	1250.93	1250.93
603	24.9932	1302.69	1302.69
603.2	11.9979	1162.99	1162.99
603.4	25.476	1359.4	1359.4
603.6	12.3811	1259.08	1259.08
603.8	12.3576	1284.5	1284.5
604	16.4896	1139.52	1139.52
604.2	10.3367	1207.36	1207.36
604.4	17.8202	1187.73	1187.73
604.6	21.1222	1354.49	1354.49
604.8	10.6224	1085.15	1085.15
605	19.5688	1137.76	1137.76
605.2	26.4091	1199.21	1199.21
605.4	15.4371	1252.8	1252.8
605.6	25.0415	1317.24	1317.24
605.8	14.4384	1239.14	1239.14
606	24.9612	1219.35	1219.35
606.2	17.2198	1158.24	1158.24
606.4	22.1085	1017.38	1017.38
606.6	22.0919	1221.07	1221.07
606.8	7.10621	988.086	988.086
607	18.5079	1312.49	1312.49
607.2	13.1373	1018.7	1018.7
607.4	22.0399	1056.53	1056.53
607.6	17.9227	1251.26	1251.26
607.8	22.2832	1351.84	1351.84
608	17.627	915.815	915.815
608.2	20.7119	1176.5	1176.5
608.4	27.498	1122.12	1122.12
608.6	28.8795	1144.98	1144.98
608.8	11.2003	1080.33	1080.33
609	16.1584	1259.46	1259.46
609.2	27.3353	1276.59	1276.59
609.4	17.5922	1325.33	1325.33
609.6	24.3814	1383.47	1383.47
609.8	15.8901	1330.76	1330.76
610	5.85704	1208.98	1208.98
610.2	11.4794	1080.75	1080.75
610.4	19.6877	1216.73	1216.73
610.6	17.242	1008.71	1008.71
610.8	10.9673	1312.87	1312.87

DEPT[FT]	Gamma	Neutron	Neutron
611	4.09401	1338.42	1338.42
611.2	12.9659	1437.45	1437.45
611.4	24.6812	1191.87	1191.87
611.6	14.7263	1265.11	1265.11
611.8	15.2332	1353.02	1353.02
612	6.03245	1151.01	1151.01
612.2	8.2992	1177.33	1177.33
612.4	2.41128	1213.68	1213.68
612.6	8.33725	1008.96	1008.96
612.8	28.9153	1252.51	1252.51
613	24.4114	1086.66	1086.66
613.2	13.355	1140.6	1140.6
613.4	9.66184	1380.03	1380.03
613.6	14.4928	1162.12	1162.12
613.8	12.9953	1311.32	1311.32
614	3.19146	1270.91	1270.91
614.2	25.8787	1103.01	1103.01
614.4	26.3816	1305.22	1305.22
614.6	18.8866	1366.6	1366.6
614.8	17.1882	1323.73	1323.73
615	18.904	1214.38	1214.38
615.2	19.9775	1371.91	1371.91
615.4	23.6281	1138.78	1138.78
615.6	19.0476	1414.1	1414.1
615.8	23.9025	1481.53	1481.53
616	11.8323	1336.81	1336.81
616.2	9.60731	1305.54	1305.54
616.4	12.0133	1380.78	1380.78
616.6	36.6794	1346.35	1346.35
616.8	32.8121	1377.42	1377.42
617	19.9772	1181.93	1181.93
617.2	8.49599	1204.79	1204.79
617.4	34.1286	1390.97	1390.97
617.6	18.9838	1416.38	1416.38
617.8	17.0953	1352.77	1352.77
618	6.1843	1629.17	1629.17
618.2	16.6179	1576.58	1576.58
618.4	22.9088	1672.3	1672.3
618.6	11.4246	1467.37	1467.37
618.8	19.1277	1374.8	1374.8
619	15.9791	1401.03	1401.03
619.2	28.3989	1333.52	1333.52
619.4	6.84659	1600.66	1600.66
619.6	9.52381	1353.1	1353.1
619.8	9.96348	1275.61	1275.61
620	32.2688	1334.91	1334.91

DEPT[FT]	Gamma	Neutron	Neutron
620.2	23.3701	1503.79	1503.79
620.4	23.9986	1357.6	1357.6
620.6	14.2237	1463.91	1463.91
620.8	19.0476	1629.26	1629.26
621	10.301	1364.58	1364.58
621.2	14.8303	1441.1	1441.1
621.4	15.5234	1456.41	1456.41
621.6	19.3296	1452.7	1452.7
621.8	6.30467	1431.6	1431.6
622	27.9247	1390.69	1390.69
622.2	19.4049	1332.27	1332.27
622.4	24.2718	1600.43	1600.43
622.6	19.2129	1563.75	1563.75
622.8	5.01567	1408.87	1408.87
623	10.4301	1279.27	1279.27
623.2	28.0171	1371.87	1371.87
623.4	14.4076	1319.62	1319.62
623.6	14.6607	1482.9	1482.9
623.8	19.4044	1486.17	1486.17
624	23.8395	1345.09	1345.09
624.2	19.5928	1442.62	1442.62
624.4	14.5631	1390.53	1390.53
624.6	19.5122	1371.88	1371.88
624.8	4.83092	1546.71	1546.71
625	14.6406	1580.78	1580.78
625.2	48.0291	1517.3	1517.3
625.4	19.245	1666.54	1666.54
625.6	24.0576	1434.46	1434.46
625.8	14.6068	1510.22	1510.22
626	5.66892	1471.1	1471.1
626.2	19.7388	1502.84	1502.84
626.4	24.4501	1547.98	1547.98
626.6	10.2614	1441.33	1441.33
626.8	20.1491	1485.68	1485.68
627	32.947	1615.42	1615.42
627.2	15.0671	1343.3	1343.3
627.4	10.1596	1659.63	1659.63
627.6	28.7167	1605	1605
627.8	27.7606	1526.61	1526.61
628	15.0215	1547.11	1547.11
628.2	18.0745	1565.77	1565.77
628.4	20.3537	1488.4	1488.4
628.6	15.2637	1306.24	1306.24
628.8	10.1037	1368.73	1368.73
629	10.472	1498.73	1498.73
629.2	2.74875	1507.4	1507.4

DEPT[FT]	Gamma	Neutron	Neutron
629.4	23.589	1384.13	1384.13
629.6	26.9795	1411.86	1411.86
629.8	6.40802	1560.46	1560.46
630	20.333	1612.19	1612.19
630.2	18.97	1460.6	1460.6
630.4	9.66748	1711.42	1711.42
630.6	28.5369	1475.38	1475.38
630.8	19.9719	1478.55	1478.55
631	9.95875	1498.93	1498.93
631.2	24.816	1569.53	1569.53
631.4	22.0059	1253.26	1253.26
631.6	11.0895	1330.52	1330.52
631.8	14.4231	1275.97	1275.97
632	27.4885	1092.08	1092.08
632.2	20.0661	1522.28	1522.28
632.4	30.6345	1544.54	1544.54
632.6	5.61627	1569.82	1569.82
632.8	20.0658	1396.18	1396.18
633	16.212	1205.18	1205.18
633.2	13.8572	1394.95	1394.95
633.4	17.0009	1000.74	1000.74
633.6	25.9567	1345.03	1345.03
633.8	35.3728	1295.26	1295.26
634	8.64044	1486.39	1486.39
634.2	23.9928	1157.32	1157.32
634.4	15.383	1460.19	1460.19
634.6	13.4461	1262.37	1262.37
634.8	22.2474	1109.54	1109.54
635	26.1436	1393.17	1393.17
635.2	14.7624	1395.99	1395.99
635.4	26.2098	1481.92	1481.92
635.6	15.37	1340.58	1340.58
635.8	23.2627	1095.22	1095.22
636	24.073	1546.98	1546.98
636.2	33.3333	1439.67	1439.67
636.4	13.0686	1304.28	1304.28
636.6	22.6373	1386.43	1386.43
636.8	27.2666	1765.17	1765.17
637	11.9652	1511.89	1511.89
637.2	23.9535	1450.59	1450.59
637.4	11.8673	1548.36	1548.36
637.6	24.9474	1444.98	1444.98
637.8	8.75902	1260.7	1260.7
638	17.1282	1211.12	1211.12
638.2	19.9977	1475.92	1475.92
638.4	10.3408	1634.13	1634.13

DEPT[FT]	Gamma	Neutron	Neutron
638.6	28.4297	1473.43	1473.43
638.8	19.9281	1271.93	1271.93
639	23.5248	1531.51	1531.51
639.2	9.66184	1268.59	1268.59
639.4	19.8481	1327.51	1327.51
639.6	12.6796	1485.94	1485.94
639.8	14.4181	1500.91	1500.91
640	14.9581	1592.27	1592.27
640.2	21.2065	1283.48	1283.48
640.4	21.6557	1615.67	1615.67
640.6	13.9154	1646.07	1646.07
640.8	18.6443	1346.27	1346.27
641	33.66	1333.38	1333.38
641.2	26.1304	1478.88	1478.88
641.4	15.1998	1312.05	1312.05
641.6	26.022	1436.53	1436.53
641.8	35.8801	1330.75	1330.75
642	10.927	1518.74	1518.74
642.2	42.9665	1518.51	1518.51
642.4	15.6691	1361.45	1361.45
642.6	19.9629	1322.29	1322.29
642.8	14.4065	1082.83	1082.83
643	28.1776	1694.27	1694.27
643.2	15.3237	1414.96	1414.96
643.4	17.4063	1361.11	1361.11
643.6	17.3764	1556.67	1556.67
643.8	4.86381	1494.95	1494.95
644	18.6491	1417.49	1417.49
644.2	21.4701	1608.63	1608.63
644.4	9.66184	1443.53	1443.53
644.6	37.5573	1410.8	1410.8
644.8	23.2042	1281.92	1281.92
645	13.6266	1426.18	1426.18
645.2	10.9152	1355.92	1355.92
645.4	31.9742	1465.09	1465.09
645.6	16.9893	1455.85	1455.85
645.8	24.4339	1202.23	1202.23
646	9.12614	1440.11	1440.11
646.2	19.3237	1387.61	1387.61
646.4	16.7214	1325.08	1325.08
646.6	45.7586	1348.12	1348.12
646.8	27.8584	1443.02	1443.02
647	18.9867	1339.35	1339.35
647.2	22.3861	1271.35	1271.35
647.4	9.66184	1210.82	1210.82
647.6	28.9855	1269.51	1269.51

DEPT[FT]	Gamma	Neutron	Neutron
647.8	21.7227	1400.09	1400.09
648	19.2759	1426.96	1426.96
648.2	19.4417	1437.85	1437.85
648.4	24.5997	1494.29	1494.29
648.6	14.8148	1333.67	1333.67
648.8	12.1817	1709.97	1709.97
649	14.5675	1371.36	1371.36
649.2	21.6743	1220.59	1220.59
649.4	9.66184	1277.3	1277.3
649.6	33.3032	1153.34	1153.34
649.8	23.6052	1198.12	1198.12
650	12.2512	1206.67	1206.67
650.2	11.4889	1259.89	1259.89
650.4	28.2861	1395.78	1395.78
650.6	19.0895	1407.03	1407.03
650.8	20.3372	1278.97	1278.97
651	18.2585	1255.88	1255.88
651.2	2.66985	1422.13	1422.13
651.4	4.30146	1300.91	1300.91
651.6	15.1072	1275.76	1275.76
651.8	12.3922	1396.05	1396.05
652	2.7498	1532.17	1532.17
652.2	30.3845	1179.28	1179.28
652.4	16.0682	1286.89	1286.89
652.6	23.4261	1221.95	1221.95
652.8	16.9746	1426.96	1426.96
653	21.068	1402.62	1402.62
653.2	19.2308	1365.85	1365.85
653.4	26.6708	1355.75	1355.75
653.6	26.8101	1444.54	1444.54
653.8	24.7756	1519.07	1519.07
654	17.418	1423.76	1423.76
654.2	16.2733	1507	1507
654.4	16.2598	1460	1460
654.6	31.2283	1270.24	1270.24
654.8	17.4393	1503.8	1503.8
655	18.6711	1289.73	1289.73
655.2	7.87492	1430.86	1430.86
655.4	21.7918	1532.38	1532.38
655.6	9.61539	1284.72	1284.72
655.8	15.7891	1153.76	1153.76
656	22.5694	1390.07	1390.07
656.2	16.1188	1288.31	1288.31
656.4	32.1189	1441.58	1441.58
656.6	21.1069	1448.73	1448.73
656.8	19.6078	1397.24	1397.24

DEPT[FT]	Gamma	Neutron	Neutron
657	24.4765	1256.66	1256.66
657.2	22.98	1550.22	1550.22
657.4	31.1176	1336.41	1336.41
657.6	9.64466	1280.08	1280.08
657.8	12.9467	1360.43	1360.43
658	21.4537	1385.05	1385.05
658.2	8.77517	1333.09	1333.09
658.4	21.4583	1511.07	1511.07
658.6	8.17408	1265.3	1265.3
658.8	23.1307	1420.96	1420.96
659	10.8803	1404.99	1404.99
659.2	23.8738	1345.98	1345.98
659.4	38.1038	1498.61	1498.61
659.6	11.8652	1408.12	1408.12
659.8	28.6105	1598.29	1598.29
660	14.3723	1351.68	1351.68
660.2	29.9766	1315.37	1315.37
660.4	25.1626	1300.22	1300.22
660.6	13.2758	1405.34	1405.34
660.8	28.8725	1333.99	1333.99
661	21.6997	1354.89	1354.89
661.2	10.7636	1432.38	1432.38
661.4	21.8858	1630.08	1630.08
661.6	28.5182	1434.19	1434.19
661.8	26.2921	1582.95	1582.95
662	14.0199	1391.77	1391.77
662.2	12.7383	1441.48	1441.48
662.4	23.0825	1411.02	1411.02
662.6	10.6087	1264.03	1264.03
662.8	20.0526	1443.28	1443.28
663	14.3585	1253.72	1253.72
663.2	20.0598	1358.74	1358.74
663.4	10.2812	1486.94	1486.94
663.6	11.3987	1232.75	1232.75
663.8	37.5121	1435.63	1435.63
664	16.1391	1459.03	1459.03
664.2	26.1729	1516.1	1516.1
664.4	26.96	1672.99	1672.99
664.6	38.0685	1501.22	1501.22
664.8	21.5972	1348.45	1348.45
665	13.0054	1285.23	1285.23
665.2	22.7568	1334.3	1334.3
665.4	11.8925	1414.76	1414.76
665.6	32.6945	1426.13	1426.13
665.8	17.5768	1551.82	1551.82
666	2.73506	1358.81	1358.81

DEPT[FT]	Gamma	Neutron	Neutron
666.2	22.2122	1176.41	1176.41
666.4	25.1551	1348.3	1348.3
666.6	26.6468	1460.74	1460.74
666.8	10.6898	1588.93	1588.93
667	22.6737	1548.54	1548.54
667.2	20.6451	1275.29	1275.29
667.4	14.8698	1462.61	1462.61
667.6	11.0698	1254.56	1254.56
667.8	35.0337	1285.24	1285.24
668	6.72064	1404.32	1404.32
668.2	20.7606	1370.25	1370.25
668.4	11.7926	1417.93	1417.93
668.6	14.435	1262.48	1262.48
668.8	10.7784	1405.94	1405.94
669	27.8477	1321.18	1321.18
669.2	14.7638	1452.54	1452.54
669.4	22.9502	1490.68	1490.68
669.6	18.227	1562.29	1562.29
669.8	27.8198	1300.53	1300.53
670	27.8975	1249.19	1249.19
670.2	10.0499	1282.01	1282.01
670.4	19.1454	1433.98	1433.98
670.6	15.401	1415.71	1415.71
670.8	19.6117	1412.75	1412.75
671	37.7655	1395.46	1395.46
671.2	14.0605	1355.57	1355.57
671.4	14.0337	1418.36	1418.36
671.6	9.95676	1251.81	1251.81
671.8	14.335	1463.09	1463.09
672	4.76255	1441.9	1441.9
672.2	14.4021	1354.69	1354.69
672.4	9.47867	1501.17	1501.17
672.6	18.9573	1352.8	1352.8
672.8	52.6316	1283.4	1283.4
673	4.78469	1300.44	1300.44
673.2	23.9888	1444.95	1444.95
673.4	24.0805	1351.02	1351.02
673.6	4.78557	1201.5	1201.5
673.8	14.7103	1172.6	1172.6
674	10.4166	1422	1422
674.2	9.81901	1261.2	1261.2
674.4	18.8074	1174.8	1174.8
674.6	19.7958	1264.9	1264.9
674.8	19.1996	1055.33	1055.33
675	23.0005	1134.4	1134.4
675.2	18.4581	1190.24	1190.24

DEPT[FT]	Gamma	Neutron	Neutron
675.4	27.9135	1277.74	1277.74
675.6	23.2268	1375.24	1375.24
675.8	32.8737	1153.61	1153.61
676	22.7256	1101.5	1101.5
676.2	10.259	1327.72	1327.72
676.4	23.6505	1386.45	1386.45
676.6	10.0084	1262.19	1262.19
676.8	19.1466	1278.32	1278.32
677	23.4937	1212.39	1212.39
677.2	26.9081	1349.65	1349.65
677.4	6.61384	918.56	918.56
677.6	14.3401	1242.28	1242.28
677.8	23.2022	1320.71	1320.71
678	31.087	1160.17	1160.17
678.2	27.6091	1277.66	1277.66
678.4	15.5378	1278.79	1278.79
678.6	13.2861	1271.98	1271.98
678.8	9.71475	1196.76	1196.76
679	20.1355	1290.4	1290.4
679.2	22.832	1076.48	1076.48
679.4	26.8089	1289.63	1289.63
679.6	29.827	1349.92	1349.92
679.8	10.8388	1300.71	1300.71
680	30.1525	1047.59	1047.59
680.2	39.925	1102.31	1102.31
680.4	22.9357	1352.36	1352.36
680.6	29.0806	1184.03	1184.03
680.8	17.3518	1239.96	1239.96
681	31.6467	1306.62	1306.62
681.2	19.0476	1315.48	1315.48
681.4	16.8805	1052.11	1052.11
681.6	13.4743	1226.38	1226.38
681.8	21.0015	1138.06	1138.06
682	21.0529	1066.08	1066.08
682.2	8.49656	992.755	992.755
682.4	23.8569	1320.96	1320.96
682.6	30.8248	1147.07	1147.07
682.8	19.5281	1203.59	1203.59
683	18.8489	1401.95	1401.95
683.2	13.1617	1301.91	1301.91
683.4	39.2123	1059.96	1059.96
683.6	22.4708	1012.76	1012.76
683.8	17.2597	1274.57	1274.57
684	14.8108	1346.31	1346.31
684.2	16.2555	1484.88	1484.88
684.4	24.5363	1648.64	1648.64

DEPT[FT]	Gamma	Neutron	Neutron
684.6	17.4015	1436.33	1436.33
684.8	10.474	1159.01	1159.01
685	27.7778	1276.08	1276.08
685.2	23.3362	1146.37	1146.37
685.4	21.0679	1064.77	1064.77
685.6	16.3208	1029.13	1029.13
685.8	11.4618	1220.35	1220.35
686	8.0141	1464.72	1464.72
686.2	25.1761	1260.41	1260.41
686.4	25.089	1236.23	1236.23
686.6	41.6333	1024	1024
686.8	18.2187	1106.7	1106.7
687	24.9884	1088.7	1088.7
687.2	35.5153	1377.08	1377.08
687.4	14.1715	1296.33	1296.33
687.6	22.2247	1346.87	1346.87
687.8	12.4	1323.98	1323.98
688	30.0377	1322.15	1322.15
688.2	27.9962	1057.94	1057.94
688.4	35.2625	1084.24	1084.24
688.6	12.3534	1160.96	1160.96
688.8	16.9813	1234.83	1234.83
689	26.1979	1224.05	1224.05
689.2	15.45	1114.86	1114.86
689.4	12.2918	1478.35	1478.35
689.6	14.0187	1151.22	1151.22
689.8	26.414	1020.5	1020.5
690	13.7566	1034.55	1034.55
690.2	18.2534	1173.03	1173.03
690.4	29.5407	1175.87	1175.87
690.6	5.20193	1227.12	1227.12
690.8	26.3186	1075.67	1075.67
691	20.9947	1092.23	1092.23
691.2	32.796	1133.17	1133.17
691.4	24.2633	1257.57	1257.57
691.6	22.4259	1308.93	1308.93
691.8	27.1473	1169.68	1169.68
692	18.8459	1178.06	1178.06
692.2	36.3706	1225.74	1225.74
692.4	6.55073	1071.23	1071.23
692.6	28.9799	1116.98	1116.98
692.8	4.64773	1063.23	1063.23
693	30.559	1162.45	1162.45
693.2	18.5553	1254.73	1254.73
693.4	27.2039	1299.5	1299.5
693.6	26.5315	1240.75	1240.75

DEPT[FT]	Gamma	Neutron	Neutron
693.8	13.2895	1221.9	1221.9
694	23.2685	1144.98	1144.98
694.2	23.7825	1421.65	1421.65
694.4	29.0774	1157.7	1157.7
694.6	28.3624	1581.62	1581.62
694.8	32.9892	1027.45	1027.45
695	15.9266	1382.79	1382.79
695.2	21.3155	1020.09	1020.09
695.4	14.1113	1199.12	1199.12
695.6	28.7372	1203.45	1203.45
695.8	31.0266	1317.64	1317.64
696	26.0044	1210.47	1210.47
696.2	4.70614	1448	1448
696.4	25.4601	1362.88	1362.88
696.6	27.5861	1032.12	1032.12
696.8	16.0318	1312.65	1312.65
697	29.9934	1204.53	1204.53
697.2	23.0469	1300.85	1300.85
697.4	34.6617	1212.38	1212.38
697.6	11.487	1204.84	1204.84
697.8	23.396	1202.01	1202.01
698	18.6458	1329.38	1329.38
698.2	11.2464	1252.64	1252.64
698.4	9.30233	1161.37	1161.37
698.6	28.4055	1286.54	1286.54
698.8	32.0889	1429.95	1429.95
699	16.3312	1415.27	1415.27
699.2	11.3349	1131.75	1131.75
699.4	24.7529	1267.4	1267.4
699.6	25.587	1202.76	1202.76
699.8	21.8259	1371.58	1371.58
700	26.7625	1357.23	1357.23
700.2	20.1624	1235.75	1235.75
700.4	14.2466	1367.45	1367.45
700.6	23.5674	1293.31	1293.31
700.8	20.6727	1119.99	1119.99
701	20.5037	1480.32	1480.32
701.2	10.2967	1321.75	1321.75
701.4	32.3473	1211.41	1211.41
701.6	39.6397	1261.7	1261.7
701.8	12.0252	1165.02	1165.02
702	15.6938	1183.64	1183.64
702.2	34.5628	1125.06	1125.06
702.4	14.9348	1315.47	1315.47
702.6	31.1667	1415.66	1415.66
702.8	17.959	1307.97	1307.97

DEPT[FT]	Gamma	Neutron	Neutron
703	16.3094	1375.4	1375.4
703.2	16.0615	1428.7	1428.7
703.4	29.5297	1622.74	1622.74
703.6	24.9842	1273.43	1273.43
703.8	16.987	1395.77	1395.77
704	29.9989	1148.78	1148.78
704.2	22.1032	1355.32	1355.32
704.4	20.3041	1550.91	1550.91
704.6	6.25582	1153.39	1153.39
704.8	20.1833	1495.16	1495.16
705	17.0808	1251.47	1251.47
705.2	15.3155	1346.39	1346.39
705.4	9.03066	1437.64	1437.64
705.6	13.5995	1352.93	1352.93
705.8	21.2421	1375.08	1375.08
706	27.6891	1428.99	1428.99
706.2	28.882	1507.55	1507.55
706.4	21.3804	1211.94	1211.94
706.6	33.5182	1544.74	1544.74
706.8	26.5245	1270.83	1270.83
707	21.3516	1266.91	1266.91
707.2	20.6938	1232.27	1232.27
707.4	25.7173	1326.3	1326.3
707.6	20.6208	1322.65	1322.65
707.8	17.2711	1303.71	1303.71
708	23.4144	1215.23	1215.23
708.2	20.9055	1290.75	1290.75
708.4	7.10232	1328.38	1328.38
708.6	17.8064	1392.22	1392.22
708.8	17.8392	1282.16	1282.16
709	13.0185	1388.84	1388.84
709.2	12.7609	1510.64	1510.64
709.4	24.6164	1282.41	1282.41
709.6	14.9821	1348.53	1348.53
709.8	29.2065	1339.18	1339.18
710	18.9294	1202.1	1202.1
710.2	16.403	1445.46	1445.46
710.4	16.5209	1268.65	1268.65
710.6	18.5005	1213.67	1213.67
710.8	20.3421	1380.3	1380.3
711	13.9274	1379.04	1379.04
711.2	27.8292	1333.69	1333.69
711.4	12.1472	1244.49	1244.49
711.6	17.8745	1282.48	1282.48
711.8	18.6047	1293.48	1293.48
712	14.7983	1350.59	1350.59

DEPT[FT]	Gamma	Neutron	Neutron
712.2	12.6301	1332.13	1332.13
712.4	17.8089	1364	1364
712.6	24.2017	1250.13	1250.13
712.8	8.60745	1540.54	1540.54
713	15.9041	1408.3	1408.3
713.2	10.3898	1430.08	1430.08
713.4	20.8853	1184.06	1184.06
713.6	24.4962	1417.72	1417.72
713.8	14.5817	1361.46	1361.46
714	15.1574	1395.27	1395.27
714.2	7.8662	1310.65	1310.65
714.4	22.631	1357.57	1357.57
714.6	22.663	1344.69	1344.69
714.8	13.3151	1391.94	1391.94
715	6.30717	1398.17	1398.17
715.2	18.5285	1437.93	1437.93
715.4	14.4043	1517.65	1517.65
715.6	5.00574	1375.23	1375.23
715.8	23.0626	1373.03	1373.03
716	18.7393	1422.18	1422.18
716.2	22.312	1336.26	1336.26
716.4	10.159	1302.46	1302.46
716.6	13.8726	1351.92	1351.92
716.8	9.4121	1355.66	1355.66
717	30.3909	1500.14	1500.14
717.2	22.01	1479.95	1479.95
717.4	23.8542	1130.07	1130.07
717.6	13.2224	1265.42	1265.42
717.8	21.4996	1278.14	1278.14
718	37.8891	1380.15	1380.15
718.2	18.2399	1326.96	1326.96
718.4	13.5383	1409.53	1409.53
718.6	22.1196	1252.23	1252.23
718.8	22.2989	1344.98	1344.98
719	17.8458	1342.5	1342.5
719.2	31.2456	1336.95	1336.95
719.4	30.3752	1394.67	1394.67
719.6	22.2087	1308.54	1308.54
719.8	22.33	1448.24	1448.24
720	40.0647	1252.5	1252.5
720.2	26.8033	1305.42	1305.42
720.4	9.04977	1391.46	1391.46
720.6	22.5225	1299.11	1299.11
720.8	22.5225	1279.11	1279.11
721	18.018	1196.53	1196.53
721.2	4.71806	1201.99	1201.99

DEPT[FT]	Gamma	Neutron	Neutron
721.4	27.0222	1272.92	1272.92
721.6	31.205	1149.05	1149.05
721.8	17.7393	1133.89	1133.89
722	26.2025	1322.78	1322.78
722.2	17.6259	1209.98	1209.98
722.4	9.81212	1228.6	1228.6
722.6	13.2167	1189.18	1189.18
722.8	13.7122	1023.02	1023.02
723	17.4342	1019.96	1019.96
723.2	26.5624	1077.43	1077.43
723.4	17.6075	1281.02	1281.02
723.6	18.73	1124.43	1124.43
723.8	6.14287	1116.53	1116.53
724	6.22311	1074.06	1074.06
724.2	6.40854	1316.55	1316.55
724.4	9.62445	1219.72	1219.72
724.6	18.0611	1081.99	1081.99
724.8	41.2197	1195.18	1195.18
725	24.9998	1194.34	1194.34
725.2	25.4731	1315.9	1315.9
725.4	15.4615	1246.03	1246.03
725.6	22.9147	1153.03	1153.03
725.8	23.1012	1264.03	1264.03
726	23.5874	1171.67	1171.67
726.2	11.9671	1233.09	1233.09
726.4	27.5229	1150.86	1150.86
726.6	20.6818	1110.54	1110.54
726.8	37.0579	976.451	976.451
727	12.5118	1189.26	1189.26
727.2	26.6735	1189.42	1189.42
727.4	37.9243	1218.87	1218.87
727.6	18.8885	1057.18	1057.18
727.8	4.48538	1266.23	1266.23
728	11.4201	1061.26	1061.26
728.2	12.3887	1364.88	1364.88
728.4	25.31	1170.95	1170.95
728.6	16.1259	1196.68	1196.68
728.8	12.33	1367.36	1367.36
729	32.3563	981.187	981.187
729.2	13.8137	1187.26	1187.26
729.4	25.1525	1110.23	1110.23
729.6	23.4032	1565.11	1565.11
729.8	21.4022	1081.81	1081.81
730	12.9973	1209.41	1209.41
730.2	19.4923	1288.62	1288.62
730.4	18.4162	1299.54	1299.54

DEPT[FT]	Gamma	Neutron	Neutron
730.6	11.0744	1291.7	1291.7
730.8	17.4026	1093.2	1093.2
731	19.3951	1168.74	1168.74
731.2	17.8593	1090.71	1090.71
731.4	19.9661	1080.54	1080.54
731.6	16.269	1113.15	1113.15
731.8	15.8008	962.629	962.629
732	29.1683	894.697	894.697
732.2	25.3164	1136.02	1136.02
732.4	14.8755	975.558	975.558
732.6	17.2302	1192.75	1192.75
732.8	19.4706	1040.91	1040.91
733	14.978	1360.29	1360.29
733.2	29.7046	1037.93	1037.93
733.4	18.2688	1232.26	1232.26
733.6	20.2277	1346.8	1346.8
733.8	14.4873	1072.42	1072.42
734	17.4385	1094.13	1094.13
734.2	19.968	1336.99	1336.99
734.4	35.7635	1228.95	1228.95
734.6	15.1561	1107.73	1107.73
734.8	27.5481	1249.97	1249.97
735	28.7082	1225.21	1225.21
735.2	26.8373	1150.96	1150.96
735.4	33.9054	1317.43	1317.43
735.6	25.2751	1504.65	1504.65
735.8	36.6448	1529.49	1529.49
736	42.9577	1107.31	1107.31
736.2	48.6024	1173.32	1173.32
736.4	20.0533	1144.58	1144.58
736.6	19.9151	1447.76	1447.76
736.8	35.3036	1410.15	1410.15
737	29.2603	1249.51	1249.51
737.2	31.093	1037.75	1037.75
737.4	27.9608	1131.76	1131.76
737.6	37.7684	1160.67	1160.67
737.8	48.9754	1174.84	1174.84
738	35.9205	935.703	935.703
738.2	19.4952	1113.93	1113.93
738.4	22.1375	1054.21	1054.21
738.6	24.7654	1359.71	1359.71
738.8	39.7371	1244.99	1244.99
739	31.5281	1061.84	1061.84
739.2	38.9682	1396.27	1396.27
739.4	44.6884	1098.58	1098.58
739.6	42.0742	1268.08	1268.08

DEPT[FT]	Gamma	Neutron	Neutron
739.8	45.9047	1387.09	1387.09
740	29.2361	1069.05	1069.05
740.2	48.3498	1274.68	1274.68
740.4	39.3719	1201.16	1201.16
740.6	27.9474	1375.36	1375.36
740.8	25.7269	1238.67	1238.67
741	26.0398	1193.54	1193.54
741.2	33.7201	1332.99	1332.99
741.4	23.5419	1301.75	1301.75
741.6	9.17431	1354.18	1354.18
741.8	44.9538	1374.57	1374.57
742	37.8373	1326.53	1326.53
742.2	27.8424	1171.07	1171.07
742.4	26.9605	1360.78	1360.78
742.6	33.4362	1316.46	1316.46
742.8	26.0259	1362.62	1362.62
743	24.1731	1126.24	1126.24
743.2	37.7535	1157.15	1157.15
743.4	46.3008	1187.9	1187.9
743.6	33.7521	1365.33	1365.33
743.8	21.8769	1409.48	1409.48
744	17.6053	1372.89	1372.89
744.2	24.4041	1337.49	1337.49
744.4	22.0339	1589.89	1589.89
744.6	35.2666	1312.39	1312.39
744.8	48.4601	1147.34	1147.34
745	32.9839	1434.03	1434.03
745.2	41.89	1377.55	1377.55
745.4	43.8143	1419.19	1419.19
745.6	43.4609	1293.7	1293.7
745.8	37.2678	1485.63	1485.63
746	52.6208	1244.83	1244.83
746.2	41.6299	1180.26	1180.26
746.4	46.6123	1317.92	1317.92
746.6	40.1966	1300.09	1300.09
746.8	54.9388	1257.95	1257.95
747	46.7185	1500.4	1500.4
747.2	27.8144	1291.96	1291.96
747.4	39.9018	1377.35	1377.35
747.6	36.8139	1305.29	1305.29
747.8	33.9218	1194.87	1194.87
748	36.833	1370.59	1370.59
748.2	38.4063	1188.94	1188.94
748.4	25.7517	1376.55	1376.55
748.6	50.7847	1203.06	1203.06
748.8	39.1851	1423.48	1423.48

DEPT[FT]	Gamma	Neutron	Neutron
749	28.4781	1410.27	1410.27
749.2	31.9635	1324.44	1324.44
749.4	32.7002	1356.41	1356.41
749.6	21.0417	1328.23	1328.23
749.8	23.8503	1289.2	1289.2
750	42.4805	1342.87	1342.87
750.2	44.6031	1451.22	1451.22
750.4	32.5471	1214.64	1214.64
750.6	45.6853	1324.48	1324.48
750.8	22.7064	1427.29	1427.29
751	29.7677	1205.37	1205.37
751.2	39.2859	1334.75	1334.75
751.4	45.6312	1616.74	1616.74
751.6	47.4294	1381.01	1381.01
751.8	36.0854	1344.53	1344.53
752	44.1636	1210.11	1210.11
752.2	29.1657	1324.5	1324.5
752.4	25.758	1479.18	1479.18
752.6	37.9437	1358.21	1358.21
752.8	60.863	1200.5	1200.5
753	30.5269	1211.48	1211.48
753.2	33.6072	1390.36	1390.36
753.4	36.2402	1329.62	1329.62
753.6	35.3653	1373.88	1373.88
753.8	39.5946	1121.19	1121.19
754	40.635	1188.24	1188.24
754.2	35.0286	1342.47	1342.47
754.4	48.1789	1426.44	1426.44
754.6	31.4944	1338.79	1338.79
754.8	21.6734	1493	1493
755	47.0617	1314.71	1314.71
755.2	28.1189	1227.22	1227.22
755.4	17.0571	1278.3	1278.3
755.6	33.3571	1240.72	1240.72
755.8	25.8493	1107.17	1107.17
756	23.0678	1397.46	1397.46
756.2	28.5568	1311.03	1311.03
756.4	44.2845	1237.54	1237.54
756.6	38.5691	1183.31	1183.31
756.8	27.2419	1321	1321
757	34.1297	1414.32	1414.32
757.2	35.1524	1458.33	1458.33
757.4	21.2863	1267.14	1267.14
757.6	17.1873	1371.16	1371.16
757.8	20.8045	1509.89	1509.89
758	44.2301	1279.34	1279.34

DEPT[FT]	Gamma	Neutron	Neutron
758.2	40.4596	1378.15	1378.15
758.4	34.2101	1716.58	1716.58
758.6	24.1318	1268.22	1268.22
758.8	42.487	1345.37	1345.37
759	42.5663	1457.16	1457.16
759.2	32.6272	1140.89	1140.89
759.4	36.2853	1388.64	1388.64
759.6	52.8569	1366.59	1366.59
759.8	39.2674	1433.2	1433.2
760	27.9384	1247.37	1247.37
760.2	35.4969	1391.56	1391.56
760.4	47.1339	1369.39	1369.39
760.6	43.8596	1265.97	1265.97
760.8	43.3367	1256.47	1256.47
761	29.4249	1213.24	1213.24
761.2	29.9811	1563.17	1563.17
761.4	25.5724	1233.34	1233.34
761.6	48.1953	1249.09	1249.09
761.8	29.0534	1348.49	1348.49
762	28.2599	1240.13	1240.13
762.2	39.6476	1331.94	1331.94
762.4	37.1535	1434.78	1434.78
762.6	38.9103	1201.81	1201.81
762.8	48.7185	1286.7	1286.7
763	16.3338	1161.26	1161.26
763.2	27.6925	1233.3	1233.3
763.4	32.5412	1288.05	1288.05
763.6	54.0491	1311.77	1311.77
763.8	36.3221	1658.53	1658.53
764	17.5594	1530.96	1530.96
764.2	44.8624	1156.88	1156.88
764.4	51.8918	1348.09	1348.09
764.6	30.7253	1314.6	1314.6
764.8	37.4955	1313.42	1313.42
765	19.9061	1286.1	1286.1
765.2	31.997	1436.2	1436.2
765.4	51.5899	1452.71	1452.71
765.6	39.2189	1336.93	1336.93
765.8	34.6827	1288.77	1288.77
766	53.8892	1474.11	1474.11
766.2	60.6716	1325.93	1325.93
766.4	11.2676	1442.76	1442.76
766.6	27.6905	1185.39	1185.39
766.8	45.0387	1404.16	1404.16
767	45.0746	1442	1442
767.2	25.3807	1495.43	1495.43

DEPT[FT]	Gamma	Neutron	Neutron
767.4	35.8602	1254.72	1254.72
767.6	35.7385	1388.13	1388.13
767.8	30.3951	1266.49	1266.49
768	45.6598	1205.75	1205.75
768.2	30.6402	1664.07	1664.07
768.4	25.4594	1354.44	1354.44
768.6	25.3807	1390.11	1390.11
768.8	30.303	1432.77	1432.77
769	60.6061	1219.88	1219.88
769.2	20.0589	1497.33	1497.33
769.4	64.6851	1327.62	1327.62
769.6	29.4347	1324.2	1324.2
769.8	39.4354	1357.52	1357.52
770	34.0276	1401.23	1401.23
770.2	19.9979	1371.72	1371.72
770.4	48.3231	1259.12	1259.12
770.6	74.4229	1377.64	1377.64
770.8	25.285	1315.22	1315.22
771	35.568	1377.45	1377.45
771.2	54.0388	1355.65	1355.65
771.4	44.7509	1420.81	1420.81
771.6	48.9652	1374.21	1374.21
771.8	32.3948	1428.11	1428.11
772	50.1599	1252.74	1252.74
772.2	41.6018	1492.03	1492.03
772.4	55.5212	1354.79	1354.79
772.6	31.4259	1686.86	1686.86
772.8	59.883	1515.53	1515.53
773	67.2351	1371.77	1371.77
773.2	40	1352	1352
773.4	27.4072	1542.9	1542.9
773.6	21.0334	1258.18	1258.18
773.8	29.2145	1299.25	1299.25
774	44.4581	1263.41	1263.41
774.2	57.7281	1565.3	1565.3
774.4	32.6636	1403.59	1403.59
774.6	30.0876	1388.91	1388.91
774.8	24.5105	1382.2	1382.2
775	25.0326	1604.9	1604.9
775.2	23.0125	1427.75	1427.75
775.4	36.9949	1468.21	1468.21
775.6	49.2619	1501.09	1501.09
775.8	34.6186	1281.36	1281.36
776	43.0645	1514.23	1514.23
776.2	26.7055	1610.87	1610.87
776.4	27.0191	1254.24	1254.24

DEPT[FT]	Gamma	Neutron	Neutron
776.6	47.7027	1381.77	1381.77
776.8	34.6874	1363.09	1363.09
777	46.8398	1590.55	1590.55
777.2	36.7898	1522.47	1522.47
777.4	19.1869	1427.43	1427.43
777.6	42.273	1110.17	1110.17
777.8	11.9353	1125.42	1125.42
778	43.7176	1197.77	1197.77
778.2	32.2025	1569.22	1569.22
778.4	40.196	1724.62	1724.62
778.6	24.2004	1487.39	1487.39
778.8	36.2217	1239.84	1239.84
779	24.9736	1447.01	1447.01
779.2	38.6907	1524.82	1524.82
779.4	26.235	1363.37	1363.37
779.6	54.4379	1521.48	1521.48
779.8	22.517	1252.58	1252.58
780	21.5191	1587.55	1587.55
780.2	35.9728	1530.3	1530.3
780.4	34.5567	1418.66	1418.66
780.6	21.6645	1347.37	1347.37
780.8	26.9166	1643.61	1643.61
781	44.3965	1231.21	1231.21
781.2	34.2182	1260.32	1260.32
781.4	23.9418	1519.58	1519.58
781.6	53.8023	1493.8	1493.8
781.8	37.5774	1482.35	1482.35
782	54.2843	1167.19	1167.19
782.2	53.6051	1519	1519
782.4	48.8274	1406.13	1406.13
782.6	37.4963	1157.82	1157.82
782.8	34.6305	1376.7	1376.7
783	32.2057	1215.72	1215.72
783.2	39.3909	1377.63	1377.63
783.4	41.7307	1419.3	1419.3
783.6	41.7517	1535.9	1535.9
783.8	45.1327	1262.32	1262.32
784	25.0397	1280.69	1280.69
784.2	23.5667	1392.84	1392.84
784.4	50.5884	1379.23	1379.23
784.6	31.8269	1418.67	1418.67
784.8	40.516	1338.45	1338.45
785	28.7436	1385.11	1385.11
785.2	35.533	1248.46	1248.46
785.4	40.4016	1455.22	1455.22
785.6	41.7831	1108.28	1108.28

DEPT[FT]	Gamma	Neutron	Neutron
785.8	39.2626	1352.29	1352.29
786	13.649	1467.21	1467.21
786.2	26.1789	935.48	935.48
786.4	42.8787	1187.88	1187.88
786.6	28.3367	1062.92	1062.92
786.8	16.9679	1230.2	1230.2
787	18.0711	1212.62	1212.62
787.2	44.7761	1147.16	1147.16
787.4	53.7579	1174.08	1174.08
787.6	47.2624	1698.44	1698.44
787.8	26.151	1165.78	1165.78
788	24.1176	1248.06	1248.06
788.2	22.3549	1399.4	1399.4
788.4	38.7646	1580.74	1580.74
788.6	30.1335	1436.77	1436.77
788.8	31.4669	1423.02	1423.02
789	24.1438	1686.74	1686.74
789.2	22.7988	1291.83	1291.83
789.4	35.7143	1395.02	1395.02
789.6	38.8894	1270.04	1270.04
789.8	42.1995	1179.66	1179.66
790	26.6024	1495.19	1495.19
790.2	14.428	1234.33	1234.33
790.4	28.2523	1353.51	1353.51
790.6	32.7017	1487.78	1487.78
790.8	34.3337	1553.75	1553.75
791	24.7449	1535.78	1535.78
791.2	32.1527	1315.1	1315.1
791.4	34.8835	1381.39	1381.39
791.6	40.7773	1184.28	1184.28
791.8	30.0026	1208.21	1208.21
792	28.1782	1315.07	1315.07
792.2	50.2513	1213.89	1213.89
792.4	22.6559	1205.93	1205.93
792.6	57.7246	1446.96	1446.96
792.8	35.1759	1179.45	1179.45
793	27.9252	1428.46	1428.46
793.2	45.6166	1546.52	1546.52
793.4	50.6687	1276.41	1276.41
793.6	33.1769	1499.23	1499.23
793.8	38.4568	1377.84	1377.84
794	29.9579	1509.72	1509.72
794.2	28.441	1391.58	1391.58
794.4	30	1455.08	1455.08
794.6	52.2197	1459.74	1459.74
794.8	45.2087	1179.82	1179.82

DEPT[FT]	Gamma	Neutron	Neutron
795	53.1745	1574.54	1574.54
795.2	37.6698	1307.52	1307.52
795.4	24.9445	1392.41	1392.41
795.6	26.1691	1243.33	1243.33
795.8	34.4661	1179.64	1179.64
796	21.2395	1564.15	1564.15
796.2	41.6834	1339.94	1339.94
796.4	30.8959	1176.43	1176.43
796.6	13.0254	1540.52	1540.52
796.8	20.3046	1539.95	1539.95
797	50.9597	1293.15	1293.15
797.2	18.3824	1367.3	1367.3
797.4	26.3906	1366.23	1366.23
797.6	32.4678	1229.18	1229.18
797.8	19.2385	1520.28	1520.28
798	33.5438	1346.41	1346.41
798.2	26.0786	1259.01	1259.01
798.4	36.1043	1352.74	1352.74
798.6	27.2808	1373.59	1373.59
798.8	28.6017	1225.63	1225.63
799	36.139	1330.51	1330.51
799.2	34.0091	1290.01	1290.01
799.4	38.5447	1324.26	1324.26
799.6	41.7929	1378.09	1378.09
799.8	18.2911	1268.57	1268.57
800	55.2609	1356.6	1356.6
800.2	58.2893	1366.18	1366.18
800.4	45.2608	1274.82	1274.82
800.6	48.1453	1261.66	1261.66
800.8	31.6167	1331.74	1331.74
801	36.5701	1291.92	1291.92
801.2	26.3733	1183.94	1183.94
801.4	41.5967	1209.43	1209.43
801.6	42.2565	1236.54	1236.54
801.8	36.0453	1264.45	1264.45
802	34.9719	1292.44	1292.44
802.2	22.4039	1394.42	1394.42
802.4	28.2869	1443.36	1443.36
802.6	35.1973	1260.21	1260.21
802.8	39.1131	1247	1247
803	40.6785	1410.82	1410.82
803.2	44.7761	1176.34	1176.34
803.4	34.4569	1124.12	1124.12
803.6	36.0688	1453.81	1453.81
803.8	30.0292	1511.07	1511.07
804	51.9487	1257.29	1257.29

DEPT[FT]	Gamma	Neutron	Neutron
804.2	48.7058	1268.51	1268.51
804.4	35.1446	1061.5	1061.5
804.6	32.5203	1475.31	1475.31
804.8	41.4459	1359.3	1359.3
805	34.0326	1256.15	1256.15
805.2	36.8341	1182.37	1182.37
805.4	27.6456	1228.37	1228.37
805.6	35.312	1259.13	1259.13
805.8	48.9423	1560.58	1560.58
806	22.3599	1288.3	1288.3
806.2	40.8985	1198.4	1198.4
806.4	27.5605	1055.81	1055.81
806.6	46.706	1401.71	1401.71
806.8	42.4136	1279.67	1279.67
807	28.8747	1354.48	1354.48
807.2	29.988	1270.9	1270.9
807.4	47.4535	1369.92	1369.92
807.6	31.6972	1524.98	1524.98
807.8	47.9059	1385.9	1385.9
808	34.7692	1189.94	1189.94
808.2	38.0206	1482.49	1482.49
808.4	52.3054	1391.51	1391.51
808.6	45.9856	1560.28	1560.28
808.8	41.0053	1304.76	1304.76
809	32.4433	1430.49	1430.49
809.2	46.4089	1171.2	1171.2
809.4	41.9117	1358.75	1358.75
809.6	30.7523	1333.28	1333.28
809.8	28.8783	1455.33	1455.33
810	42.3764	1176.22	1176.22
810.2	65.7362	1180.86	1180.86
810.4	31.2711	1304.38	1304.38
810.6	52.1596	1583.26	1583.26
810.8	20.3176	1502.44	1502.44
811	51.9942	1117.72	1117.72
811.2	33.5755	1182.25	1182.25
811.4	30	1184.72	1184.72
811.6	44.278	1353.36	1353.36
811.8	32.7279	1356.09	1356.09
812	25.6509	1401.59	1401.59
812.2	54.516	1446.52	1446.52
812.4	27.3186	1457.74	1457.74
812.6	39.0297	1357.24	1357.24
812.8	36.0231	1317.97	1317.97
813	32.3069	1337.06	1337.06
813.2	56.1528	1095.58	1095.58

DEPT[FT]	Gamma	Neutron	Neutron
813.4	57.1513	1339.38	1339.38
813.6	47.459	1488.12	1488.12
813.8	42.349	1242.99	1242.99
814	34.4238	1431.73	1431.73
814.2	25.2011	1441.18	1441.18
814.4	24.2663	1465.98	1465.98
814.6	44.3329	1317.77	1317.77
814.8	34.7409	1270.18	1270.18
815	38.8427	1264.6	1264.6
815.2	20.2029	1279.45	1279.45
815.4	36.2662	1330.42	1330.42
815.6	35.2403	1274.44	1274.44
815.8	10.3829	1235.87	1235.87
816	39.8462	1005.47	1005.47
816.2	25.1983	1353.68	1353.68
816.4	40.0018	1211.21	1211.21
816.6	25	1325.52	1325.52
816.8	50.2513	1490.39	1490.39
817	15.0754	1212.13	1212.13
817.2	20	1384.66	1384.66
817.4	20.1171	1220.97	1220.97
817.6	24.9579	1260.62	1260.62
817.8	15.3039	1416.83	1416.83
818	15.3684	1298.68	1298.68
818.2	5.85288	1054.85	1054.85
818.4	55.0098	1344.66	1344.66
818.6	54.5398	1553.24	1553.24
818.8	34.2463	1224.74	1224.74
819	11.4461	1309.47	1309.47
819.2	42.9077	1262.42	1262.42
819.4	39.4536	1300.22	1300.22
819.6	34.0843	1406.16	1406.16
819.8	48.3579	1571.35	1571.35
820	56.6766	1655.44	1655.44
820.2	58.7922	1457.48	1457.48
820.4	67.8363	1685.28	1685.28
820.6	25.9866	1751.53	1751.53
820.8	30.5949	1803.32	1803.32
821	38.0093	2259.83	2259.83
821.2	43.3183	1746.42	1746.42
821.4	22.5606	2231.74	2231.74
821.6	13.7515	1987.67	1987.67
821.8	51.5429	2005.05	2005.05
822	66.1229	1987.63	1987.63
822.2	53.8228	2114.35	2114.35
822.4	47.4621	1932.97	1932.97

DEPT[FT]	Gamma	Neutron	Neutron
822.6	41.1732	1972.28	1972.28
822.8	64.5821	1996.12	1996.12
823	56.7195	1939.78	1939.78
823.2	26.7469	1750.18	1750.18
823.4	33.7885	1980.18	1980.18
823.6	44.9955	1982.65	1982.65
823.8	37.7323	2145.47	2145.47
824	64.5853	1601.48	1601.48
824.2	43.5107	1833.62	1833.62
824.4	67.5816	1731.93	1731.93
824.6	40.2084	1914.22	1914.22
824.8	69.2739	2025.4	2025.4
825	22.6867	1868.72	1868.72
825.2	53.3981	1476.38	1476.38
825.4	52.2925	2033.19	2033.19
825.6	43.1713	1970.76	1970.76
825.8	59.6139	2064.5	2064.5
826	52.1091	2073.71	2073.71
826.2	80.402	1941.79	1941.79
826.4	40.404	1867.96	1867.96
826.6	68.6544	1870.16	1870.16
826.8	49.3057	2505.91	2505.91
827	67.625	1991.09	1991.09
827.2	50.8173	2001.47	2001.47
827.4	47.2234	2420.32	2420.32
827.6	35.4828	2116.45	2116.45
827.8	52.4604	1881.22	1881.22
828	59.4362	1952.38	1952.38
828.2	57.0022	2309.14	2309.14
828.4	50.0997	1865.78	1865.78
828.6	50.2189	1918.91	1918.91
828.8	47.5376	1910.38	1910.38
829	73.9013	2269.12	2269.12
829.2	56.256	2043.62	2043.62
829.4	60.3015	2040.6	2040.6
829.6	40.2966	1804.75	1804.75
829.8	46.6485	2312.38	2312.38
830	62.5733	1877.3	1877.3
830.2	61.8275	2187.31	2187.31
830.4	46.9638	2156.56	2156.56
830.6	68.2421	1711.1	1711.1
830.8	51.0657	1924.59	1924.59
831	49.0813	2304.62	2304.62
831.2	68.0163	2069.23	2069.23
831.4	35.8867	2116.47	2116.47
831.6	62.7938	1965.84	1965.84

DEPT[FT]	Gamma	Neutron	Neutron
831.8	64.3989	2205.48	2205.48
832	58.0502	1795.11	1795.11
832.2	71.066	1884.05	1884.05
832.4	87.4785	1771.89	1771.89
832.6	48.5281	2125.69	2125.69
832.8	58.7467	2233.85	2233.85
833	55.1525	1989.61	1989.61
833.2	73.5421	2147.18	2147.18
833.4	84.8294	1965	1965
833.6	61.6659	2076.72	2076.72
833.8	31.9233	2165.62	2165.62
834	71.4282	1939.11	1939.11
834.2	56.1086	2061.29	2061.29
834.4	64.7165	2043.99	2043.99
834.6	80.5938	1908.62	1908.62
834.8	82.7978	1879.18	1879.18
835	37.6465	1813.57	1813.57
835.2	83.3343	1892.39	1892.39
835.4	60.5673	1748.02	1748.02
835.6	73.7459	2049.91	2049.91
835.8	57.9637	2100.19	2100.19
836	43.5227	1788.38	1788.38
836.2	63.2288	2128.34	2128.34
836.4	52.2	2247.34	2247.34
836.6	61.5615	2140.76	2140.76
836.8	48.8548	2039.88	2039.88
837	45.9512	1996.57	1996.57
837.2	44.9051	1884.7	1884.7
837.4	74.6734	1847.09	1847.09
837.6	59.6885	2164.19	2164.19
837.8	80.1597	1842.22	1842.22
838	77.6329	1844.95	1844.95
838.2	62.9113	1646.91	1646.91
838.4	55	1817.88	1817.88
838.6	56.9299	2139.08	2139.08
838.8	37.7145	1883.63	1883.63
839	69.2643	1697.9	1697.9
839.2	62.5355	1790.71	1790.71
839.4	63.479	1557.45	1557.45
839.6	77.0199	1727.56	1727.56
839.8	56.174	1781.48	1781.48
840	49.5456	2206.54	2206.54
840.2	48.2496	1987.35	1987.35
840.4	53.1544	1838.89	1838.89
840.6	33.0058	1668.99	1668.99
840.8	60.0959	2068.64	2068.64

DEPT[FT]	Gamma	Neutron	Neutron
841	67.3517	1903.5	1903.5
841.2	64.9231	2058.6	2058.6
841.4	56.914	1972.82	1972.82
841.6	64.0486	1953.7	1953.7
841.8	73.9197	1730.05	1730.05
842	53.1008	2112.34	2112.34
842.2	64.8169	1995.38	1995.38
842.4	44.7761	1877.63	1877.63
842.6	42.2102	1813.35	1813.35
842.8	82.1012	2196.85	2196.85
843	62.4256	2339.78	2339.78
843.2	88.1255	1980.22	1980.22
843.4	66.5955	2060.98	2060.98
843.6	58.9418	2229.99	2229.99
843.8	49.744	2029.89	2029.89
844	71.2906	2120.18	2120.18
844.2	75.1623	2234.66	2234.66
844.4	52.1314	1927.31	1927.31
844.6	67.6392	1980.17	1980.17
844.8	75.4621	1915.59	1915.59
845	80.1479	2241.33	2241.33
845.2	74.6269	2048.57	2048.57
845.4	49.2575	2047.55	2047.55
845.6	85.5017	1745.68	1745.68
845.8	39.5739	1779.22	1779.22
846	72.2524	2048.44	2048.44
846.2	70.7115	1675.54	1675.54
846.4	84.5868	2060.92	2060.92
846.6	64.1652	1835.04	1835.04
846.8	51.0749	1808.83	1808.83
847	51.2669	1741.83	1741.83
847.2	83.3075	1595	1595
847.4	44.4849	1873.19	1873.19
847.6	33.6732	1931.6	1931.6
847.8	68.7352	2066.48	2066.48
848	51.3326	2204.94	2204.94
848.2	58.2648	1865.94	1865.94
848.4	72.0773	1973.68	1973.68
848.6	74.5399	1941.61	1941.61
848.8	49.4698	1909.2	1909.2
849	50.9337	1800.51	1800.51
849.2	62.0617	1905.86	1905.86
849.4	48.013	1875.67	1875.67
849.6	42.7125	2129.55	2129.55
849.8	47.8999	2167.18	2167.18
850	46.2144	1904.45	1904.45

DEPT[FT]	Gamma	Neutron	Neutron
850.2	64.5533	1934.24	1934.24
850.4	74.5156	2091.15	2091.15
850.6	74.0829	2410.08	2410.08
850.8	51.8777	2130.22	2130.22
851	67.4432	1903.16	1903.16
851.2	76.6938	1988.77	1988.77
851.4	75.3769	2192.58	2192.58
851.6	36.4398	2013.06	2013.06
851.8	82.999	1995.9	1995.9
852	90.089	1971.69	1971.69
852.2	63.2091	1922.65	1922.65
852.4	53.0038	2163.24	2163.24
852.6	105.968	1919.95	1919.95
852.8	50.5688	2068.46	2068.46
853	77.7197	1973.48	1973.48
853.2	54.5832	1987.65	1987.65
853.4	71.119	1950.96	1950.96
853.6	61.4458	1929.8	1929.8
853.8	74.572	1822.9	1822.9
854	91.3312	1642.64	1642.64
854.2	53.6781	1930.57	1930.57
854.4	57.4161	1857.01	1857.01
854.6	74.3108	2001.92	2001.92
854.8	73.5294	1754.71	1754.71
855	64.5973	1868.67	1868.67
855.2	60.4643	2066.23	2066.23
855.4	57.2932	2036.02	2036.02
855.6	70.8461	2023.12	2023.12
855.8	57.1463	2063.38	2063.38
856	47.2103	1788.06	1788.06
856.2	56.2551	1849.11	1849.11
856.4	62.7593	1912.86	1912.86
856.6	73.0459	1866.02	1866.02
856.8	56.8664	1959.74	1959.74
857	62.0958	2047.16	2047.16
857.2	51.2925	1957.13	1957.13
857.4	47.7294	1903.61	1903.61
857.6	45.4617	1743.88	1743.88
857.8	58.5235	2189.49	2189.49
858	62.3702	1883.41	1883.41
858.2	33.7132	2068.21	2068.21
858.4	49.3362	1864.74	1864.74
858.6	48.5437	2061.87	2061.87
858.8	56.1789	2022.11	2022.11
859	53.0326	1812.46	1812.46
859.2	51.0922	1921.32	1921.32

DEPT[FT]	Gamma	Neutron	Neutron
859.4	57.421	2376.65	2376.65
859.6	71.357	1981.58	1981.58
859.8	44.0721	1892.62	1892.62
860	75.3979	1948.01	1948.01
860.2	46.2778	2009.21	2009.21
860.4	61.0719	1898.98	1898.98
860.6	47.5042	1997.55	1997.55
860.8	54.7583	1589.66	1589.66
861	45.073	1913.68	1913.68
861.2	57.595	1950.67	1950.67
861.4	57.3224	1968.39	1968.39
861.6	52.9317	1982.22	1982.22
861.8	35.3834	2030.13	2030.13
862	53.6429	1779.99	1779.99
862.2	39.9109	2045.26	2045.26
862.4	57.5493	1852.19	1852.19
862.6	49.9125	2112.82	2112.82
862.8	48.7908	1956.15	1956.15
863	68.2457	1876.6	1876.6
863.2	16.4158	2030.07	2030.07
863.4	24.8957	2104.28	2104.28
863.6	82.0152	1916.17	1916.17
863.8	38.986	1949.1	1949.1
864	44.3609	1901.4	1901.4
864.2	53.1277	1983.55	1983.55
864.4	62.7181	2150.7	2150.7
864.6	39.2157	1857.85	1857.85
864.8	78.4314	2103.17	2103.17
865	39.2157	1774.24	1774.24
865.2	44.7761	1695.15	1695.15
865.4	44.2814	1846.8	1846.8
865.6	59.5481	1886.15	1886.15
865.8	44.144	2080.5	2080.5
866	15.0886	1989.78	1989.78
866.2	47.7897	1856.05	1856.05
866.4	33.9806	1719.3	1719.3
866.6	66.382	2036.75	2036.75
866.8	48.1466	1984.55	1984.55
867	48.9628	1644.81	1644.81
867.2	19.9888	2108.99	2108.99
867.4	47.7509	2065.83	2065.83
867.6	24.9482	1874.6	1874.6
867.8	67.4278	1982.9	1982.9
868	33.355	1908.86	1908.86
868.2	37.0277	1833.49	1833.49
868.4	24.399	2075.25	2075.25

DEPT[FT]	Gamma	Neutron	Neutron
868.6	33.1694	1908.72	1908.72
868.8	11.3853	1954.2	1954.2
869	44.7184	1896.3	1896.3
869.2	25.48	2159.41	2159.41
869.4	55.3295	2228.14	2228.14
869.6	62.8712	1947.22	1947.22
869.8	31.137	1817.53	1817.53
870	59.0147	1950.99	1950.99
870.2	35.2238	2252.39	2252.39
870.4	46.7544	1944.96	1944.96
870.6	38.4883	2099.99	2099.99
870.8	28.5686	1840.22	1840.22
871	50.0598	1942.47	1942.47
871.2	42.8062	1705.58	1705.58
871.4	65.94	1953.89	1953.89
871.6	52.4109	1924.64	1924.64
871.8	43.2224	1750.04	1750.04
872	63.1068	2123.06	2123.06
872.2	60.8989	1838.61	1838.61
872.4	32.4424	1792.31	1792.31
872.6	59.1038	1738.98	1738.98
872.8	56.8135	2040.93	2040.93
873	71.5377	1822.11	1822.11
873.2	70.0987	1866.02	1866.02
873.4	65.704	1650.59	1650.59
873.6	43.0257	1719.16	1719.16
873.8	54.8332	2158.16	2158.16
874	72.6642	1913.98	1913.98
874.2	59.1931	1810.55	1810.55
874.4	68.7689	2026.36	2026.36
874.6	59.9069	1748.31	1748.31
874.8	64.703	2104.6	2104.6
875	50.8467	2043.08	2043.08
875.2	72.1654	1809.4	1809.4
875.4	65.9709	1941.31	1941.31
875.6	82.461	2063.47	2063.47
875.8	44.8445	2013.5	2013.5
876	48.5983	1725.8	1725.8
876.2	50.8012	1515.16	1515.16
876.4	66.4273	1923.71	1923.71
876.6	78.3234	1954	1954
876.8	50.1954	2061.58	2061.58
877	81.009	2095.72	2095.72
877.2	33.2436	2360.34	2360.34
877.4	69.9963	2108.84	2108.84
877.6	46.855	2196.27	2196.27

DEPT[FT]	Gamma	Neutron	Neutron
877.8	74.8561	2326.17	2326.17
878	97.561	2013.76	2013.76
878.2	81.3677	2240.16	2240.16
878.4	59.702	1956.77	1956.77
878.6	49.6901	2065.76	2065.76
878.8	43.2519	1745.86	1745.86
879	78.9882	1968.9	1968.9
879.2	57.9348	1718.6	1718.6
879.4	54.2498	1873.32	1873.32
879.6	42.2976	1956.56	1956.56
879.8	63.2247	2036	2036
880	83.0497	2058.55	2058.55
880.2	77.0276	1892.28	1892.28
880.4	72.8213	2365.84	2365.84
880.6	59.9457	2155.86	2155.86
880.8	80.8493	1979.85	1979.85
881	87.6048	1988.12	1988.12
881.2	82.8659	1984.5	1984.5
881.4	67.5447	1682.43	1682.43
881.6	68.0112	1785.34	1785.34
881.8	49.3969	2240.19	2240.19
882	74.6236	1960.53	1960.53
882.2	69.6345	1889.4	1889.4
882.4	57.1081	1989.03	1989.03
882.6	53.7562	1997.75	1997.75
882.8	72.3911	1823.77	1823.77
883	56.3516	2191.23	2191.23
883.2	93.7106	2036.71	2036.71
883.4	52.7089	2297.74	2297.74
883.6	50.8707	1938.88	1938.88
883.8	85.0571	1972.91	1972.91
884	52.0924	2016.22	2016.22
884.2	82.8497	2217.59	2217.59
884.4	80.2702	1665.81	1665.81
884.6	78.2743	1749.1	1749.1
884.8	82.341	1925.87	1925.87
885	81.7387	2061.29	2061.29
885.2	64.173	1745.96	1745.96
885.4	63.3712	1721.31	1721.31
885.6	50.0993	1885.3	1885.3
885.8	65.2207	1852.5	1852.5
886	77.8157	1885.28	1885.28
886.2	75.3109	1834.53	1834.53
886.4	54.3337	2000.84	2000.84
886.6	61.1719	2136.31	2136.31
886.8	92.2768	1666.9	1666.9

DEPT[FT]	Gamma	Neutron	Neutron
887	65.1205	2000.36	2000.36
887.2	46.723	2025.3	2025.3
887.4	94.8136	2264.54	2264.54
887.6	70.5199	2003.97	2003.97
887.8	73.7309	1838.22	1838.22
888	73.9826	1870.99	1870.99
888.2	80.2331	1949.33	1949.33
888.4	65.1467	1881.35	1881.35
888.6	89.4011	1998.83	1998.83
888.8	77.6745	2028.32	2028.32
889	60.5865	1893.14	1893.14
889.2	63.1921	1776.44	1776.44
889.4	83.2858	2098.45	2098.45
889.6	68.6464	1971.46	1971.46
889.8	78.2113	2076.47	2076.47
890	66.1329	2076.75	2076.75
890.2	58.1975	2046.3	2046.3
890.4	66.436	2025.54	2025.54
890.6	57.561	2207.17	2207.17
890.8	58.9347	2012.03	2012.03
891	60.9022	1900.59	1900.59
891.2	51.3139	1894.26	1894.26
891.4	48.9779	1514.36	1514.36
891.6	95.3967	1971.13	1971.13
891.8	50.3213	1960.97	1960.97
892	54.8029	1867.61	1867.61
892.2	47.218	1975.07	1975.07
892.4	79.0611	1943.19	1943.19
892.6	81.0656	1856.34	1856.34
892.8	49.2605	1909.64	1909.64
893	55.9571	2018.08	2018.08
893.2	53.1451	1883.6	1883.6
893.4	60.3546	1819.08	1819.08
893.6	67.4829	1960.84	1960.84
893.8	49.5597	1717.57	1717.57
894	69.0338	1685.56	1685.56
894.2	55.2693	1653.47	1653.47
894.4	56.2496	1920.65	1920.65
894.6	51.7993	1802.74	1802.74
894.8	49.8134	1897.61	1897.61
895	56.4177	2181.05	2181.05
895.2	47.3121	1979.74	1979.74
895.4	49.2692	1958.18	1958.18
895.6	59.4858	2108.44	2108.44
895.8	60.2801	2223.22	2223.22
896	66.1396	2347.25	2347.25

DEPT[FT]	Gamma	Neutron	Neutron
896.2	50.1153	2235.9	2235.9
896.4	38.6741	2187.31	2187.31
896.6	45.1935	2006.26	2006.26
896.8	53.2952	2182.51	2182.51
897	79.0385	2346.51	2346.51
897.2	27.3003	2213.39	2213.39
897.4	65.1332	2135	2135
897.6	51.6404	2336.57	2336.57
897.8	44.062	2438.03	2438.03
898	51.5544	2154.45	2154.45
898.2	58.8235	2028.11	2028.11
898.4	59.3175	2356.11	2356.11
898.6	37.9365	2391.83	2391.83
898.8	21.808	2027.8	2027.8
899	29.9679	1949.96	1949.96
899.2	54.3006	2185.18	2185.18
899.4	45.3738	2011.4	2011.4
899.6	46.0214	2130.55	2130.55
899.8	52.8846	1979.09	1979.09
900	47.2251	2193.61	2193.61
900.2	44.5423	2248.08	2248.08
900.4	57.4052	2135.56	2135.56
900.6	42.5531	2023.82	2023.82
900.8	53.4629	2105.08	2105.08
901	32.7377	2386.45	2386.45
901.2	51.8461	2048.48	2048.48
901.4	55.7967	2160.31	2160.31
901.6	37.2213	2109.16	2109.16
901.8	35.3476	1817.49	1817.49
902	91.0338	2104.87	2104.87
902.2	40.4271	2265.85	2265.85
902.4	67.0047	2057.16	2057.16
902.6	71.4229	2271.91	2271.91
902.8	40.8147	2147.59	2147.59
903	65.8266	1820.75	1820.75
903.2	55.2167	2195.66	2195.66
903.4	55.2656	2087.68	2087.68
903.6	55.2794	2358.33	2358.33
903.8	49.0021	2173.51	2173.51
904	46.5164	2257.78	2257.78
904.2	44.6144	2168.32	2168.32
904.4	34.6135	2333.8	2333.8
904.6	50.0263	2054.42	2054.42
904.8	49.3228	2135.52	2135.52
905	58.8044	2229.15	2229.15
905.2	79.7974	2204.63	2204.63

DEPT[FT]	Gamma	Neutron	Neutron
905.4	69.4002	2428.17	2428.17
905.6	41.0181	2261.81	2261.81
905.8	75.2857	2137.1	2137.1
906	36.6382	2260.03	2260.03
906.2	51.1157	2100.69	2100.69
906.4	48.6191	2178.53	2178.53
906.6	44.5256	2205.24	2205.24
906.8	57.9114	2036.99	2036.99
907	69.5864	2151.84	2151.84
907.2	40.4097	2081.35	2081.35
907.4	25.7662	2176.74	2176.74
907.6	52.6595	2022.74	2022.74
907.8	84.6583	2041.15	2041.15
908	63.1896	2167.84	2167.84
908.2	67.3077	2161.22	2161.22
908.4	71.0711	1978.14	1978.14
908.6	78.6559	1862.9	1862.9
908.8	78.0205	1911.11	1911.11
909	66.7422	1878.45	1878.45
909.2	70.921	2222.56	2222.56
909.4	50.3716	2008.73	2008.73
909.6	67.5978	1935.46	1935.46
909.8	48.9397	2027.07	2027.07
910	59.1763	2250.24	2250.24
910.2	72.7402	1945.92	1945.92
910.4	35.1698	2076.61	2076.61
910.6	82.2384	1905.51	1905.51
910.8	50.3189	2429.97	2429.97
911	54.1644	2130.05	2130.05
911.2	36.1181	1989.79	1989.79
911.4	66.3924	2277.86	2277.86
911.6	52.9979	2129.57	2129.57
911.8	105.306	2108.96	2108.96
912	53.1949	1969.65	1969.65
912.2	67.2726	2101.42	2101.42
912.4	62.9125	1934.94	1934.94
912.6	48.3092	1676.2	1676.2
912.8	67.6329	1899.29	1899.29
913	135.266	2098.27	2098.27
913.2	48.3092	1723	1723
913.4	72.4244	2318.49	2318.49
913.6	57.7598	2106.39	2106.39
913.8	39.5987	1647.74	1647.74
914	82.2186	1974.99	1974.99
914.2	88.0593	1847.25	1847.25
914.4	30.6311	1843.7	1843.7

DEPT[FT]	Gamma	Neutron	Neutron
914.6	64.0725	2069.09	2069.09
914.8	30.5851	2070.43	2070.43
915	68.819	1918.16	1918.16
915.2	58.4813	1908.53	1908.53
915.4	64.198	2030.33	2030.33
915.6	71.1087	1866.82	1866.82
915.8	71.6737	2128.59	2128.59
916	55.5734	1980.4	1980.4
916.2	55.1397	2023.26	2023.26
916.4	78.2299	2273.45	2273.45
916.6	66.2071	2008.74	2008.74
916.8	95.038	1931.28	1931.28
917	56.4805	2229.32	2229.32
917.2	71.1846	2164.53	2164.53
917.4	68.5341	2377.02	2377.02
917.6	90.3398	2318.73	2318.73
917.8	77.257	2297.33	2297.33
918	73.7333	1943.89	1943.89
918.2	70.3782	1897.78	1897.78
918.4	86.778	1952.59	1952.59
918.6	43.0673	1964.17	1964.17
918.8	77.5757	2165.02	2165.02
919	83.282	2112.92	2112.92
919.2	61.1758	1888.64	1888.64
919.4	51.1673	2021.85	2021.85
919.6	58.1985	1865.12	1865.12
919.8	40.8877	1851.43	1851.43
920	62.1859	1958.75	1958.75
920.2	68.4605	1525.89	1525.89
920.4	76.6285	2004.6	2004.6
920.6	56.3463	1735.91	1735.91
920.8	63.3165	2122.27	2122.27
921	86.0812	2049.37	2049.37
921.2	74.3058	2183.22	2183.22
921.4	37.4377	1979.88	1979.88
921.6	90.2985	2067.69	2067.69
921.8	74.4077	2045.07	2045.07
922	59.8623	1973.54	1973.54
922.2	73.0422	2213.29	2213.29
922.4	78.9593	1997.47	1997.47
922.6	54.2859	1815.28	1815.28
922.8	60.8615	2077.83	2077.83
923	59.8632	2086.84	2086.84
923.2	52.8743	1841.08	1841.08
923.4	48.7805	2081.25	2081.25
923.6	67.8249	1823.52	1823.52

DEPT[FT]	Gamma	Neutron	Neutron
923.8	64.9742	1929.62	1929.62
924	52.1327	1770.79	1770.79
924.2	69.7371	1740.68	1740.68
924.4	91.9867	1821.1	1821.1
924.6	66.6222	1961.19	1961.19
924.8	51.206	2072.32	2072.32
925	84.8275	1655.41	1655.41
925.2	70.009	1853.8	1853.8
925.4	75.768	1873.71	1873.71
925.6	72.8532	1976.84	1976.84
925.8	66.3519	1856.62	1856.62
926	68.4747	1818.53	1818.53
926.2	87.3892	1911.27	1911.27
926.4	62.5518	2023.52	2023.52
926.6	67.8713	1951.78	1951.78
926.8	82.7631	1909.43	1909.43
927	66.184	1999.27	1999.27
927.2	64.6755	1938.41	1938.41
927.4	69.7595	1897.89	1897.89
927.6	53.552	2281.17	2281.17
927.8	55.6802	2114.86	2114.86
928	76.3919	1540.24	1540.24
928.2	105.991	2158.57	2158.57
928.4	81.3832	1781.51	1781.51
928.6	73.7957	1766.41	1766.41
928.8	101.221	2137.89	2137.89
929	71.5233	2273.13	2273.13
929.2	63.8016	2190.29	2190.29
929.4	56.0394	1906.88	1906.88
929.6	52.5446	1800.1	1800.1
929.8	58.1676	1917.44	1917.44
930	63.486	1909.47	1909.47
930.2	68.4185	1911.36	1911.36
930.4	56.8291	1873.09	1873.09
930.6	89.7087	1953	1953
930.8	62.384	1854.1	1854.1
931	78.7145	2128.63	2128.63
931.2	49.4655	1728.92	1728.92
931.4	64.1583	1516.05	1516.05
931.6	58.9567	2155.5	2155.5
931.8	80.5059	2076.15	2076.15
932	64.3094	1939.32	1939.32
932.2	65.262	1832.84	1832.84
932.4	80.9524	2093.57	2093.57
932.6	82.0066	1897.11	1897.11
932.8	64.0044	2108.2	2108.2

DEPT[FT]	Gamma	Neutron	Neutron
933	71.4052	1669.24	1669.24
933.2	91.9339	1712.29	1712.29
933.4	76.555	1503.08	1503.08
933.6	59.4771	1850.79	1850.79
933.8	75.1415	1847.29	1847.29
934	39.9871	1942.32	1942.32
934.2	56.7127	1712.8	1712.8
934.4	53.3909	1744.36	1744.36
934.6	44.5996	1894.81	1894.81
934.8	56.6684	2001.36	2001.36
935	46.9438	1805.37	1805.37
935.2	78.6605	1579.97	1579.97
935.4	60.6722	2062.68	2062.68
935.6	67.2382	2041.52	2041.52
935.8	75.6006	1656.09	1656.09
936	60.9474	1982.62	1982.62
936.2	67.2931	1815.38	1815.38
936.4	55.1181	1829.72	1829.72
936.6	69.6232	2151.04	2151.04
936.8	45.6562	1914.05	1914.05
937	47.9618	1931.04	1931.04
937.2	36.0336	1912.7	1912.7
937.4	88.3659	1712.97	1712.97
937.6	55.3479	2065.62	2065.62
937.8	76.0799	2007.18	2007.18
938	73.8027	2012.33	2012.33
938.2	77.4924	1705.39	1705.39
938.4	52.3484	1959.58	1959.58
938.6	47.1246	2110.71	2110.71
938.8	48.4353	1950.23	1950.23
939	70.1033	1857.93	1857.93
939.2	54.8272	1840.65	1840.65
939.4	66.5658	1871.3	1871.3
939.6	68.5304	1841.44	1841.44
939.8	53.098	1873.85	1873.85
940	70.4947	1949.59	1949.59
940.2	67.1846	1924.83	1924.83
940.4	68.8885	2122.29	2122.29
940.6	53.3562	2030.26	2030.26
940.8	58.8167	1986.65	1986.65
941	52.1	2322.41	2322.41
941.2	78.4977	1920.61	1920.61
941.4	68.3963	1998.45	1998.45
941.6	84.8989	2082.41	2082.41
941.8	92.2233	1890.04	1890.04
942	79.4498	1961.18	1961.18

DEPT[FT]	Gamma	Neutron	Neutron
942.2	65.4595	1972.09	1972.09
942.4	42.1215	1813.55	1813.55
942.6	78.7096	2188.66	2188.66
942.8	67.9373	2228.82	2228.82
943	70.6564	2415.61	2415.61
943.2	67.6071	2053.84	2053.84
943.4	64.9769	2450.04	2450.04
943.6	73.5294	2239.25	2239.25
943.8	60.3066	1886.25	1886.25
944	60.5591	1527.91	1527.91
944.2	48.6263	1188.12	1188.12
944.4	42.0127	1039.65	1039.65
944.6	69.7286	1129.87	1129.87
944.8	64.7963	1263.81	1263.81
945	61.5	1932.07	1932.07
945.2	48.8147	1856.21	1856.21
945.4	72.6936	1444.24	1444.24
945.6	65.8933	1441.78	1441.78
945.8	54.3069	1184.28	1184.28
946	45.5812	873.633	873.633
946.2	48.7076	872.715	872.715
946.4	58.4075	857.869	857.869
946.6	47.4385	752.063	752.063
946.8	36.5076	684.407	684.407
947	21.531	622.835	622.835
947.2	30.7699	541.531	541.531
947.4	35.7016	521.791	521.791
947.6	29.0088	459.077	459.077
947.8	33.418	456.875	456.875
948	40.4231	430.262	430.262
948.2	39.884	422.17	422.17
948.4	54.0609	491.502	491.502
948.6	40.8326	398.216	398.216
948.8	49.1523	454.351	454.351
949	32.6135	449.662	449.662
949.2	28.8518	478.359	478.359
949.4	22.5278	418.24	418.24
949.6	44.6266	398.67	398.67
949.8	34.2862	514.058	514.058
950	47.5667	431.38	431.38
950.2	26.9449	529.359	529.359
950.4	34.1099	497.101	497.101
950.6	32.0404	409.315	409.315
950.8	38.835	452.201	452.201
951	21.7308	451.947	451.947
951.2	32.9635	502.956	502.956

DEPT[FT]	Gamma	Neutron	Neutron
951.4	29.1262	471.514	471.514
951.6	32.2693	482.566	482.566
951.8	41.626	478.253	478.253
952	22.6943	449.281	449.281
952.2	33.3308	528.01	528.01
952.4	24.8162	394.088	394.088
952.6	59.7711	426.984	426.984
952.8	32.189	446.092	446.092
953	21.826	388.825	388.825
953.2	39.6196	476.872	476.872
953.4	28.9855	405.061	405.061
953.6	23.0342	484.531	484.531
953.8	42.2286	398.152	398.152
954	48.9416	434.726	434.726
954.2	33.9347	427.094	427.094
954.4	21.3961	414.24	414.24
954.6	24.9152	456.603	456.603
954.8	31.0381	448.075	448.075
955	27.907	382.155	382.155
955.2	32.8251	415.948	415.948
955.4	28.1443	399.166	399.166
955.6	22.9798	464.74	464.74
955.8	23.7898	391.137	391.137
956	16.5337	351.378	351.378
956.2	15.3533	377.986	377.986
956.4	37.7171	421.017	421.017
956.6	60.3111	412.897	412.897
956.8	45.9832	413.196	413.196
957	23.7447	501.85	501.85
957.2	61.1314	520.188	520.188
957.4	29.9469	436.954	436.954
957.6	40.9729	463.764	463.764
957.8	23.726	443.053	443.053
958	19.9245	466.219	466.219
958.2	47.9894	358.283	358.283
958.4	46.7071	373.06	373.06
958.6	38.1864	410.077	410.077
958.8	52.3308	418.137	418.137
959	43.6893	329.056	329.056
959.2	53.1154	459.94	459.94
959.4	24.6042	421.896	421.896
959.6	20.0688	456.552	456.552
959.8	43.7414	525.438	525.438
960	34.379	492.704	492.704
960.2	25.0667	471.536	471.536
960.4	29.7585	541.193	541.193

DEPT[FT]	Gamma	Neutron	Neutron
960.6	34.3137	389.079	389.079
960.8	28.9855	395.381	395.381
961	34.3137	488.91	488.91
961.2	29.1262	507.556	507.556
961.4	23.9234	372.978	372.978
961.6	19.8276	504.542	504.542
961.8	62.0109	429.992	429.992
962	33.6248	440.787	440.787
962.2	24.401	418.994	418.994
962.4	29.7034	430	430
962.6	23.8368	430.915	430.915
962.8	33.9745	442.791	442.791
963	38.4485	437.008	437.008
963.2	39.3279	464.659	464.659
963.4	25.1132	496.975	496.975
963.6	25.1837	419.74	419.74
963.8	20.9436	386.586	386.586
964	24.3254	400.027	400.027
964.2	29.3753	381.718	381.718
964.4	19.1884	430.044	430.044
964.6	55.1323	356.385	356.385
964.8	35.6311	472.037	472.037
965	27.9191	510.72	510.72
965.2	37.4425	416.486	416.486
965.4	38.4615	463.393	463.393
965.6	46.9694	381.044	381.044
965.8	25.2978	376.212	376.212
966	11.5802	465.731	465.731
966.2	32.7943	523.528	523.528
966.4	49.8816	536.009	536.009
966.6	32.2955	402.404	402.404
966.8	16.9002	443.568	443.568
967	38.8114	399.007	399.007
967.2	50.6373	496.129	496.129
967.4	19.3362	455.156	455.156
967.6	42.5064	413.686	413.686
967.8	42.7439	440.836	440.836
968	36.4138	389.204	389.204
968.2	64.6025	425.944	425.944
968.4	39.3441	512.91	512.91
968.6	35.9119	436.245	436.245
968.8	24.5098	370.937	370.937
969	31.7538	528.447	528.447
969.2	23.346	592.855	592.855
969.4	8.24332	418.725	418.725
969.6	49.7228	470.42	470.42

DEPT[FT]	Gamma	Neutron	Neutron
969.8	30.2854	381.853	381.853
970	44.0839	461.373	461.373
970.2	31.5659	471.609	471.609
970.4	50.2332	341.152	341.152
970.6	23.2	467.484	467.484
970.8	27.1667	392.645	392.645
971	23.7718	329.825	329.825
971.2	30.4103	388.782	388.782
971.4	35.5075	468.058	468.058
971.6	25.2566	404.068	404.068
971.8	20.0218	405.994	405.994
972	31.1757	456.191	456.191
972.2	39.5584	428.932	428.932
972.4	24.4474	387.216	387.216
972.6	44.5545	344.691	344.691
972.8	33.2308	493.319	493.319
973	19.5603	407.923	407.923
973.2	24.125	389.249	389.249
973.4	21.7118	428.418	428.418
973.6	28.6002	407.542	407.542
973.8	28.8462	343.295	343.295
974	50.2807	493.137	493.137
974.2	34.2961	364.764	364.764
974.4	31.1524	342.761	342.761
974.6	40.9335	430.159	430.159
974.8	26.3314	409.535	409.535
975	23.492	388.062	388.062
975.2	18.1152	365.74	365.74
975.4	31.1016	388.876	388.876
975.6	36.5027	389.19	389.19
975.8	39.995	470.466	470.466
976	34.2556	409.532	409.532
976.2	25.6925	573.656	573.656
976.4	22.6178	531.81	531.81
976.6	36.2918	514.745	514.745
976.8	44.4237	579.962	579.962
977	26.0163	474.857	474.857
977.2	41.9998	475.07	475.07
977.4	28.9855	580.63	580.63
977.6	59.562	581.923	581.923
977.8	54.7718	560.529	560.529
978	59.9693	553.149	553.149
978.2	27.346	662.024	662.024
978.4	50.7177	501.314	501.314
978.6	41.435	623.164	623.164
978.8	30.0515	680.339	680.339

DEPT[FT]	Gamma	Neutron	Neutron
979	36.2222	647.863	647.863
979.2	25.9862	545.811	545.811
979.4	29.7075	629.903	629.903
979.6	50.7548	522.555	522.555
979.8	39.3917	743.477	743.477
980	39.7867	729.911	729.911
980.2	30.1999	743.528	743.528
980.4	30.9513	782.867	782.867
980.6	46.0083	748.829	748.829
980.8	54.3882	822.976	822.976
981	44.684	865.929	865.929
981.2	50.4239	692.408	692.408
981.4	63.0826	587.261	587.261
981.6	76.9231	664.872	664.872
981.8	37.8226	829.474	829.474
982	53.8483	544.295	544.295
982.2	42.3374	621.457	621.457
982.4	55.0257	744.124	744.124
982.6	46.0084	616.781	616.781
982.8	56.3981	831.103	831.103
983	28.1135	752.863	752.863
983.2	48.3092	772.807	772.807
983.4	65.6971	804.321	804.321
983.6	52.3524	757.739	757.739
983.8	33.7323	691.305	691.305
984	67.228	650.677	650.677
984.2	46.0974	923.543	923.543
984.4	41.0127	736.911	736.911
984.6	53.5215	790.391	790.391
984.8	43.9447	802.492	802.492
985	51.4829	820.349	820.349
985.2	38.9068	712.886	712.886
985.4	41.505	791.601	791.601
985.6	43.6908	666.995	666.995
985.8	50.6495	747.527	747.527
986	78.4867	619.256	619.256
986.2	38.2737	684.133	684.133
986.4	42.8922	553.994	553.994
986.6	65.6497	683.489	683.489
986.8	57.6173	592.122	592.122
987	48.2027	528.841	528.841
987.2	51.5813	658.185	658.185
987.4	45.7595	594.17	594.17
987.6	48.8873	594.38	594.38
987.8	55.1511	733.9	733.9
988	49.8307	621.982	621.982

DEPT[FT]	Gamma	Neutron	Neutron
988.2	51.1908	588.402	588.402
988.4	45.7732	509.621	509.621
988.6	30.8363	542.182	542.182
988.8	43.4616	603.119	603.119
989	31.0746	572.801	572.801
989.2	36.8959	493.93	493.93
989.4	28.5204	480.262	480.262
989.6	29.0419	501.333	501.333
989.8	45.1031	485.531	485.531
990	47.0187	522.481	522.481
990.2	37.4248	565.72	565.72
990.4	22.8565	464.456	464.456
990.6	49.9653	463.917	463.917
990.8	29.5828	544.361	544.361
991	29.42	401.998	401.998
991.2	33.7561	502.816	502.816
991.4	36.2421	440.728	440.728
991.6	43.1964	455.649	455.649
991.8	47.7328	550.927	550.927
992	56.0157	364.015	364.015
992.2	28.7761	468.192	468.192
992.4	27.3121	446.152	446.152
992.6	38.8993	465.789	465.789
992.8	29.1224	532.511	532.511
993	45.6873	473.614	473.614
993.2	37.6473	454.428	454.428
993.4	30.9096	436.973	436.973
993.6	45.1061	497.727	497.727
993.8	22.208	455.364	455.364
994	22.638	437.903	437.903
994.2	31.6088	382.266	382.266
994.4	35.7962	511.776	511.776
994.6	46.6303	391.59	391.59
994.8	25.4658	392.074	392.074
995	36.9266	422.806	422.806
995.2	39.1168	475.586	475.586
995.4	33.5184	432.824	432.824
995.6	35.7322	379.969	379.969
995.8	45.5929	454.903	454.903
996	47.7155	517.52	517.52
996.2	35.9238	382.552	382.552
996.4	26.7367	447.428	447.428
996.6	30.3824	352.97	352.97
996.8	40.1591	516.389	516.389
997	29.4118	397.377	397.377
997.2	39.4138	536.32	536.32

DEPT[FT]	Gamma	Neutron	Neutron
997.4	15.7332	396.398	396.398
997.6	30.3646	396.256	396.256
997.8	31.3971	452.256	452.256
998	56.5147	385.533	385.533
998.2	30.4022	396.794	396.794
998.4	20.7259	427.871	427.871
998.6	59.8937	375.174	375.174
998.8	20.065	440.165	440.165
999	39.1325	428.586	428.586
999.2	31.1671	408.21	408.21
999.4	28.0164	427.187	427.187
999.6	40.6408	375.975	375.975
999.8	23.1569	422.235	422.235
1000	38.6473	374.492	374.492
1000.2	45.1385	437.942	437.942
1000.4	34.6838	410.297	410.297
1000.6	24.0385	486.965	486.965
1000.8	27.0986	413.466	413.466
1001	38.4615	394.887	394.887
1001.2	42.122	462.905	462.905
1001.4	28.3946	513.23	513.23
1001.6	27.8811	357.814	357.814
1001.8	44.0851	541.531	541.531
1002	15.2139	492.552	492.552
1002.2	54.9699	506.344	506.344
1002.4	42.0737	422.205	422.205
1002.6	45.7102	468.617	468.617
1002.8	44.3156	424.482	424.482
1003	35.439	523.603	523.603
1003.2	46.3052	497.511	497.511
1003.4	19.1388	506.475	506.475
1003.6	56.0488	420.522	420.522
1003.8	11.2336	358.961	358.961
1004	29.4943	449.117	449.117
1004.2	35.5846	405.805	405.805
1004.4	28.2697	419.128	419.128
1004.6	28.9599	418.918	418.918
1004.8	33.0931	463.918	463.918
1005	25.483	484.259	484.259
1005.2	29.7742	425.902	425.902
1005.4	39.4126	407.272	407.272
1005.6	25.8908	443.351	443.351
1005.8	25.8288	501.902	501.902
1006	60.3521	548.699	548.699
1006.2	43.9454	550.259	550.259
1006.4	19.0526	477.374	477.374

DEPT[FT]	Gamma	Neutron	Neutron
1006.6	37.3788	449.405	449.405
1006.8	38.7089	457.087	457.087
1007	28.7837	428.701	428.701
1007.2	33.8654	407.608	407.608
1007.4	33.4928	445.376	445.376
1007.6	51.6265	442.535	442.535
1007.8	24.5281	367.028	367.028
1008	34.2968	400.108	400.108
1008.2	43.2288	407.225	407.225
1008.4	33.6824	393.47	393.47
1008.6	28.9855	400.939	400.939
1008.8	38.4615	428.11	428.11
1009	23.9234	449.261	449.261
1009.2	19.3237	389.469	389.469
1009.4	44.1176	460.851	460.851
1009.6	14.552	380.607	380.607
1009.8	39.1466	428.641	428.641
1010	38.6497	502.183	502.183
1010.2	10.2891	376.099	376.099
1010.4	24.4309	455.816	455.816
1010.6	48.377	386.248	386.248
1010.8	28.2275	439.987	439.987
1011	15.2492	374.155	374.155
1011.2	33.6466	446.451	446.451
1011.4	15.7	400.615	400.615
1011.6	37.3351	397.236	397.236
1011.8	43.5808	482.689	482.689
1012	24.8047	495.824	495.824
1012.2	37.3492	464.847	464.847
1012.4	48.1652	529.076	529.076
1012.6	41.278	477.31	477.31
1012.8	40.6272	516.757	516.757
1013	32.5407	355.603	355.603
1013.2	15.7951	441.825	441.825
1013.4	33.5375	398.522	398.522
1013.6	15.9645	432.406	432.406
1013.8	25.9179	410.391	410.391
1014	23.4822	434.394	434.394
1014.2	33.6713	439.252	439.252
1014.4	28.0413	349.708	349.708
1014.6	20.1161	392.598	392.598
1014.8	29.0017	457.978	457.978
1015	25.9608	439.627	439.627
1015.2	24.964	413.575	413.575
1015.4	19.7572	489.195	489.195
1015.6	28.7462	407.052	407.052

DEPT[FT]	Gamma	Neutron	Neutron
1015.8	38.6213	327.523	327.523
1016	35.837	473.431	473.431
1016.2	42.2467	420.416	420.416
1016.4	18.493	425.184	425.184
1016.6	33.6538	466.263	466.263
1016.8	31.9475	517.911	517.911
1017	43.0283	452.982	452.982
1017.2	20.6179	394.588	394.588
1017.4	21.9537	483.087	483.087
1017.6	40.6327	486.288	486.288
1017.8	29.0017	357.164	357.164
1018	38.9836	354.605	354.605
1018.2	28.6549	328.915	328.915
1018.4	39.8099	367.789	367.789
1018.6	35.4917	445.488	445.488
1018.8	41.2274	508.899	508.899
1019	35.2647	545.237	545.237
1019.2	39.739	428.902	428.902
1019.4	33.3633	509.228	509.228
1019.6	46.2462	548.715	548.715
1019.8	10.3583	512.528	512.528
1020	9.97581	466.828	466.828
1020.2	58.4053	472.185	472.185
1020.4	26.9055	373.394	373.394
1020.6	44.5625	451.969	451.969
1020.8	33.5509	412.789	412.789
1021	43.204	618.964	618.964
1021.2	35.132	493.353	493.353
1021.4	22.5051	534.251	534.251
1021.6	43.1532	490.691	490.691
1021.8	46.8669	405.884	405.884
1022	32.956	490.6	490.6
1022.2	51.0152	491.502	491.502
1022.4	34.9843	384.707	384.707
1022.6	35.2582	384.707	384.707
1022.8	35.9558	363.53	363.53
1023	34.9817	534.058	534.058
1023.2	36.2376	385.794	385.794
1023.4	29.1639	448.237	448.237
1023.6	40.2141	428.482	428.482
1023.8	36.4897	489.353	489.353
1024	37.9155	365.606	365.606
1024.2	48.8729	432.746	432.746
1024.4	32.6659	573.238	573.238
1024.6	53.3895	408.488	408.488
1024.8	37.3832	510.81	510.81

DEPT[FT]	Gamma	Neutron	Neutron
1025	32.7103	431.651	431.651
1025.2	29.6638	351.259	351.259
1025.4	52.768	407.101	407.101
1025.6	51.6668	465.947	465.947
1025.8	36.382	489.627	489.627
1026	37.9147	409.885	409.885
1026.2	17.0183	446.947	446.947
1026.4	27.7323	413.227	413.227
1026.6	36.7661	423.472	423.472
1026.8	41.3579	412.249	412.249
1027	52.3396	465.922	465.922
1027.2	23.878	431.557	431.557
1027.4	52.4202	533.037	533.037
1027.6	45.7771	421.559	421.559
1027.8	26.8141	566.127	566.127
1028	42.9097	446.466	446.466
1028.2	26.8647	444.217	444.217
1028.4	30.5928	349.195	349.195
1028.6	38.9253	365.922	365.922
1028.8	44.9104	353.398	353.398
1029	44.5998	381.842	381.842
1029.2	27.3558	399.463	399.463
1029.4	45.9015	437.038	437.038
1029.6	36.4675	435.759	435.759
1029.8	52.8186	419.641	419.641
1030	36.2241	362.298	362.298
1030.2	35.2622	423.531	423.531
1030.4	50.9986	386.504	386.504
1030.6	31.3011	372.626	372.626
1030.8	33.215	404.467	404.467
1031	47.3114	379.524	379.524
1031.2	41.1147	386.875	386.875
1031.4	43.7962	345.38	345.38
1031.6	46.1293	377.698	377.698
1031.8	51.5099	498.331	498.331
1032	45.8088	465.625	465.625
1032.2	47.1841	375.382	375.382
1032.4	30.3183	442.772	442.772
1032.6	41.966	469.222	469.222
1032.8	30.522	469.41	469.41
1033	28.1227	469.414	469.414
1033.2	35.0497	449.216	449.216
1033.4	27.8546	378.911	378.911
1033.6	20.9683	440.167	440.167
1033.8	38.4608	355.674	355.674
1034	25.6029	434.832	434.832

DEPT[FT]	Gamma	Neutron	Neutron
1034.2	40.5098	407.94	407.94
1034.4	30.5649	409.303	409.303
1034.6	27.2734	388.368	388.368
1034.8	34.6336	384.584	384.584
1035	32.4889	367.581	367.581
1035.2	27.0664	467.677	467.677
1035.4	44.0671	320.852	320.852
1035.6	22.766	356.923	356.923
1035.8	36.1446	373.807	373.807
1036	35.5141	394.754	394.754
1036.2	47.761	486.934	486.934
1036.4	60.9239	389.545	389.545
1036.6	31.7982	481.716	481.716
1036.8	50.8564	441.277	441.277
1037	33.3731	559.768	559.768
1037.2	40.0515	426.557	426.557
1037.4	34.5559	405.401	405.401
1037.6	50.3574	396.018	396.018
1037.8	20.9647	423.151	423.151
1038	42.7903	439.603	439.603
1038.2	39.7414	471.991	471.991
1038.4	50.4685	376.104	376.104
1038.6	35.5834	438.864	438.864
1038.8	30.9036	438.089	438.089
1039	28.9561	562.647	562.647
1039.2	27.2531	499.601	499.601
1039.4	21.867	374.342	374.342
1039.6	28.331	362.326	362.326
1039.8	44.1735	390.024	390.024
1040	23.1481	411.966	411.966
1040.2	28.6068	348.778	348.778
1040.4	35.6464	390.262	390.262
1040.6	40.5984	466.885	466.885
1040.8	40.375	432.508	432.508
1041	32.8036	355.318	355.318
1041.2	27.8603	403.257	403.257
1041.4	43.6169	408.44	408.44
1041.6	29.5962	390.323	390.323
1041.8	41.1284	391.023	391.023
1042	21.6248	341.332	341.332
1042.2	37.5293	432.516	432.516
1042.4	25.2116	394.687	394.687
1042.6	53.642	393.361	393.361
1042.8	65.2609	495.699	495.699
1043	40.4969	439.497	439.497
1043.2	54.5395	436.775	436.775

DEPT[FT]	Gamma	Neutron	Neutron
1043.4	27.1576	412.306	412.306
1043.6	40.4104	395.872	395.872
1043.8	32.5581	382.737	382.737
1044	29.1725	434.917	434.917
1044.2	29.058	495.93	495.93
1044.4	23.432	477.931	477.931
1044.6	39.0748	416.474	416.474
1044.8	34.6645	518.472	518.472
1045	41.8116	403.965	403.965
1045.2	17.2751	404.652	404.652
1045.4	24.3534	362.205	362.205
1045.6	40.935	363.459	363.459
1045.8	36.7656	341.276	341.276
1046	42.1209	341.368	341.368
1046.2	36.0609	404.044	404.044
1046.4	13.1006	341.466	341.466
1046.6	42.2999	414.015	414.015
1046.8	38.0396	351.552	351.552
1047	37.9339	434.516	434.516
1047.2	38.8053	413.451	413.451
1047.4	11.126	405.143	405.143
1047.6	26.841	371.97	371.97
1047.8	37.0704	383.524	383.524
1048	24.0258	402.896	402.896
1048.2	29.5605	384.427	384.427
1048.4	37.3518	427.767	427.767
1048.6	38.2089	421.357	421.357
1048.8	66.417	429.423	429.423
1049	45.9086	396.082	396.082
1049.2	35.6791	418.052	418.052
1049.4	52.4568	404.12	404.12
1049.6	31.8221	442.196	442.196
1049.8	23.6189	426.699	426.699
1050	57.6141	420.698	420.698
1050.2	60.6768	414.468	414.468
1050.4	27.2364	374.028	374.028
1050.6	19.1016	367.06	367.06
1050.8	41.4999	363.025	363.025
1051	69.9785	370.173	370.173
1051.2	27.7622	452.798	452.798
1051.4	32.9757	395.351	395.351
1051.6	19.2146	362.002	362.002
1051.8	34.0976	472.212	472.212
1052	28.0514	379.448	379.448
1052.2	63.999	416.365	416.365
1052.4	43.3503	437.608	437.608

DEPT[FT]	Gamma	Neutron	Neutron
1052.6	66.7304	367.876	367.876
1052.8	32.6847	465.501	465.501
1053	45.5216	439.811	439.811
1053.2	43.3323	404.571	404.571
1053.4	34.1952	363.761	363.761
1053.6	27.9165	381.361	381.361
1053.8	46.2075	450.059	450.059
1054	15.8665	349.231	349.231
1054.2	24.6666	376.16	376.16
1054.4	19.3217	450.733	450.733
1054.6	42.1144	403.421	403.421
1054.8	36.219	389.717	389.717
1055	60.8133	404.034	404.034
1055.2	32.2638	342.241	342.241
1055.4	63.2219	409.447	409.447
1055.6	50.2022	449.545	449.545
1055.8	59.7018	423.579	423.579
1056	45.7648	382.737	382.737
1056.2	50.7406	376.014	376.014
1056.4	27.6398	457.987	457.987
1056.6	41.6048	390.174	390.174
1056.8	23.2558	454.081	454.081
1057	32.4074	405.524	405.524
1057.2	27.907	390.858	390.858
1057.4	27.907	428.548	428.548
1057.6	14.0845	424.105	424.105
1057.8	47.1061	444.298	444.298
1058	14.4701	378.359	378.359
1058.2	37.4494	418.623	418.623
1058.4	37.3783	408.022	408.022
1058.6	19.0896	562.508	562.508
1058.8	23.8735	532.798	532.798
1059	32.4693	520.517	520.517
1059.2	45.2747	502.475	502.475
1059.4	51.8487	466.066	466.066
1059.6	32.8052	619.863	619.863
1059.8	24.865	502.961	502.961
1060	37.0925	495.521	495.521
1060.2	27.5967	522.236	522.236
1060.4	25.3049	469.941	469.941
1060.6	25.0222	447.245	447.245
1060.8	36.522	426.938	426.938
1061	27.393	561.245	561.245
1061.2	32.0081	400.33	400.33
1061.4	43.3636	443.605	443.605
1061.6	20.9712	356.623	356.623

DEPT[FT]	Gamma	Neutron	Neutron
1061.8	71.7625	511.303	511.303
1062	61.9869	519.892	519.892
1062.2	35.8673	565.085	565.085
1062.4	46.9484	604.817	604.817
1062.6	50.5178	629.305	629.305
1062.8	36.6723	505.268	505.268
1063	42.8693	713.346	713.346
1063.2	54.5732	496.595	496.595
1063.4	43.4916	486.158	486.158
1063.6	40.9008	489.052	489.052
1063.8	37.7008	506.572	506.572
1064	41.8327	624.356	624.356
1064.2	45.8205	570.553	570.553
1064.4	59.4237	483.401	483.401
1064.6	34.2982	451.274	451.274
1064.8	33.3326	428.911	428.911
1065	38.9814	412.579	412.579
1065.2	42.0894	419.588	419.588
1065.4	52.4943	438.791	438.791
1065.6	33.6775	363.953	363.953
1065.8	33.993	388.421	388.421
1066	45.4152	417.152	417.152
1066.2	35.7621	411.907	411.907
1066.4	24.2898	370.431	370.431
1066.6	30.0262	370.439	370.439
1066.8	36.3645	424.06	424.06
1067	28.1964	380.824	380.824
1067.2	38.7867	496.11	496.11
1067.4	51.8655	425.973	425.973
1067.6	47.1597	443.483	443.483
1067.8	43.2161	439.976	439.976
1068	39.0734	365.386	365.386
878.4	59.702	1956.77	1956.77
878.6	49.6901	2065.76	2065.76
878.8	43.2519	1745.86	1745.86
879	78.9882	1968.9	1968.9
879.2	57.9348	1718.6	1718.6
879.4	54.2498	1873.32	1873.32
879.6	42.2976	1956.56	1956.56
879.8	63.2247	2036	2036
880	83.0497	2058.55	2058.55
880.2	77.0276	1892.28	1892.28
880.4	72.8213	2365.84	2365.84
880.6	59.9457	2155.86	2155.86
880.8	80.8493	1979.85	1979.85
881	87.6048	1988.12	1988.12

DEPT[FT]	Gamma	Neutron	Neutron
881.2	82.8659	1984.5	1984.5
881.4	67.5447	1682.43	1682.43
881.6	68.0112	1785.34	1785.34
881.8	49.3969	2240.19	2240.19
882	74.6236	1960.53	1960.53
882.2	69.6345	1889.4	1889.4
882.4	57.1081	1989.03	1989.03
882.6	53.7562	1997.75	1997.75
882.8	72.3911	1823.77	1823.77
883	56.3516	2191.23	2191.23
883.2	93.7106	2036.71	2036.71
883.4	52.7089	2297.74	2297.74
883.6	50.8707	1938.88	1938.88
883.8	85.0571	1972.91	1972.91
884	52.0924	2016.22	2016.22
884.2	82.8497	2217.59	2217.59
884.4	80.2702	1665.81	1665.81
884.6	78.2743	1749.1	1749.1
884.8	82.341	1925.87	1925.87
885	81.7387	2061.29	2061.29
885.2	64.173	1745.96	1745.96
885.4	63.3712	1721.31	1721.31
885.6	50.0993	1885.3	1885.3
885.8	65.2207	1852.5	1852.5
886	77.8157	1885.28	1885.28
886.2	75.3109	1834.53	1834.53
886.4	54.3337	2000.84	2000.84
886.6	61.1719	2136.31	2136.31
886.8	92.2768	1666.9	1666.9
887	65.1205	2000.36	2000.36
887.2	46.723	2025.3	2025.3
887.4	94.8136	2264.54	2264.54
887.6	70.5199	2003.97	2003.97
887.8	73.7309	1838.22	1838.22
888	73.9826	1870.99	1870.99
888.2	80.2331	1949.33	1949.33
888.4	65.1467	1881.35	1881.35
888.6	89.4011	1998.83	1998.83
888.8	77.6745	2028.32	2028.32
889	60.5865	1893.14	1893.14
889.2	63.1921	1776.44	1776.44
889.4	83.2858	2098.45	2098.45
889.6	68.6464	1971.46	1971.46
889.8	78.2113	2076.47	2076.47
890	66.1329	2076.75	2076.75
890.2	58.1975	2046.3	2046.3

DEPT[FT]	Gamma	Neutron	Neutron
890.4	66.436	2025.54	2025.54
890.6	57.561	2207.17	2207.17
890.8	58.9347	2012.03	2012.03
891	60.9022	1900.59	1900.59
891.2	51.3139	1894.26	1894.26
891.4	48.9779	1514.36	1514.36
891.6	95.3967	1971.13	1971.13
891.8	50.3213	1960.97	1960.97
892	54.8029	1867.61	1867.61
892.2	47.218	1975.07	1975.07
892.4	79.0611	1943.19	1943.19
892.6	81.0656	1856.34	1856.34
892.8	49.2605	1909.64	1909.64
893	55.9571	2018.08	2018.08
893.2	53.1451	1883.6	1883.6
893.4	60.3546	1819.08	1819.08
893.6	67.4829	1960.84	1960.84
893.8	49.5597	1717.57	1717.57
894	69.0338	1685.56	1685.56
894.2	55.2693	1653.47	1653.47
894.4	56.2496	1920.65	1920.65
894.6	51.7993	1802.74	1802.74
894.8	49.8134	1897.61	1897.61
895	56.4177	2181.05	2181.05
895.2	47.3121	1979.74	1979.74
895.4	49.2692	1958.18	1958.18
895.6	59.4858	2108.44	2108.44
895.8	60.2801	2223.22	2223.22
896	66.1396	2347.25	2347.25
896.2	50.1153	2235.9	2235.9
896.4	38.6741	2187.31	2187.31
896.6	45.1935	2006.26	2006.26
896.8	53.2952	2182.51	2182.51
897	79.0385	2346.51	2346.51
897.2	27.3003	2213.39	2213.39
897.4	65.1332	2135	2135
897.6	51.6404	2336.57	2336.57
897.8	44.062	2438.03	2438.03
898	51.5544	2154.45	2154.45
898.2	58.8235	2028.11	2028.11
898.4	59.3175	2356.11	2356.11
898.6	37.9365	2391.83	2391.83
898.8	21.808	2027.8	2027.8
899	29.9679	1949.96	1949.96
899.2	54.3006	2185.18	2185.18
899.4	45.3738	2011.4	2011.4

DEPT[FT]	Gamma	Neutron	Neutron
899.6	46.0214	2130.55	2130.55
899.8	52.8846	1979.09	1979.09
900	47.2251	2193.61	2193.61
900.2	44.5423	2248.08	2248.08
900.4	57.4052	2135.56	2135.56
900.6	42.5531	2023.82	2023.82
900.8	53.4629	2105.08	2105.08
901	32.7377	2386.45	2386.45
901.2	51.8461	2048.48	2048.48
901.4	55.7967	2160.31	2160.31
901.6	37.2213	2109.16	2109.16
901.8	35.3476	1817.49	1817.49
902	91.0338	2104.87	2104.87
902.2	40.4271	2265.85	2265.85
902.4	67.0047	2057.16	2057.16
902.6	71.4229	2271.91	2271.91
902.8	40.8147	2147.59	2147.59
903	65.8266	1820.75	1820.75
903.2	55.2167	2195.66	2195.66
903.4	55.2656	2087.68	2087.68
903.6	55.2794	2358.33	2358.33
903.8	49.0021	2173.51	2173.51
904	46.5164	2257.78	2257.78
904.2	44.6144	2168.32	2168.32
904.4	34.6135	2333.8	2333.8
904.6	50.0263	2054.42	2054.42
904.8	49.3228	2135.52	2135.52
905	58.8044	2229.15	2229.15
905.2	79.7974	2204.63	2204.63
905.4	69.4002	2428.17	2428.17
905.6	41.0181	2261.81	2261.81
905.8	75.2857	2137.1	2137.1
906	36.6382	2260.03	2260.03
906.2	51.1157	2100.69	2100.69
906.4	48.6191	2178.53	2178.53
906.6	44.5256	2205.24	2205.24
906.8	57.9114	2036.99	2036.99
907	69.5864	2151.84	2151.84
907.2	40.4097	2081.35	2081.35
907.4	25.7662	2176.74	2176.74
907.6	52.6595	2022.74	2022.74
907.8	84.6583	2041.15	2041.15
908	63.1896	2167.84	2167.84
908.2	67.3077	2161.22	2161.22
908.4	71.0711	1978.14	1978.14
908.6	78.6559	1862.9	1862.9

DEPT[FT]	Gamma	Neutron	Neutron
908.8	78.0205	1911.11	1911.11
909	66.7422	1878.45	1878.45
909.2	70.921	2222.56	2222.56
909.4	50.3716	2008.73	2008.73
909.6	67.5978	1935.46	1935.46
909.8	48.9397	2027.07	2027.07
910	59.1763	2250.24	2250.24
910.2	72.7402	1945.92	1945.92
910.4	35.1698	2076.61	2076.61
910.6	82.2384	1905.51	1905.51
910.8	50.3189	2429.97	2429.97
911	54.1644	2130.05	2130.05
911.2	36.1181	1989.79	1989.79
911.4	66.3924	2277.86	2277.86
911.6	52.9979	2129.57	2129.57
911.8	105.306	2108.96	2108.96
912	53.1949	1969.65	1969.65
912.2	67.2726	2101.42	2101.42
912.4	62.9125	1934.94	1934.94
912.6	48.3092	1676.2	1676.2
912.8	67.6329	1899.29	1899.29
913	135.266	2098.27	2098.27
913.2	48.3092	1723	1723
913.4	72.4244	2318.49	2318.49
913.6	57.7598	2106.39	2106.39
913.8	39.5987	1647.74	1647.74
914	82.2186	1974.99	1974.99
914.2	88.0593	1847.25	1847.25
914.4	30.6311	1843.7	1843.7
914.6	64.0725	2069.09	2069.09
914.8	30.5851	2070.43	2070.43
915	68.819	1918.16	1918.16
915.2	58.4813	1908.53	1908.53
915.4	64.198	2030.33	2030.33
915.6	71.1087	1866.82	1866.82
915.8	71.6737	2128.59	2128.59
916	55.5734	1980.4	1980.4
916.2	55.1397	2023.26	2023.26
916.4	78.2299	2273.45	2273.45
916.6	66.2071	2008.74	2008.74
916.8	95.038	1931.28	1931.28
917	56.4805	2229.32	2229.32
917.2	71.1846	2164.53	2164.53
917.4	68.5341	2377.02	2377.02
917.6	90.3398	2318.73	2318.73
917.8	77.257	2297.33	2297.33

DEPT[FT]	Gamma	Neutron	Neutron
918	73.7333	1943.89	1943.89
918.2	70.3782	1897.78	1897.78
918.4	86.778	1952.59	1952.59
918.6	43.0673	1964.17	1964.17
918.8	77.5757	2165.02	2165.02
919	83.282	2112.92	2112.92
919.2	61.1758	1888.64	1888.64
919.4	51.1673	2021.85	2021.85
919.6	58.1985	1865.12	1865.12
919.8	40.8877	1851.43	1851.43
920	62.1859	1958.75	1958.75
920.2	68.4605	1525.89	1525.89
920.4	76.6285	2004.6	2004.6
920.6	56.3463	1735.91	1735.91
920.8	63.3165	2122.27	2122.27
921	86.0812	2049.37	2049.37
921.2	74.3058	2183.22	2183.22
921.4	37.4377	1979.88	1979.88
921.6	90.2985	2067.69	2067.69
921.8	74.4077	2045.07	2045.07
922	59.8623	1973.54	1973.54
922.2	73.0422	2213.29	2213.29
922.4	78.9593	1997.47	1997.47
922.6	54.2859	1815.28	1815.28
922.8	60.8615	2077.83	2077.83
923	59.8632	2086.84	2086.84
923.2	52.8743	1841.08	1841.08
923.4	48.7805	2081.25	2081.25
923.6	67.8249	1823.52	1823.52
923.8	64.9742	1929.62	1929.62
924	52.1327	1770.79	1770.79
924.2	69.7371	1740.68	1740.68
924.4	91.9867	1821.1	1821.1
924.6	66.6222	1961.19	1961.19
924.8	51.206	2072.32	2072.32
925	84.8275	1655.41	1655.41
925.2	70.009	1853.8	1853.8
925.4	75.768	1873.71	1873.71
925.6	72.8532	1976.84	1976.84
925.8	66.3519	1856.62	1856.62
926	68.4747	1818.53	1818.53
926.2	87.3892	1911.27	1911.27
926.4	62.5518	2023.52	2023.52
926.6	67.8713	1951.78	1951.78
926.8	82.7631	1909.43	1909.43
927	66.184	1999.27	1999.27

DEPT[FT]	Gamma	Neutron	Neutron
927.2	64.6755	1938.41	1938.41
927.4	69.7595	1897.89	1897.89
927.6	53.552	2281.17	2281.17
927.8	55.6802	2114.86	2114.86
928	76.3919	1540.24	1540.24
928.2	105.991	2158.57	2158.57
928.4	81.3832	1781.51	1781.51
928.6	73.7957	1766.41	1766.41
928.8	101.221	2137.89	2137.89
929	71.5233	2273.13	2273.13
929.2	63.8016	2190.29	2190.29
929.4	56.0394	1906.88	1906.88
929.6	52.5446	1800.1	1800.1
929.8	58.1676	1917.44	1917.44
930	63.486	1909.47	1909.47
930.2	68.4185	1911.36	1911.36
930.4	56.8291	1873.09	1873.09
930.6	89.7087	1953	1953
930.8	62.384	1854.1	1854.1
931	78.7145	2128.63	2128.63
931.2	49.4655	1728.92	1728.92
931.4	64.1583	1516.05	1516.05
931.6	58.9567	2155.5	2155.5
931.8	80.5059	2076.15	2076.15
932	64.3094	1939.32	1939.32
932.2	65.262	1832.84	1832.84
932.4	80.9524	2093.57	2093.57
932.6	82.0066	1897.11	1897.11
932.8	64.0044	2108.2	2108.2
933	71.4052	1669.24	1669.24
933.2	91.9339	1712.29	1712.29
933.4	76.555	1503.08	1503.08
933.6	59.4771	1850.79	1850.79
933.8	75.1415	1847.29	1847.29
934	39.9871	1942.32	1942.32
934.2	56.7127	1712.8	1712.8
934.4	53.3909	1744.36	1744.36
934.6	44.5996	1894.81	1894.81
934.8	56.6684	2001.36	2001.36
935	46.9438	1805.37	1805.37
935.2	78.6605	1579.97	1579.97
935.4	60.6722	2062.68	2062.68
935.6	67.2382	2041.52	2041.52
935.8	75.6006	1656.09	1656.09
936	60.9474	1982.62	1982.62
936.2	67.2931	1815.38	1815.38

DEPT[FT]	Gamma	Neutron	Neutron
936.4	55.1181	1829.72	1829.72
936.6	69.6232	2151.04	2151.04
936.8	45.6562	1914.05	1914.05
937	47.9618	1931.04	1931.04
937.2	36.0336	1912.7	1912.7
937.4	88.3659	1712.97	1712.97
937.6	55.3479	2065.62	2065.62
937.8	76.0799	2007.18	2007.18
938	73.8027	2012.33	2012.33
938.2	77.4924	1705.39	1705.39
938.4	52.3484	1959.58	1959.58
938.6	47.1246	2110.71	2110.71
938.8	48.4353	1950.23	1950.23
939	70.1033	1857.93	1857.93
939.2	54.8272	1840.65	1840.65
939.4	66.5658	1871.3	1871.3
939.6	68.5304	1841.44	1841.44
939.8	53.098	1873.85	1873.85
940	70.4947	1949.59	1949.59
940.2	67.1846	1924.83	1924.83
940.4	68.8885	2122.29	2122.29
940.6	53.3562	2030.26	2030.26
940.8	58.8167	1986.65	1986.65
941	52.1	2322.41	2322.41
941.2	78.4977	1920.61	1920.61
941.4	68.3963	1998.45	1998.45
941.6	84.8989	2082.41	2082.41
941.8	92.2233	1890.04	1890.04
942	79.4498	1961.18	1961.18
942.2	65.4595	1972.09	1972.09
942.4	42.1215	1813.55	1813.55
942.6	78.7096	2188.66	2188.66
942.8	67.9373	2228.82	2228.82
943	70.6564	2415.61	2415.61
943.2	67.6071	2053.84	2053.84
943.4	64.9769	2450.04	2450.04
943.6	73.5294	2239.25	2239.25
943.8	60.3066	1886.25	1886.25
944	60.5591	1527.91	1527.91
944.2	48.6263	1188.12	1188.12
944.4	42.0127	1039.65	1039.65
944.6	69.7286	1129.87	1129.87
944.8	64.7963	1263.81	1263.81
945	61.5	1932.07	1932.07
945.2	48.8147	1856.21	1856.21
945.4	72.6936	1444.24	1444.24

DEPT[FT]	Gamma	Neutron	Neutron
945.6	65.8933	1441.78	1441.78
945.8	54.3069	1184.28	1184.28
946	45.5812	873.633	873.633
946.2	48.7076	872.715	872.715
946.4	58.4075	857.869	857.869
946.6	47.4385	752.063	752.063
946.8	36.5076	684.407	684.407
947	21.531	622.835	622.835
947.2	30.7699	541.531	541.531
947.4	35.7016	521.791	521.791
947.6	29.0088	459.077	459.077
947.8	33.418	456.875	456.875
948	40.4231	430.262	430.262
948.2	39.884	422.17	422.17
948.4	54.0609	491.502	491.502
948.6	40.8326	398.216	398.216
948.8	49.1523	454.351	454.351
949	32.6135	449.662	449.662
949.2	28.8518	478.359	478.359
949.4	22.5278	418.24	418.24
949.6	44.6266	398.67	398.67
949.8	34.2862	514.058	514.058
950	47.5667	431.38	431.38
950.2	26.9449	529.359	529.359
950.4	34.1099	497.101	497.101
950.6	32.0404	409.315	409.315
950.8	38.835	452.201	452.201
951	21.7308	451.947	451.947
951.2	32.9635	502.956	502.956
951.4	29.1262	471.514	471.514
951.6	32.2693	482.566	482.566
951.8	41.626	478.253	478.253
952	22.6943	449.281	449.281
952.2	33.3308	528.01	528.01
952.4	24.8162	394.088	394.088
952.6	59.7711	426.984	426.984
952.8	32.189	446.092	446.092
953	21.826	388.825	388.825
953.2	39.6196	476.872	476.872
953.4	28.9855	405.061	405.061
953.6	23.0342	484.531	484.531
953.8	42.2286	398.152	398.152
954	48.9416	434.726	434.726
954.2	33.9347	427.094	427.094
954.4	21.3961	414.24	414.24
954.6	24.9152	456.603	456.603

DEPT[FT]	Gamma	Neutron	Neutron
954.8	31.0381	448.075	448.075
955	27.907	382.155	382.155
955.2	32.8251	415.948	415.948
955.4	28.1443	399.166	399.166
955.6	22.9798	464.74	464.74
955.8	23.7898	391.137	391.137
956	16.5337	351.378	351.378
956.2	15.3533	377.986	377.986
956.4	37.7171	421.017	421.017
956.6	60.3111	412.897	412.897
956.8	45.9832	413.196	413.196
957	23.7447	501.85	501.85
957.2	61.1314	520.188	520.188
957.4	29.9469	436.954	436.954
957.6	40.9729	463.764	463.764
957.8	23.726	443.053	443.053
958	19.9245	466.219	466.219
958.2	47.9894	358.283	358.283
958.4	46.7071	373.06	373.06
958.6	38.1864	410.077	410.077
958.8	52.3308	418.137	418.137
959	43.6893	329.056	329.056
959.2	53.1154	459.94	459.94
959.4	24.6042	421.896	421.896
959.6	20.0688	456.552	456.552
959.8	43.7414	525.438	525.438
960	34.379	492.704	492.704
960.2	25.0667	471.536	471.536
960.4	29.7585	541.193	541.193
960.6	34.3137	389.079	389.079
960.8	28.9855	395.381	395.381
961	34.3137	488.91	488.91
961.2	29.1262	507.556	507.556
961.4	23.9234	372.978	372.978
961.6	19.8276	504.542	504.542
961.8	62.0109	429.992	429.992
962	33.6248	440.787	440.787
962.2	24.401	418.994	418.994
962.4	29.7034	430	430
962.6	23.8368	430.915	430.915
962.8	33.9745	442.791	442.791
963	38.4485	437.008	437.008
963.2	39.3279	464.659	464.659
963.4	25.1132	496.975	496.975
963.6	25.1837	419.74	419.74
963.8	20.9436	386.586	386.586

DEPT[FT]	Gamma	Neutron	Neutron
964	24.3254	400.027	400.027
964.2	29.3753	381.718	381.718
964.4	19.1884	430.044	430.044
964.6	55.1323	356.385	356.385
964.8	35.6311	472.037	472.037
965	27.9191	510.72	510.72
965.2	37.4425	416.486	416.486
965.4	38.4615	463.393	463.393
965.6	46.9694	381.044	381.044
965.8	25.2978	376.212	376.212
966	11.5802	465.731	465.731
966.2	32.7943	523.528	523.528
966.4	49.8816	536.009	536.009
966.6	32.2955	402.404	402.404
966.8	16.9002	443.568	443.568
967	38.8114	399.007	399.007
967.2	50.6373	496.129	496.129
967.4	19.3362	455.156	455.156
967.6	42.5064	413.686	413.686
967.8	42.7439	440.836	440.836
968	36.4138	389.204	389.204
968.2	64.6025	425.944	425.944
968.4	39.3441	512.91	512.91
968.6	35.9119	436.245	436.245
968.8	24.5098	370.937	370.937
969	31.7538	528.447	528.447
969.2	23.346	592.855	592.855
969.4	8.24332	418.725	418.725
969.6	49.7228	470.42	470.42
969.8	30.2854	381.853	381.853
970	44.0839	461.373	461.373
970.2	31.5659	471.609	471.609
970.4	50.2332	341.152	341.152
970.6	23.2	467.484	467.484
970.8	27.1667	392.645	392.645
971	23.7718	329.825	329.825
971.2	30.4103	388.782	388.782
971.4	35.5075	468.058	468.058
971.6	25.2566	404.068	404.068
971.8	20.0218	405.994	405.994
972	31.1757	456.191	456.191
972.2	39.5584	428.932	428.932
972.4	24.4474	387.216	387.216
972.6	44.5545	344.691	344.691
972.8	33.2308	493.319	493.319
973	19.5603	407.923	407.923

DEPT[FT]	Gamma	Neutron	Neutron
973.2	24.125	389.249	389.249
973.4	21.7118	428.418	428.418
973.6	28.6002	407.542	407.542
973.8	28.8462	343.295	343.295
974	50.2807	493.137	493.137
974.2	34.2961	364.764	364.764
974.4	31.1524	342.761	342.761
974.6	40.9335	430.159	430.159
974.8	26.3314	409.535	409.535
975	23.492	388.062	388.062
975.2	18.1152	365.74	365.74
975.4	31.1016	388.876	388.876
975.6	36.5027	389.19	389.19
975.8	39.995	470.466	470.466
976	34.2556	409.532	409.532
976.2	25.6925	573.656	573.656
976.4	22.6178	531.81	531.81
976.6	36.2918	514.745	514.745
976.8	44.4237	579.962	579.962
977	26.0163	474.857	474.857
977.2	41.9998	475.07	475.07
977.4	28.9855	580.63	580.63
977.6	59.562	581.923	581.923
977.8	54.7718	560.529	560.529
978	59.9693	553.149	553.149
978.2	27.346	662.024	662.024
978.4	50.7177	501.314	501.314
978.6	41.435	623.164	623.164
978.8	30.0515	680.339	680.339
979	36.2222	647.863	647.863
979.2	25.9862	545.811	545.811
979.4	29.7075	629.903	629.903
979.6	50.7548	522.555	522.555
979.8	39.3917	743.477	743.477
980	39.7867	729.911	729.911
980.2	30.1999	743.528	743.528
980.4	30.9513	782.867	782.867
980.6	46.0083	748.829	748.829
980.8	54.3882	822.976	822.976
981	44.684	865.929	865.929
981.2	50.4239	692.408	692.408
981.4	63.0826	587.261	587.261
981.6	76.9231	664.872	664.872
981.8	37.8226	829.474	829.474
982	53.8483	544.295	544.295
982.2	42.3374	621.457	621.457

DEPT[FT]	Gamma	Neutron	Neutron
982.4	55.0257	744.124	744.124
982.6	46.0084	616.781	616.781
982.8	56.3981	831.103	831.103
983	28.1135	752.863	752.863
983.2	48.3092	772.807	772.807
983.4	65.6971	804.321	804.321
983.6	52.3524	757.739	757.739
983.8	33.7323	691.305	691.305
984	67.228	650.677	650.677
984.2	46.0974	923.543	923.543
984.4	41.0127	736.911	736.911
984.6	53.5215	790.391	790.391
984.8	43.9447	802.492	802.492
985	51.4829	820.349	820.349
985.2	38.9068	712.886	712.886
985.4	41.505	791.601	791.601
985.6	43.6908	666.995	666.995
985.8	50.6495	747.527	747.527
986	78.4867	619.256	619.256
986.2	38.2737	684.133	684.133
986.4	42.8922	553.994	553.994
986.6	65.6497	683.489	683.489
986.8	57.6173	592.122	592.122
987	48.2027	528.841	528.841
987.2	51.5813	658.185	658.185
987.4	45.7595	594.17	594.17
987.6	48.8873	594.38	594.38
987.8	55.1511	733.9	733.9
988	49.8307	621.982	621.982
988.2	51.1908	588.402	588.402
988.4	45.7732	509.621	509.621
988.6	30.8363	542.182	542.182
988.8	43.4616	603.119	603.119
989	31.0746	572.801	572.801
989.2	36.8959	493.93	493.93
989.4	28.5204	480.262	480.262
989.6	29.0419	501.333	501.333
989.8	45.1031	485.531	485.531
990	47.0187	522.481	522.481
990.2	37.4248	565.72	565.72
990.4	22.8565	464.456	464.456
990.6	49.9653	463.917	463.917
990.8	29.5828	544.361	544.361
991	29.42	401.998	401.998
991.2	33.7561	502.816	502.816
991.4	36.2421	440.728	440.728

DEPT[FT]	Gamma	Neutron	Neutron
991.6	43.1964	455.649	455.649
991.8	47.7328	550.927	550.927
992	56.0157	364.015	364.015
992.2	28.7761	468.192	468.192
992.4	27.3121	446.152	446.152
992.6	38.8993	465.789	465.789
992.8	29.1224	532.511	532.511
993	45.6873	473.614	473.614
993.2	37.6473	454.428	454.428
993.4	30.9096	436.973	436.973
993.6	45.1061	497.727	497.727
993.8	22.208	455.364	455.364
994	22.638	437.903	437.903
994.2	31.6088	382.266	382.266
994.4	35.7962	511.776	511.776
994.6	46.6303	391.59	391.59
994.8	25.4658	392.074	392.074
995	36.9266	422.806	422.806
995.2	39.1168	475.586	475.586
995.4	33.5184	432.824	432.824
995.6	35.7322	379.969	379.969
995.8	45.5929	454.903	454.903
996	47.7155	517.52	517.52
996.2	35.9238	382.552	382.552
996.4	26.7367	447.428	447.428
996.6	30.3824	352.97	352.97
996.8	40.1591	516.389	516.389
997	29.4118	397.377	397.377
997.2	39.4138	536.32	536.32
997.4	15.7332	396.398	396.398
997.6	30.3646	396.256	396.256
997.8	31.3971	452.256	452.256
998	56.5147	385.533	385.533
998.2	30.4022	396.794	396.794
998.4	20.7259	427.871	427.871
998.6	59.8937	375.174	375.174
998.8	20.065	440.165	440.165
999	39.1325	428.586	428.586
999.2	31.1671	408.21	408.21
999.4	28.0164	427.187	427.187
999.6	40.6408	375.975	375.975
999.8	23.1569	422.235	422.235
1000	38.6473	374.492	374.492
1000.2	45.1385	437.942	437.942
1000.4	34.6838	410.297	410.297
1000.6	24.0385	486.965	486.965

DEPT[FT]	Gamma	Neutron	Neutron
1000.8	27.0986	413.466	413.466
1001	38.4615	394.887	394.887
1001.2	42.122	462.905	462.905
1001.4	28.3946	513.23	513.23
1001.6	27.8811	357.814	357.814
1001.8	44.0851	541.531	541.531
1002	15.2139	492.552	492.552
1002.2	54.9699	506.344	506.344
1002.4	42.0737	422.205	422.205
1002.6	45.7102	468.617	468.617
1002.8	44.3156	424.482	424.482
1003	35.439	523.603	523.603
1003.2	46.3052	497.511	497.511
1003.4	19.1388	506.475	506.475
1003.6	56.0488	420.522	420.522
1003.8	11.2336	358.961	358.961
1004	29.4943	449.117	449.117
1004.2	35.5846	405.805	405.805
1004.4	28.2697	419.128	419.128
1004.6	28.9599	418.918	418.918
1004.8	33.0931	463.918	463.918
1005	25.483	484.259	484.259
1005.2	29.7742	425.902	425.902
1005.4	39.4126	407.272	407.272
1005.6	25.8908	443.351	443.351
1005.8	25.8288	501.902	501.902
1006	60.3521	548.699	548.699
1006.2	43.9454	550.259	550.259
1006.4	19.0526	477.374	477.374
1006.6	37.3788	449.405	449.405
1006.8	38.7089	457.087	457.087
1007	28.7837	428.701	428.701
1007.2	33.8654	407.608	407.608
1007.4	33.4928	445.376	445.376
1007.6	51.6265	442.535	442.535
1007.8	24.5281	367.028	367.028
1008	34.2968	400.108	400.108
1008.2	43.2288	407.225	407.225
1008.4	33.6824	393.47	393.47
1008.6	28.9855	400.939	400.939
1008.8	38.4615	428.11	428.11
1009	23.9234	449.261	449.261
1009.2	19.3237	389.469	389.469
1009.4	44.1176	460.851	460.851
1009.6	14.552	380.607	380.607
1009.8	39.1466	428.641	428.641

DEPT[FT]	Gamma	Neutron	Neutron
1010	38.6497	502.183	502.183
1010.2	10.2891	376.099	376.099
1010.4	24.4309	455.816	455.816
1010.6	48.377	386.248	386.248
1010.8	28.2275	439.987	439.987
1011	15.2492	374.155	374.155
1011.2	33.6466	446.451	446.451
1011.4	15.7	400.615	400.615
1011.6	37.3351	397.236	397.236
1011.8	43.5808	482.689	482.689
1012	24.8047	495.824	495.824
1012.2	37.3492	464.847	464.847
1012.4	48.1652	529.076	529.076
1012.6	41.278	477.31	477.31
1012.8	40.6272	516.757	516.757
1013	32.5407	355.603	355.603
1013.2	15.7951	441.825	441.825
1013.4	33.5375	398.522	398.522
1013.6	15.9645	432.406	432.406
1013.8	25.9179	410.391	410.391
1014	23.4822	434.394	434.394
1014.2	33.6713	439.252	439.252
1014.4	28.0413	349.708	349.708
1014.6	20.1161	392.598	392.598
1014.8	29.0017	457.978	457.978
1015	25.9608	439.627	439.627
1015.2	24.964	413.575	413.575
1015.4	19.7572	489.195	489.195
1015.6	28.7462	407.052	407.052
1015.8	38.6213	327.523	327.523
1016	35.837	473.431	473.431
1016.2	42.2467	420.416	420.416
1016.4	18.493	425.184	425.184
1016.6	33.6538	466.263	466.263
1016.8	31.9475	517.911	517.911
1017	43.0283	452.982	452.982
1017.2	20.6179	394.588	394.588
1017.4	21.9537	483.087	483.087
1017.6	40.6327	486.288	486.288
1017.8	29.0017	357.164	357.164
1018	38.9836	354.605	354.605
1018.2	28.6549	328.915	328.915
1018.4	39.8099	367.789	367.789
1018.6	35.4917	445.488	445.488
1018.8	41.2274	508.899	508.899
1019	35.2647	545.237	545.237

DEPT[FT]	Gamma	Neutron	Neutron
1019.2	39.739	428.902	428.902
1019.4	33.3633	509.228	509.228
1019.6	46.2462	548.715	548.715
1019.8	10.3583	512.528	512.528
1020	9.97581	466.828	466.828
1020.2	58.4053	472.185	472.185
1020.4	26.9055	373.394	373.394
1020.6	44.5625	451.969	451.969
1020.8	33.5509	412.789	412.789
1021	43.204	618.964	618.964
1021.2	35.132	493.353	493.353
1021.4	22.5051	534.251	534.251
1021.6	43.1532	490.691	490.691
1021.8	46.8669	405.884	405.884
1022	32.956	490.6	490.6
1022.2	51.0152	491.502	491.502
1022.4	34.9843	384.707	384.707
1022.6	35.2582	384.707	384.707
1022.8	35.9558	363.53	363.53
1023	34.9817	534.058	534.058
1023.2	36.2376	385.794	385.794
1023.4	29.1639	448.237	448.237
1023.6	40.2141	428.482	428.482
1023.8	36.4897	489.353	489.353
1024	37.9155	365.606	365.606
1024.2	48.8729	432.746	432.746
1024.4	32.6659	573.238	573.238
1024.6	53.3895	408.488	408.488
1024.8	37.3832	510.81	510.81
1025	32.7103	431.651	431.651
1025.2	29.6638	351.259	351.259
1025.4	52.768	407.101	407.101
1025.6	51.6668	465.947	465.947
1025.8	36.382	489.627	489.627
1026	37.9147	409.885	409.885
1026.2	17.0183	446.947	446.947
1026.4	27.7323	413.227	413.227
1026.6	36.7661	423.472	423.472
1026.8	41.3579	412.249	412.249
1027	52.3396	465.922	465.922
1027.2	23.878	431.557	431.557
1027.4	52.4202	533.037	533.037
1027.6	45.7771	421.559	421.559
1027.8	26.8141	566.127	566.127
1028	42.9097	446.466	446.466
1028.2	26.8647	444.217	444.217

DEPT[FT]	Gamma	Neutron	Neutron
1028.4	30.5928	349.195	349.195
1028.6	38.9253	365.922	365.922
1028.8	44.9104	353.398	353.398
1029	44.5998	381.842	381.842
1029.2	27.3558	399.463	399.463
1029.4	45.9015	437.038	437.038
1029.6	36.4675	435.759	435.759
1029.8	52.8186	419.641	419.641
1030	36.2241	362.298	362.298
1030.2	35.2622	423.531	423.531
1030.4	50.9986	386.504	386.504
1030.6	31.3011	372.626	372.626
1030.8	33.215	404.467	404.467
1031	47.3114	379.524	379.524
1031.2	41.1147	386.875	386.875
1031.4	43.7962	345.38	345.38
1031.6	46.1293	377.698	377.698
1031.8	51.5099	498.331	498.331
1032	45.8088	465.625	465.625
1032.2	47.1841	375.382	375.382
1032.4	30.3183	442.772	442.772
1032.6	41.966	469.222	469.222
1032.8	30.522	469.41	469.41
1033	28.1227	469.414	469.414
1033.2	35.0497	449.216	449.216
1033.4	27.8546	378.911	378.911
1033.6	20.9683	440.167	440.167
1033.8	38.4608	355.674	355.674
1034	25.6029	434.832	434.832
1034.2	40.5098	407.94	407.94
1034.4	30.5649	409.303	409.303
1034.6	27.2734	388.368	388.368
1034.8	34.6336	384.584	384.584
1035	32.4889	367.581	367.581
1035.2	27.0664	467.677	467.677
1035.4	44.0671	320.852	320.852
1035.6	22.766	356.923	356.923
1035.8	36.1446	373.807	373.807
1036	35.5141	394.754	394.754
1036.2	47.761	486.934	486.934
1036.4	60.9239	389.545	389.545
1036.6	31.7982	481.716	481.716
1036.8	50.8564	441.277	441.277
1037	33.3731	559.768	559.768
1037.2	40.0515	426.557	426.557
1037.4	34.5559	405.401	405.401

DEPT[FT]	Gamma	Neutron	Neutron
1037.6	50.3574	396.018	396.018
1037.8	20.9647	423.151	423.151
1038	42.7903	439.603	439.603
1038.2	39.7414	471.991	471.991
1038.4	50.4685	376.104	376.104
1038.6	35.5834	438.864	438.864
1038.8	30.9036	438.089	438.089
1039	28.9561	562.647	562.647
1039.2	27.2531	499.601	499.601
1039.4	21.867	374.342	374.342
1039.6	28.331	362.326	362.326
1039.8	44.1735	390.024	390.024
1040	23.1481	411.966	411.966
1040.2	28.6068	348.778	348.778
1040.4	35.6464	390.262	390.262
1040.6	40.5984	466.885	466.885
1040.8	40.375	432.508	432.508
1041	32.8036	355.318	355.318
1041.2	27.8603	403.257	403.257
1041.4	43.6169	408.44	408.44
1041.6	29.5962	390.323	390.323
1041.8	41.1284	391.023	391.023
1042	21.6248	341.332	341.332
1042.2	37.5293	432.516	432.516
1042.4	25.2116	394.687	394.687
1042.6	53.642	393.361	393.361
1042.8	65.2609	495.699	495.699
1043	40.4969	439.497	439.497
1043.2	54.5395	436.775	436.775
1043.4	27.1576	412.306	412.306
1043.6	40.4104	395.872	395.872
1043.8	32.5581	382.737	382.737
1044	29.1725	434.917	434.917
1044.2	29.058	495.93	495.93
1044.4	23.432	477.931	477.931
1044.6	39.0748	416.474	416.474
1044.8	34.6645	518.472	518.472
1045	41.8116	403.965	403.965
1045.2	17.2751	404.652	404.652
1045.4	24.3534	362.205	362.205
1045.6	40.935	363.459	363.459
1045.8	36.7656	341.276	341.276
1046	42.1209	341.368	341.368
1046.2	36.0609	404.044	404.044
1046.4	13.1006	341.466	341.466
1046.6	42.2999	414.015	414.015

DEPT[FT]	Gamma	Neutron	Neutron
1046.8	38.0396	351.552	351.552
1047	37.9339	434.516	434.516
1047.2	38.8053	413.451	413.451
1047.4	11.126	405.143	405.143
1047.6	26.841	371.97	371.97
1047.8	37.0704	383.524	383.524
1048	24.0258	402.896	402.896
1048.2	29.5605	384.427	384.427
1048.4	37.3518	427.767	427.767
1048.6	38.2089	421.357	421.357
1048.8	66.417	429.423	429.423
1049	45.9086	396.082	396.082
1049.2	35.6791	418.052	418.052
1049.4	52.4568	404.12	404.12
1049.6	31.8221	442.196	442.196
1049.8	23.6189	426.699	426.699
1050	57.6141	420.698	420.698
1050.2	60.6768	414.468	414.468
1050.4	27.2364	374.028	374.028
1050.6	19.1016	367.06	367.06
1050.8	41.4999	363.025	363.025
1051	69.9785	370.173	370.173
1051.2	27.7622	452.798	452.798
1051.4	32.9757	395.351	395.351
1051.6	19.2146	362.002	362.002
1051.8	34.0976	472.212	472.212
1052	28.0514	379.448	379.448
1052.2	63.999	416.365	416.365
1052.4	43.3503	437.608	437.608
1052.6	66.7304	367.876	367.876
1052.8	32.6847	465.501	465.501
1053	45.5216	439.811	439.811
1053.2	43.3323	404.571	404.571
1053.4	34.1952	363.761	363.761
1053.6	27.9165	381.361	381.361
1053.8	46.2075	450.059	450.059
1054	15.8665	349.231	349.231
1054.2	24.6666	376.16	376.16
1054.4	19.3217	450.733	450.733
1054.6	42.1144	403.421	403.421
1054.8	36.219	389.717	389.717
1055	60.8133	404.034	404.034
1055.2	32.2638	342.241	342.241
1055.4	63.2219	409.447	409.447
1055.6	50.2022	449.545	449.545
1055.8	59.7018	423.579	423.579

DEPT[FT]	Gamma	Neutron	Neutron
1056	45.7648	382.737	382.737
1056.2	50.7406	376.014	376.014
1056.4	27.6398	457.987	457.987
1056.6	41.6048	390.174	390.174
1056.8	23.2558	454.081	454.081
1057	32.4074	405.524	405.524
1057.2	27.907	390.858	390.858
1057.4	27.907	428.548	428.548
1057.6	14.0845	424.105	424.105
1057.8	47.1061	444.298	444.298
1058	14.4701	378.359	378.359
1058.2	37.4494	418.623	418.623
1058.4	37.3783	408.022	408.022
1058.6	19.0896	562.508	562.508
1058.8	23.8735	532.798	532.798
1059	32.4693	520.517	520.517
1059.2	45.2747	502.475	502.475
1059.4	51.8487	466.066	466.066
1059.6	32.8052	619.863	619.863
1059.8	24.865	502.961	502.961
1060	37.0925	495.521	495.521
1060.2	27.5967	522.236	522.236
1060.4	25.3049	469.941	469.941
1060.6	25.0222	447.245	447.245
1060.8	36.522	426.938	426.938
1061	27.393	561.245	561.245
1061.2	32.0081	400.33	400.33
1061.4	43.3636	443.605	443.605
1061.6	20.9712	356.623	356.623
1061.8	71.7625	511.303	511.303
1062	61.9869	519.892	519.892
1062.2	35.8673	565.085	565.085
1062.4	46.9484	604.817	604.817
1062.6	50.5178	629.305	629.305
1062.8	36.6723	505.268	505.268
1063	42.8693	713.346	713.346
1063.2	54.5732	496.595	496.595
1063.4	43.4916	486.158	486.158
1063.6	40.9008	489.052	489.052
1063.8	37.7008	506.572	506.572
1064	41.8327	624.356	624.356
1064.2	45.8205	570.553	570.553
1064.4	59.4237	483.401	483.401
1064.6	34.2982	451.274	451.274
1064.8	33.3326	428.911	428.911
1065	38.9814	412.579	412.579

DEPT[FT]	Gamma	Neutron	Neutron
1065.2	42.0894	419.588	419.588
1065.4	52.4943	438.791	438.791
1065.6	33.6775	363.953	363.953
1065.8	33.993	388.421	388.421
1066	45.4152	417.152	417.152
1066.2	35.7621	411.907	411.907
1066.4	24.2898	370.431	370.431
1066.6	30.0262	370.439	370.439
1066.8	36.3645	424.06	424.06
1067	28.1964	380.824	380.824
1067.2	38.7867	496.11	496.11
1067.4	51.8655	425.973	425.973
1067.6	47.1597	443.483	443.483
1067.8	43.2161	439.976	439.976
1068	39.0734	365.386	365.386

Appendix D

*Final Well Design and
New Mexico Environment Department Approval*

From: [Danny Katzman](#)
To: [Andersen, Dane, NMENV](#); [Dhawan, Neelam, NMENV](#)
Cc: cheryl.rodriguez@em.doe.gov; [Mark C. Everett](#); [David Nickless](#)
Subject: R-70 Proposed Well Design_Rev 3
Date: Thursday, April 4, 2019 5:32:35 PM
Attachments: [R-70 well design plan 4-4-19 rev3.docx](#)

Dane- see attached rev 3 of the R-70 well design. This revision includes the updated Figure 1 and is intended to reflect today's discussions and agreements.

Let us know if you have any questions.

Thanks.

Danny

R-70 Well Design Plan

1.0 Objectives

Regional well R-70 has two primary objectives. The first objective is to monitor the plume response to CrEX-5 (reconfigured well CrIN-6) in a timely manner in order to guide adaptive management of the IM operational approach in that area. The second objective is to further characterize the lateral and vertical extent of the chromium contamination in the northeastern portion of the plume. The proposed location for R-70 was selected to achieve those two goals and was based on modeling results and drilling accessibility.

2.0 Recommended Well Design

The R-70 well was drilled at an angle of 25° from vertical and an azimuth N7.8°E to 1100 ft measured depth (MD) and intersected the regional water level at 948 ft MD (5832 ft amsl.). The water level at 948 ft MD has been verified with multiple manual measurements and is consistent with a response shown in the attached Jet West neutron and natural gamma logs.

The R-70 monitoring well is proposed as a two-screen design (Fig. 1) in an 8-inch stainless steel well. The upper well screen would extend from 963 ft to 1003 ft MD (5818 to 5782 ft amsl), and the lower screen will extend from 1048 ft to 1068 ft MD (5741 to 5723 ft amsl). Because of the angle of the well, a 40 ft length of screen translates to approximately 36 vertical ft of aquifer monitored by the well screen. The proposed 40-ft (36 ft) screen for the upper screen and 20-ft (18 ft) lower screen provides a conservative approach to ensuring that the well will appropriately meet the performance monitoring objective for the IM and provide for characterization of chromium concentrations at R-70 based on the considerations presented below.

2.1 Performance Monitoring

The hydraulic control objective of the IM involves use of extraction wells and injection wells that have screens that generally penetrate 50-55 ft of aquifer thickness. The intent of those screen lengths is to ensure that key strata with mass flux are captured during extraction and accessed through injection. Because it would be essentially impossible to characterize and target numerous discrete interval(s) with maximum mass flux at every location within the aquifer, longer screens provide the advantage of ensuring that preferential pathways of importance for hydraulic control are captured. Extraction and injection will inherently favor the high hydraulic conductivity zones. The top of the upper screen at R-70 will be submerged 14 ft below the water table, allowing groundwater collection in the upper part of the regional aquifer while maintaining enough submergence to ensure adequate well development. Use of a 40-ft (36 ft) upper screen at R-70 in the portion of the aquifer is predicated in part by the presence of a neutron anomaly detected by borehole geophysics in the upper part of the aquifer (see section 2.2 below). The upper screen is long enough to sample groundwater from rocks above and below the neutron anomaly, which is potentially a less transmissive zone. The top of the lower well screen is submerged 91 ft below the water table, allowing groundwater collection in the lower portion of the chromium plume and monitoring of hydraulic responses due to activities at nearby injection and extraction wells.

The R-70 well design is consistent with the screened intervals of the IM infrastructure wells and will enable comparable monitoring of trends of chromium concentrations specifically related to IM operations. It is anticipated that the upper screen at R-70 will show chromium concentrations lower than the 260-270 ppb observed at CrEX-5, but higher than 50 ppb. The concept of performance monitoring at R-70 is to

monitor dissipation of chromium concentrations associated with the IM operations at CrEX-5 and CrIN-1 and -2. If anticipated performance of the IM to obtain hydraulic control is not achieved under this scenario, this proposed construction design and the well attributes (e.g., screen length, screen slot size, well diameter, and extended filter-pack design) will enable the well to be repurposed as either an injection or extraction well to assist in hydraulic control.

2.2 Chromium Characterization

Characterization of chromium concentrations at R-70 is an important second objective for R-70. The proposed design achieves the characterization objectives in the following manner.

Upper Well Screen

The upper screen is proposed as a 40-ft screen (36 ft) screen from 963 to 1003 ft MD and will characterize the chromium in the upper portion of the aquifer that contains three intervals with somewhat different neutron signals. Figure 2 shows representative photos of cuttings from 5-ft intervals within and surrounding the proposed screened intervals. The central part of the upper screen includes an approximately 5 to 10-ft thick positive neutron anomaly that appears to represent strata with lower porosity than strata above and below. Cuttings collected during drilling indicate the 980-985 ft interval associated with the neutron anomaly contains abundant fine-grained material and the hydraulic conductivity of this zone is likely less than that found in strata above and below it. The portion of the upper screen above the anomaly includes approximately 15 to 17 ft of relatively high porosity strata (neutron low counts). This zone contains clean coarse sands with little fine-grained material in the matrix. The lower portion of the upper screen (994 ft to 1003 ft MD) includes approximately 16 to 18 ft of high porosity strata similar to those found in the upper part of the well screen. This lower zone contains more fine-grained matrix than the uppermost zone, but significantly less than the zone from 980-985 ft in the neutron anomaly interval. The upper screen aligns well with the upper portion of the screen at CrEX-5 (see Figure 3 showing aligned neutron logs and screen intervals for CrEX-5 and R-70). This screen length and position within the aquifer optimizes characterization of chromium concentrations in the upper portion of the aquifer. As shown in the attached figure, the lithology described from cuttings indicates an increase of fines present from approximately 1000 to 1040 ft MD.

The strategy of using a 40-ft (36 ft) screen could, in principle, result in a lower net chromium concentration measured in samples because of mixing that would occur with strata containing lower chromium concentrations during purging. However, it is just as probable that the net chromium concentrations measured during sampling would still be dominated by the concentrations in the primary mass flux strata encountered in the screen regardless of screen length. A 40-ft (36 ft) screen provides greater confidence (more conservative) that chromium flux in the R-70 area would be appropriately characterized.

Lower Well Screen

The lower screen is proposed as a 20-ft (18 ft) screen length beneath a 45-ft blank section of well casing and would characterize the aquifer at a depth of 1048 to 1068 ft MD (5741 to 5723 ft amsl), providing partial overlap with R-45 Screen 2 (5729 to 5709 amsl), which shows the presence of increasing chromium concentrations. This well screen will therefore provide important characterization information about the lateral extent of deeper chromium contamination and the vertical extent present at R-70. It is anticipated that concentrations may be above background at R-70 screen 2. Strata in the screen interval contain a moderate amount of fine matrix, and this zone may not be as productive as screen 1. However, all of the cuttings for the lower Puye Formation contain considerable fine-grain sand and the selected location for screen 2 contains intervals of coarse sand that may be relatively transmissive.

3.0 Design Details

Both will be constructed as 30-ft stainless-steel, 40-slot, rod-based wire-wrapped screens. The filter packs of the two well screens are separated by 33 ft of bentonite. The well would be constructed like other chromium IM infrastructure wells to enable potential repurposing as an extraction or injection well, if necessary, to meet the IM objective of hydraulic control of the plume. The well could also serve as a location to disposition excess extraction water in the future, even if it is not used specifically for near-term IM objectives. As such, the proposed well design includes primary (10/20) filter sand extending a length of 50 ft above the top of the upper screen slots. This filter-pack configuration would accommodate passive, continuous vadose-zone access for injection water if the well is repurposed for injection. It is expected that a steady-state water level caused by the head within the well itself will establish within the filter pack outside of the well. The filter pack design allows pressures established inside the well to equilibrate within the filter pack outside of the well without putting potentially erosive pressure on the overlying bentonite seal or the filter pack. Extending the filter pack above the upper screen will not present any adverse effects should the well be used for long-term monitoring, or if repurposed for extraction. The deeper screen will retain the standard monitoring well filter pack length, extending 5 ft above and 5 ft below the screen slots.

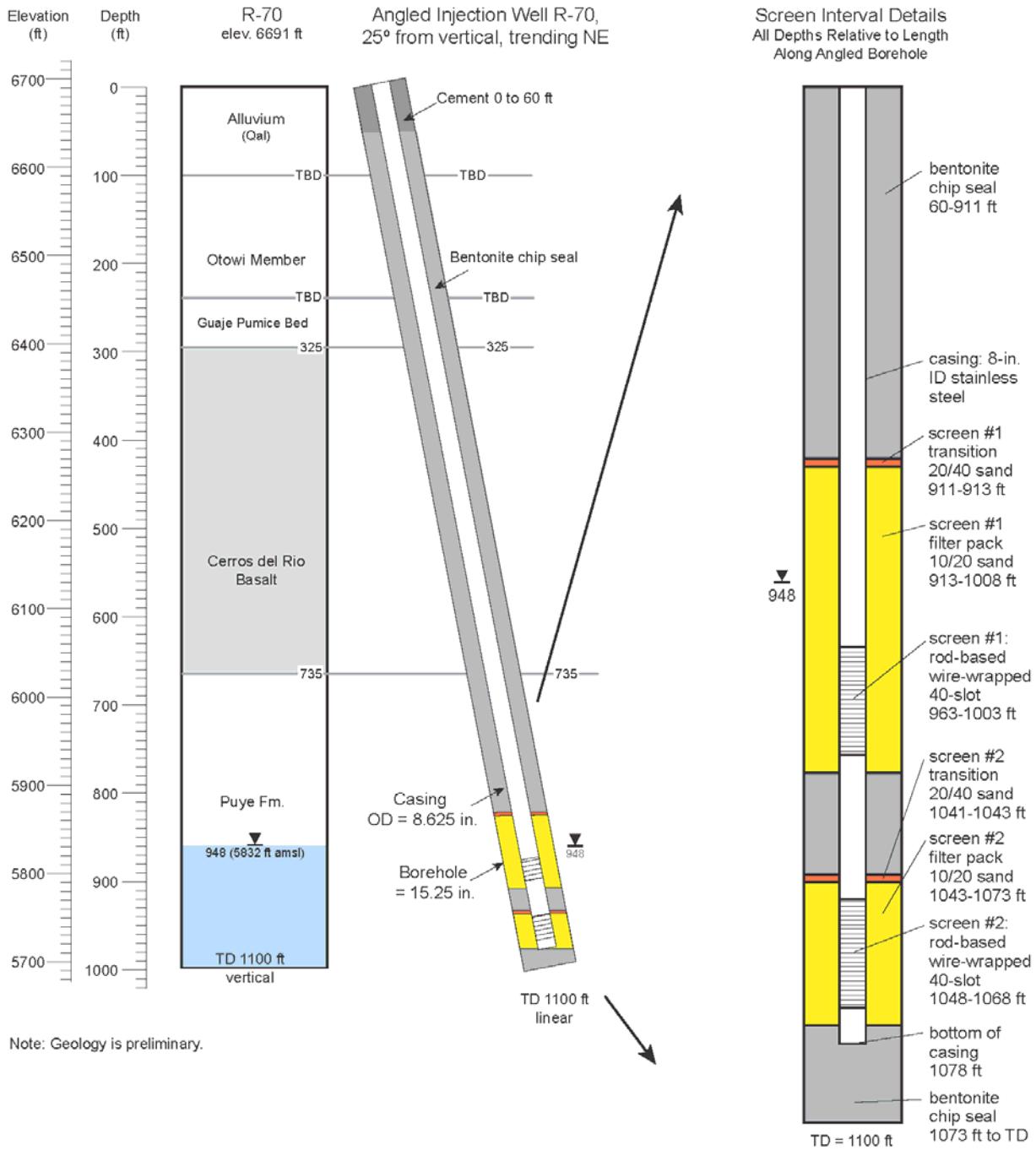


Figure 1 Preliminary stratigraphy, and proposed well design for well R-70

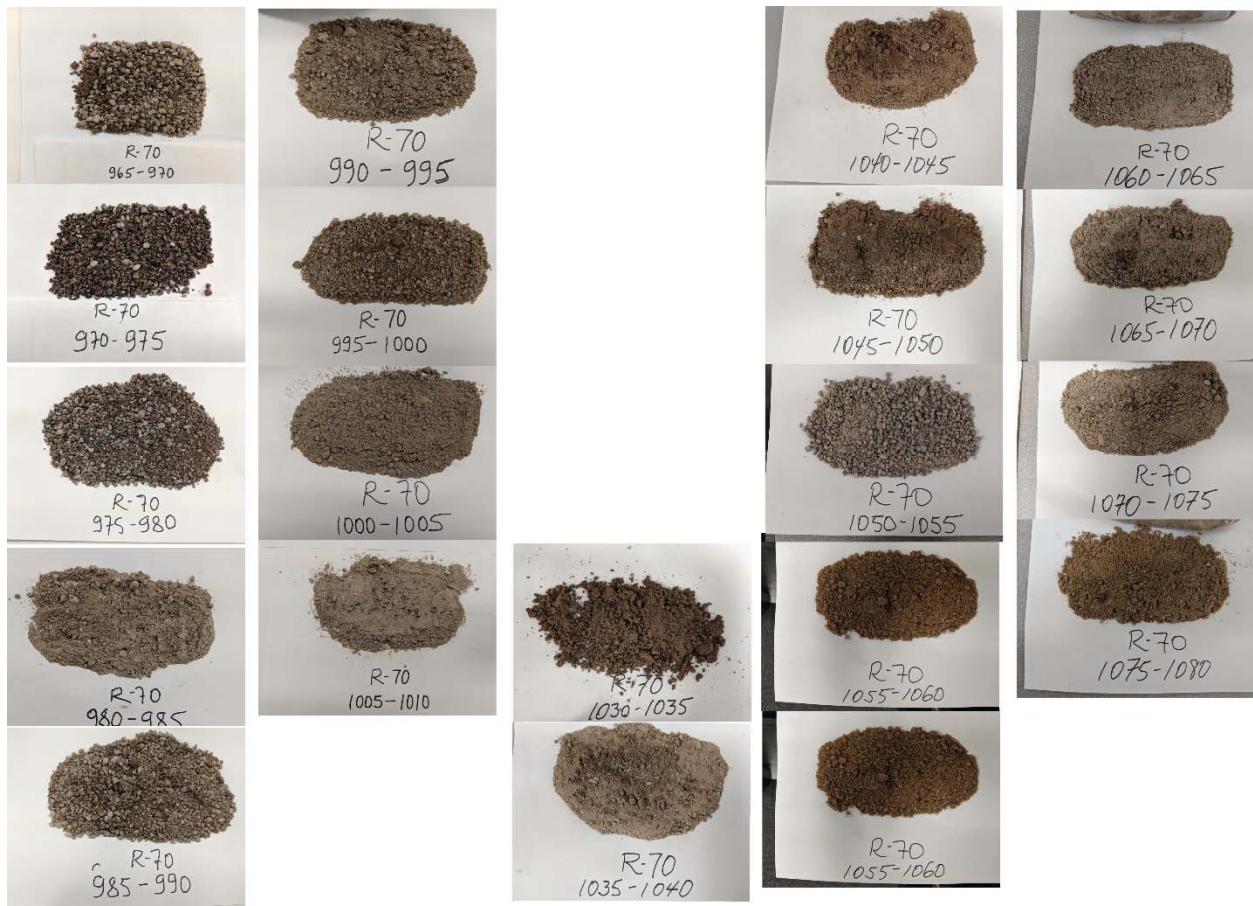


Figure 2 **Photographs of Puye Formation drill cuttings within the regional aquifer**

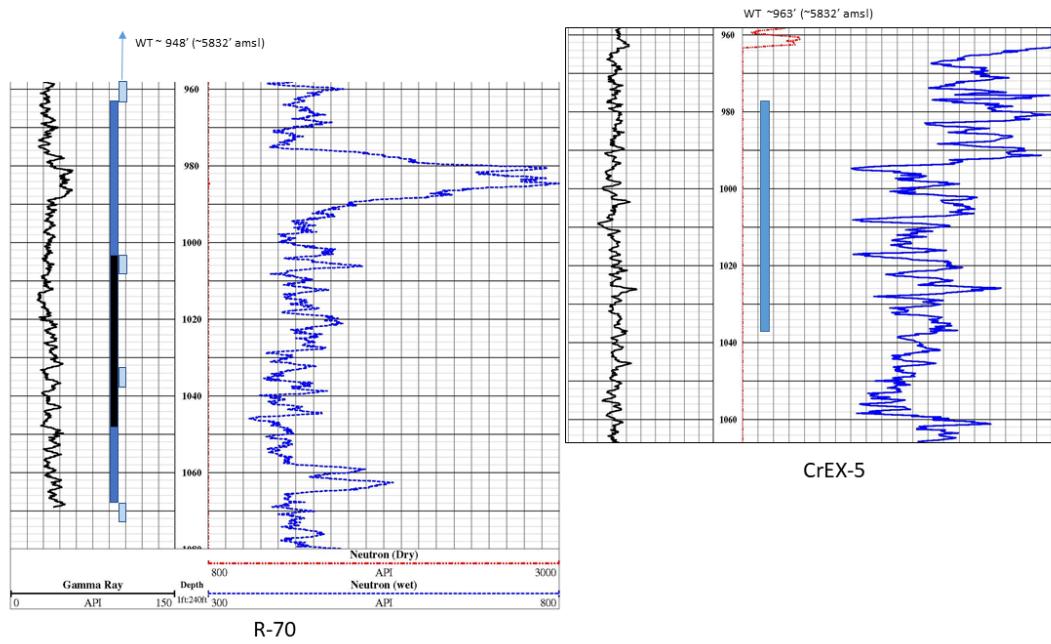


Figure 3 Depth-adjusted neutron logs and screen intervals for CrEX-5 and R-70

From: Dhawan, Neelam, NMENV <neelam.dhawan@state.nm.us>
Sent: Friday, April 5, 2019 8:54 AM
To: Danny Katzman; cheryl.rodriguez@em.doe.gov; Arturo Duran
Cc: Andersen, Dane, NMENV; Murphy, Robert, NMENV; Dale, Michel, NMENV; dylan.boyle2@state.nm.us; Mark C. Everett; 'hai.shen@nnsa.doe.gov'; Kieling, John, NMENV; Mark C. Everett; David Nickless
Subject: RE: R-70 Well design

Cheryl, Danny and Arturo

Based on our phone discussions and the lines of evidence you have provided in your email, you have addressed NMED's concerns about vertical migration of chromium through the R-70 filter pack. Please be aware that if vertical migration does occur as a result of well R-70, NMED will require DOE to address this issue. NMED hereby approves the installation of the regional aquifer well R-70 as proposed in your e-mail, with attachment, that was received April 4, 2019 (Rev 3). This approval is based on information provided by DOE to NMED at the time of the approval. DOE 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 information becomes available. In addition, please provide NMED reasonable-time (e.g., 1 -2 days) notification prior to the initiation of well development, step-drawdown test, and aquifer testing at R-70.

Please call if you have any questions concerning this approval.

Thanks,

Neelam Dhawan
LANL Group Manager
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Bldg. 1
Santa Fe, NM 87505
(505) 476-6042
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From: Danny Katzman <danny.katzman@em-la.doe.gov>
Sent: Thursday, April 4, 2019 5:14 PM
To: Dhawan, Neelam, NMENV <neelam.dhawan@state.nm.us>; cheryl.rodriguez@em.doe.gov; Arturo Duran <arturo.duran@em.doe.gov>
Cc: Andersen, Dane, NMENV <Dane.Andersen@state.nm.us>; Murphy, Robert, NMENV <Robert.Murphy@state.nm.us>; Dale, Michel, NMENV <Michel.Dale@state.nm.us>; Boyle, Dylan, NMENV <Dylan.Boyle2@state.nm.us>; Mark C. Everett <mark.everett@em-la.doe.gov>; 'hai.shen@nnsa.doe.gov' <hai.shen@nnsa.doe.gov>; Kieling, John, NMENV <john.kieling@state.nm.us>; Mark C. Everett <mark.everett@em-la.doe.gov>; David Nickless <david.nickless@em.doe.gov>
Subject: [EXT] RE: R-70 Well design

Neelam, others- thanks for taking the time for the discussion following your email. And following on your request, here are the points that we raised regarding our concerns with NMED's proposed well design.

- The filter pack intervals that would be required above (5 ft primary + 2 ft transition) and below (5 ft primary) a 20' screen set from 960-980 MD would place filter pack in the fine-grained sand interval that NMED appears to want to avoid.
- Moving the 20' screen up by 5' to 955-975' would leave only 6 ft of submergence between the water table and the top of the filter pack. Such a configuration could cause significant issues with the ability to adequately develop the well. Inadequate development would potentially leave drilling foam in the aquifer that has historically caused mutual concerns with representativeness of redox sensitive constituents like chromium.
- We also discussed the concept suggested by NMED that contamination could move downward through the filter pack from contaminated strata above the neutron anomaly to strata below the anomaly causing contamination to enter portions of the aquifer where it may not currently exist. DOE/N3B completely agrees with the desire to avoid cross contamination under any circumstances. We believe however that cross contamination through the filter pack is improbable because of indications that there are not downward gradients in the R-70 area as manifested by the common heads present in Screens 1 and 2 in nearby R-45 (85' of screen separation) and by the highly stratified nature of the aquifer throughout the Cr plume area.
- The DOE's proposed 40' screen, while not typical of monitoring wells with shorter screens normally required by NMED, is justified in this case because of the specific nature of the performance monitoring objective for R-70 which is to monitor the intended reductions in Cr concentrations associated with Interim Measures activities involving extraction at CrEX-5 and injection at CrIN-1 and CrIN-2.
- We also maintain that the extended filter pack above the upper screen provides additional potential functionality, if R-70 is ever needed for use as an injection well. The extended filter pack does not pose any adverse aspects in use of R-70 as a performance monitoring well.

Please copy all on any follow up correspondence so that folks who need to take any necessary actions are in the loop.
 Thanks!
 Danny

From: Dhawan, Neelam, NMENV <neelam.dhawan@state.nm.us>
Sent: Thursday, April 4, 2019 2:48 PM
To: cheryl.rodriguez@em.doe.gov; Arturo Duran <arturo.duran@em.doe.gov>
Cc: Andersen, Dane, NMENV <Dane.Andersen@state.nm.us>; Murphy, Robert, NMENV <Robert.Murphy@state.nm.us>; Dale, Michel, NMENV <Michel.Dale@state.nm.us>; dylan.boyle2@state.nm.us; Danny Katzman <danny.katzman@em-la.doe.gov>; Mark C. Everett <mark.everett@em-la.doe.gov>; 'hai.shen@nnsa.doe.gov' <hai.shen@nnsa.doe.gov>; Kieling, John, NMENV <john.kieling@state.nm.us>
Subject: R-70 Well design

Cheryl and Arturo
 I'm following up on our phone call from yesterday. We have reviewed your well design for R-70. Michel went and observed the drill cuttings this morning, we have discussed it internally and have reached consensus. Here are NMED's recommendations.

On March 30, 2019, DOE submitted to NMED a proposed well design for regional aquifer well R-70. The design proposed a dual screen completion with 30 ft screened intervals from 968 to 998 ft measured distance (MD) for the upper screen and 1038 to 1068 ft MD for the lower screen. The intent of the proposed upper screened interval was to capture a neutron porosity peak apparent from the R-70 geophysical logs from approximately 975 to 990 ft MD. In the initial well design, DOE interpreted this neutron porosity peak as a potential **high-flux zone** for chromium.

Following review of the geophysical log and well design, NMED questioned DOE's interpretation of the neutron porosity peak as a high-flux zone in an email sent to DOE on April 1, 2019. On April 2, DOE responded with a revised well design (revision 1) which reinterpreted the neutron porosity peak as a zone of **low porosity**, which, according to the revision 1

well design, “**may or may not be proportional to hydraulic conductivity values.**” The revision 1 well design proposed an upper screened interval from 963 to 993 ft MD to capture the 16 ft neutron porosity peak and the 14 ft zone immediately above it.

Following further discussion between NMED and DOE on the proposed well design, DOE submitted a revised well design (revision 2) on April 3, 2019. The revision 2 well design included a third interpretation of the geophysical logs, which incorporated observations from the R-70 drill cuttings. The third interpretation identified the neutron porosity peak as a zone with “**low porosity and potentially low hydraulic conductivity.**” This interpretation is supported by fine-grained sediments observed in the drill cuttings sample from 980-985 ft MD. DOE also interpreted two zones of relatively higher permeability immediately above and below the neutron porosity peak (approximately 963 to 980 ft MD and 994 to 1003 ft MD). The revision 2 well design proposes a 40 ft upper screen from 963 to 1003 ft MD, which is intended to capture the potentially low permeability zone represented by the neutron porosity peak and the two adjacent high permeability zones, as interpreted by DOE in their revision 2 well design.

In summary, within the proposed upper screened interval, DOE has interpreted two high permeability zones which are vertically separated by a zone of relatively lower permeability. The two high permeability zones potentially have different chromium mass concentrations and flow paths. DOE’s proposed well design for the upper screen would effectively connect these high permeability zones through the R-70 filter pack. Connection of these two zones (which have unknown chromium concentrations) could potentially facilitate vertical chromium transport through the R-70 filter pack.

NMED cannot approve a well design which could potentially facilitate the vertical migration of chromium. Instead, NMED proposes that the upper screen be completed from 960-980 ft MD with bentonite seals 5 feet above and below the screened interval. This design can accomplish the stated goals of IM performance monitoring and characterizing the extent of chromium without potentially damaging the regional aquifer.

NMED agrees with DOE’s proposed lower screen placement from 1048 to 1068 ft MD.

Let me know if you have any questions.
Thanks

Neelam Dhawan
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Appendix E

Sampling System Test Report for Well R-70

E-1.0 INTRODUCTION

The R-70 Baski dual-valve submersible pump sampling system installation was completed over the course of three separate periods of fieldwork. In September, the Baski sampling system was delivered to the well site, measured, and inspected. As a result of that inspection, parts of the system were returned to the manufacturer and replacement parts were fabricated. In mid-October, the sampling system was returned to the well site and installation was attempted. During that attempt, the system became stuck within the upper screen and had to be removed. During late October and early November the sampling system was successfully installed and tested.

Table E-1.0-1 shows the details of the R-70 well and sampling components. The system is installed with the top of the pump shroud set a couple of feet beneath screen 1, 1009.58 ft measured distance (MD) down the well casing. A weep valve is located at 8.0 ft MD to prevent freezing. After the sampling system was installed, the packer was inflated to 214 pounds per square inch (psi) on October 31, 2019. After installation, a temporary electrical panel was wired to the pump, the lower access port valve (APV) was opened, and the lower screen was pumped to ascertain that the pump wire was correct and to fill the drop pipe.

E-2.0 SAMPLING SYSTEM INSTALLATION HISTORY

The dedicated sampling system was delivered and inspected at the site from September 24 through September 27, 2019. The inspection revealed suspect welding on several parts of the sampling system, which was rejected. Replacement parts were fabricated in Los Alamos by a certified welder.

On October 12 and 13, 2019, the Baski sampling system was remobilized to the R-70 well site and various components were tested. Leaks detected in the tubing coupling, the packers, and in the regulator/cylinder connection were repaired. During installation of the sampling system on October 15, 2019, the system became stuck on a flange in the upper screen at 983.5 ft MD. The sampling system was pulled from the well on October 16 and 17, 2019, and a video log was run on October 18, 2019, to observe the interior of the well bore for damage. An attempt to run a caliper log into the well on October 18, 2019, failed because the caliper did not work accurately in the well slanted at 25° from the vertical. Measurements of the centralizer below the packer indicated that it was too large to pass through the nominal inside diameter of the screen weld rings. Both the centralizers above and below the packer were sent to a machine shop and turned down to allow passage through the potential weld bead restrictions.

On October 28, 2019, the temporary packer was removed in preparation to reinstall the Baski sampling system into the R-70 well. The lower access port valve, the packer, and centralizers were assembled, lowered into the well, and successfully tested. On October 29, 2019, the upper access port valve was assembled, lowered into the well, and successfully tested. On October 30, 2019, the entire sampling system was lowered into the well. Once the system was in place on October 31, 2019, the packer and upper and lower APVs were successfully tested.

E-3.0 PACKER INFORMATION

The packer in R-70 is located from 1032.27 to 1035.61 ft MD, which is 25.1 ft MD below the bottom of screen 1 and 2.98 ft MD above the top of screen 2. The packer inflation tubing uses 0.25-in. stainless-steel tubing from the surface to the packer and to the closed side of the APVs. The APV control tubing is also 0.25-in. stainless-steel tubing.

The packer was initially inflated on October 31, 2019, at 1:00 p.m. to a pressure of 214 psi. The shut-in packer pressure at 10:30 a.m. on November 1, 2019, was steady at 215 psi, indicating that the packer and associated tubing appeared to be holding pressure. The packer had been holding pressure for 19.5 hr before the system test began, so any initial pressure fluctuations associated with expansion and seating of the packer should have been complete. After the initial packer inflation on October 31, the APVs were operated to ascertain that there were no leaks in the control lines. An 8-day packer pressure test was conducted from November 1 through 8, 2019. The dates and packer pressures recorded are shown in Table E-3.0-1

E-4.0 R-70 PUMP SYSTEM FUNCTION TESTING

On November 6, 2019, a pump system function test was conducted. The lower APV was pressurized to 373.95 psi at 2:46 p.m. At that time the packer pressure jumped to 216 psi. At 3:00 p.m., the leads were switched, the lower APV was repressurized, and the pump was switched on. Water was pumped to the surface in 8 min and flowed at 7.72 gallons per minute (gpm). The test was completed at 3:21 p.m. with a final flow rate of 8.11 gpm and a total of 91.74 gal. pumped.

On November 7, 2019, the upper APV was pressurized to 374 psi and the pump was turned on at 10:40 a.m. Water was pumped to the surface in 13 min, at a flow rate of 8.22 gpm (measured by flow-meter). At 12:14 p.m. the APV pressure was 374.65 psi. Purge water pumping was complete by 12:48 p.m., with a total of 2026 gal. purged, 91.74 gal. pumped, and 60 gal. pumped for groundwater samples. Groundwater quality parameters stabilized during the last 65 min of the pumping test. Groundwater samples were collected under stable water quality parameters from 12:23 to 12:48 p.m.

On November 8, 2019, the packer pressure was stable at 214 psi at 9:45 a.m. The lower APV was pressurized to 373.80 psi and the packer pressure rose to 217 psi at 9:57 a.m. The pump was turned on at 9:59 a.m., with an initial flow meter reading of 2076.62 gal. Water was pumped to the surface in 14 min. Initially, the water pumped to the surface had a yellowish tinge but cleared up shortly thereafter. The pump was turned off at 12:11 p.m. with a final flow meter reading of 4056.10 and a total of 1979.49 gal pumped from the lower screen during this test. The packer pressure increased to 218 psi, which was the actual target pressure for the packer.

Table E-4.0-1 shows the groundwater volumes generated during the pump system function testing.

E-5.0 ACCESS PORT VALVE OPERATION

With the packer inflated, each APV was opened for a few minutes and the pressure response at each screen gauge tube was monitored. The control tubing for the APVs in R-70 is stainless-steel tubing. The pressure applied to open the APVs was in excess of 370 psi. When the APVs were actuated, the packer pressure increased by a couple of psi in response to the movement of the valve, indicating that the valve had opened. The APVs typically opened less than a minute after the nitrogen gas was applied and closed less than half a minute after the gas pressure was released. However, the pressure in the control lines continued to be released for an additional minute or so after the valves closed; this pressure must be entirely dissipated before disconnecting the APV control fill line quick-connect at the wellhead to ensure complete closure of the valves and that the valves are appropriately held closed by the packer pressure.

The lower APV was pressurized initially at 2:46 p.m. on November 6, 2019. Shortly thereafter, the packer pressure increased by 2 psi, confirming that the lower APV had opened. At 5:21 p.m. the lower APV was depressurized, the valve closed, and groundwater flow into the screen 2 APV ceased.

The upper APV was pressurized initially at 10:40 p.m. on November 7, 2019, at a pressure of 374 psi. At 2:48 p.m. the upper APV was depressurized, the valve closed, and groundwater flow into the screen 1 APV ceased.

The lower APV was pressurized initially at 9:57 a.m. on November 8, 2019, at a pressure of 373.80 psi. Shortly thereafter, the packer pressure increased by 3 psi, confirming that the lower APV had opened. At 2:11 p.m. the lower APV was depressurized, the valve closed, and groundwater flow into the screen 2 APV ceased. Once the lower APV was depressurized, the packer pressure decreased by 3 psi, returning to 214 psi.

E-6.0 PUMPING SCREEN 1

After the lower APV was actuated at 10:40 a.m. on November 7, 2019, pumping began at screen 1 at 10:40 a.m. An open sampling valve at the wellhead was watched closely for water in order to confirm that water had reached the surface. After 13 min, water was observed at the surface. Pumping continued at screen 1 until 2:48 p.m. The discharge rate during pumping was 8.78 gpm. After pumping for 4 hr, 8 min, 2177.74 gal of water had been pumped from screen 1. Groundwater was sampled at the end of this pumping test.

E-7.0 PUMPING SCREEN 2

After the lower APV was actuated at 9:57 a.m. on November 8, 2019, pumping began at screen 2 at 9:59 a.m. An open sampling valve at the wellhead was watched closely for water in order to confirm that water had reached the surface. After 14 min, water was observed at the surface. Pumping continued at screen 2 until 2:10 p.m. The discharge rate during pumping was 7.89 gpm. After pumping for 4 hr, 11 min, 1979.49 gal of water had been pumped from screen 2, long enough to simulate a sampling event.

E-8.0 SUMMARY

- The packer was set to the midrange pressure level of 214 psi at 1:00 p.m. on October 31, 2019.
- The packer, pump, pump shroud, and APVs appeared to function normally during testing.
- The 0.25-in. stainless-steel screen 2 transfer tube appeared to be functioning well, allowing rapid water-level response in the screen.
- The pumping rate at screen 1 was 8.22 gpm.
- The pumping rate at screen 2 ranged from 7.72 to 8.81 gpm.

Table E-1.0-1
R-70 Sampling System Completion Details

System Component	Depth (ft MD)	Elevation (ft amsl)
Weep Valve	8.0	6685.24
Top of TDU ^a screen	987.26	5797.73
Bottom of TDU screen	1007.17	5779.68
TDU PVC ^b riser end cap	1007.30	5779.79
Top of pump shroud	1009.58	5777.59
Bottom of pump shroud	1017.69	5770.15
Top of upper APV screen	1020.56	5767.55
Bottom of upper APV screen	1020.88	5767.83
Top of LIC ^c	1022.45	5765.84
Bottom of LIC	1027.12	5761.60
Top of packer	1032.27	5756.94
Bottom of packer	1035.61	5753.91
Top of TDL ^d screen	1038.59	5751.21
Bottom of TDL screen	1039.58	5750.29
Top of lower APV screen	1042.63	5747.55
Bottom of lower APV screen	1042.95	5747.82
Bottom bullnose system	1043.57	5746.69

^a TDU = Total depth upper.^b PVC = Polyvinyl chloride.^c LIC = Liquid inflation chamber.^d TDL = Total depth lower.

Table E-3.0-1
8-day Packer Test Results

Date	Pressure (psi)
11/1/2019	215
11/2/2019	214
11/3/2019	214
11/4/2019	Not checked
11/5/2019	214
11/6/2019	214 (216 with upper APV open)
11/7/2019	Not recorded
11/8/2019	214 (217 with lower APV open)

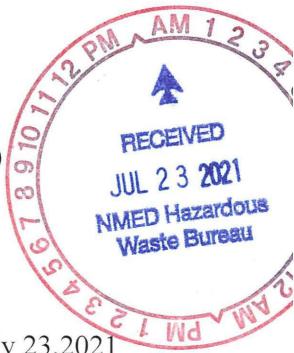
Table E-4.0-1
Groundwater Volumes Pumped for the Pump System Function Testing

	11/6/2019	11/7/2019	11/8/2019	Total Groundwater Purged
Screen 1	n/a*	2177.74 gal.	n/a	2177.74 gal.
Screen 2	91.74 gal.	n/a	1979.49 gal.	2071.23 gal.

* n/a = Not applicable.



DEPARTMENT OF ENERGY
Environmental Management Los Alamos Field Office (EM-LA)
Los Alamos, New Mexico 87544



EMLA-2021-BF144-02-001

July 23, 2021

Mr. Ricardo Maestas
 Acting Bureau Chief
 Hazardous Waste Bureau
 New Mexico Environment Department
 2905 Rodeo Park Drive East, Building 1
 Santa Fe, NM 87505-6313

Subject: Response to Notice of Disapproval, Completion Report for Regional Aquifer Well R-70, Revision 1, and the Response to the New Mexico Environment Department's Draft Comments on the Completion Report for Regional Aquifer Well R-70

Dear Mr. Maestas:

The U.S. Department of Energy (DOE) Environmental Management Los Alamos Field Office (EM-LA) is in receipt of the New Mexico Environment Department's (NMED's) letter, "Notice of Disapproval, Completion Report for Regional Aquifer Well R-70, Revision 1, and the Response to the New Mexico Environment Department's Draft Comments on the Completion Report for Regional Aquifer Well R-70," dated May 25, 2021. The purpose of this correspondence is to request an alternate path forward for resolution of outstanding issues with the R-70 well completion report. EM-LA would like to reach technical consensus with NMED and then provide a revision to the document that meets the expectations of both EM-LA and NMED.

With respect to specific comments in the notice of disapproval (NOD) letter, responses from DOE are enclosed.

With respect to the general comments in the NOD letter, DOE requests that these issues be discussed in a technical meeting focused solely on the R-70 aquifer testing issue. Note that previous DOE well completion report deliverables with technical approaches consistent with those of the present report were approved by NMED, including the well completion reports for monitoring wells R-68 and R-69 (July 2017, LA-UR-17-26063; October 2019, EM2019-0335). These data and parameter estimates provide important inputs to ongoing studies. DOE believes that NMED's objection to using the R-70 aquifer test information in future studies is not well founded because the R-70 tests can be analyzed using techniques and software that deal with the non-constant pumping rate. DOE would like to demonstrate this in a future meeting and a revision to this report. Given this fundamental disagreement, DOE requests that technical discussions be held, with the goal of achieving better alignment between NMED and DOE technical staff.

With respect to the U.S. Environmental Protection Agency (EPA) comments and recommendations referred to in the NOD letter, NMED has not provided DOE with (1) any of the information NMED provided to EPA to conduct this review or (2) EPA's review comments. DOE respectfully requests that these materials be provided and technical discussions be held, possibly with EPA's participation.

Once DOE has reviewed EPA's comments and recommendations, DOE would like to have a technical meeting with NMED to discuss outstanding comments (consistent with requirements in the Compliance Order on Consent). DOE will commit to delivering Revision 2 of the subject document 60 days after the comment resolution meeting is held and agreement is reached on the path forward.

If you have any questions, please contact Christian Maupin (505) 695-4281 (christian.maupin@em-la.doe.gov) or Cheryl Rodriguez at (505) 414-0450 (cheryl.rodriguez@em.doe.gov).

Sincerely,

M Lee

 Digitally signed by M Lee
Bishop for
 Date: 2021.07.23
 12:06:56 -06'00'
 Arturo Q. Duran
 Compliance and Permitting Manager
 Environmental Management
 Los Alamos Field Office

Enclosure(s):

1. Two hard copies with electronic files – Responses to Specific Comments from the Notice of Disapproval, Completion Report for Regional Aquifer Well R-70, Revision 1, and the Response to the New Mexico Environment Department's Draft Comments on the Completion Report for Regional Aquifer Well R-70, Los Alamos National Laboratory, EPA ID#NM0890010515, HWB-LANL-19-080, Dated May 25, 2021 (EM2021-0355)

cc (letter and enclosure[s] emailed):

Laurie King, EPA Region 6, Dallas, TX
 Raymond Martinez, San Ildefonso Pueblo, NM
 Dino Chavarria, Santa Clara Pueblo, NM
 Chris Catechis, NMED-DOE-OB/-RPD
 Steve Yanicak, NMED-DOE-OB
 Jennifer Payne, LANL
 Felicia Aguilar, N3B
 William Alexander, N3B
 Emily Day, N3B
 Sherry Gaddy, N3B
 Jeff Holland, N3B
 Danny Katzman, N3B
 Kim Lebak, N3B
 Joseph Legare, N3B
 Dana Lindsay, N3B
 Pamela Maestas, N3B

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n3brecords@em-la.doe.gov
Public Reading Room (EPRR)
PRS website

**Responses to Specific Comments from the Notice of Disapproval, Completion Report for Regional Aquifer Well R-70, Revision 1, and the Response to the New Mexico Environment Department's Draft Comments on the Completion Report for Regional Aquifer Well R-70, Los Alamos National Laboratory, EPA ID#NM0890010515, HWB-LANL-19-080,
Dated May 25, 2021**

INTRODUCTION

To facilitate review of this response, the New Mexico Environment Department's (NMED's) comments are included verbatim. The U.S. Department of Energy (DOE) Environmental Management Los Alamos Field Office responses follow each NMED comment.

SPECIFIC COMMENTS

NMED Comment

1. *Explain why "Monitoring" was struck from the Report title considering R-70 is intended to serve as a monitoring well. Restore the original title to the Report in a second revision.*

DOE Response

1. DOE concurs with the comment, and will restore "Monitoring" to the title of the report for Revision 2.

NMED Comment

2. *Section 8.1 Well Development, page 10.*

DOE Statement: *Field parameter data are discussed in greater detail in Appendix B, and aquifer test data will be discussed in the assessment report for evaluation of conditions in the regional aquifer around well R-70, which is due to NMED no later than June 30, 2021.*

NMED Comment: *Use of the R-70 aquifer test data in the pending Assessment Report is not acceptable. NMED and DOE agreed during the Meeting to remove this information from the Report because the testing was not conducted properly in the field nor the data analyzed correctly (see general comment above). In NMED's August 4, 2020 email to DOE that approved a revised submittal date for the Assessment Report, NMED stated that if the R-70 aquifer testing results are to be used in the Assessment Report that the Comments must be resolved beforehand. Considering that the Comments have not been resolved and that it was mutually agreed to remove the testing from the Report, it should have been obvious to DOE that these data are also not valid for use in any other submittal. NMED requires DOE to submit another revision of the Report that does not include this statement and to not use and reference the R-70 aquifer tests in any manner in future reports.*

DOE Response

2. DOE agreed to remove the aquifer test data from Revision 1 of the well completion report but did not agree for the reason stated by NMED, i.e., "because the testing was not conducted properly in the field nor the data analyzed correctly." Rather, the information was removed to overcome an impasse preventing the finalization of the well completion report. DOE believes that the data are useable and the analysis is valid and would like to engage with NMED to discuss the issue further. DOE believes

that a technical meeting with NMED is necessary to reach a common understanding on the conduct of the test and the uses and limitations of the data.

DOE presented data from the R-70 aquifer tests in the “Assessment Report for the Evaluation of Conditions in the Regional Aquifer Around Well R-70,” delivered to NMED on June 30, 2021, but only for the limited purpose of providing qualitative information on the responses of pumping of the two screens at nearby wells. No quantitative analyses were performed. Therefore, the issue of non-constant-rate pumping had no bearing on the information presented in the assessment report.

NMED Comment

3. Section 8.1.1 Well Development Field Parameters, page 11.

DOE Statement: *In screen 2 the final parameters at the end of well development were pH of 8.13, temperature of 21.4°C, specific conductance of 290.4 µS/cm, DO of 6.76 mg/L, ORP of 198.3 mV, and turbidity of 0.72 NTU. Table 8.1-2 shows field parameters measured during well development.*

NMED Comment: *In specific comment no. 2, NMED requested clarification of the discrepancy between the final parameters listed on page 11 and in Table 8.1-2. In the August Response, DOE stated that the text on page 11 was in error and will revise the Report accordingly. However, the text remains unchanged in the November 2020 Revised Report. If the text on page 11 is in error, it should have been deleted from the Revised Report, but was not deleted in the red line version or from the Revised Report. Resolve this discrepancy and issue the correction in another revision of the Report including a separate red line version.*

DOE Response

3. DOE will make the required corrections to the text. For each screen, the final values in Table 8.1-2 at the end of the section titled “Screen 2 Trial Test during Development (packer inflated - screens isolated)” (and the similarly labeled section for screen 1) are cited in the text. The only corrections required are two minor edits to values in text for screen 1, related to rounding effects.

NMED Comment

4. Section 8.1.1, Well Development Field Parameters, page 11/Figure 8.3-1a – Installation and construction details for the R-70 sampling system, page 21.

- a. *Based on the most recent Well Completion Details, the following are missing and need to be included in the well completion details for R-70 (Figure 8.3-1a) In a second revision of the Report:*
 - i. Pad
 - ii. Transducer sleeves and description
 - iii. Borehole diameter and description
 - iv. Pump location and description
 - v. Check valve location
 - vi. Pump column and description
 - vii. Casing string shoe locations
- b. *Revise Figure 8.3-1a for to be similar to previous regional aquifer monitoring wells mentioned above. Figure 8.3-1a in the Revised Report lacks the graphical clarity and details and well completion information provided in other dual screen chromium monitoring wells (i.e., R-43*

through R-45, R-50, R-61) and in the most recent monitoring well (R-69), which provide far better understanding of the well construction, completion and Baski sampler set up. NMED would like to emphasize to DOE the importance of well construction as-built diagrams as technical references in future decision making and public review. For instance, in the current figure, the symbols for the surface seal and the bentonite appear in the background of the well casing area obscuring necessary details. Also, the transducer tubes and pump column for R-70 need to be drafted in a manner that is well-defined and clear like those of the other well completion details.

- c. *Revise Figure 3.2-1 Monitoring well R-70 as-built construction diagram and technical well completion details to include well development, final parameter and well survey information like Figure 7.2-1 for R-61.*
- d. *Correct the different pattern used for the top filter pack to be the same as the bottom filter pack, the legend and Figure 3.2-1, if both screens have the same 10/20 gradation filter pack. Likewise, correct the pattern for the transition sand to match with that shown in the legend and Figure 3.2-1.*
- e. *Correct "Filter Rack" to read "Filter Pack" in the diagram annotations and make the descriptions in the figure on page 21 match the descriptions provided in the text on page 11. Provide better quality assurance and quality control on this and all figures submitted to NMED.*
- f. *Label the features shown in the as-built well diagram within the lower filter pack below the "lower transducer screen" as requested. It is not clear what these features are and how they relate to the other dedicated well components. Please label these features and make the well completion details in the as-built diagram clearer and readily understandable as in the previous chromium group monitoring wells. Revise Figure 8.3-1b to include and explain these features.*
- g. *Indicate where the lower screen transducer tube port is in the well head plan view in the pending revision of this figure.*

DOE Response

4. DOE has made the required changes. See revised Figures 3.2-1, 8.3-1a, and 8.3-1b.

NMED Comment

5. **Section 8.2 Aquifer Testing, page 11.**

DOE Statement: Applicable R-70 aquifer test results and analysis will be included in the assessment report for evaluation of conditions in the regional aquifer around well R-70, which is due to NMED no later than June 30, 2021.

NMED Comment: NMED requires DOE to remove this and all similar statements and subsection 8.2 from the second revision of the Report. See NMED's general comment and specific comment no. 1 above.

DOE Response

5. The referenced statement and one other similar statement will be removed in Revision 2.

NMED Comment**6. Section 10.0 Acknowledgements, page 13.**

DOE Statement: David C. Schafer designed, implemented, and analyzed the aquifer tests.

NMED Comment: Remove the aquifer tests acknowledgement and all references to the aquifer tests from the second revision of the Report considering NMED and EPA have judged the tests to have been improperly conducted and the results to be unsuitable for hydraulic analyses.

DOE Response

6. DOE will remove this sentence in the interest of reaching resolution on the comments. However, in doing so, DOE does not concur with the rationale provided by NMED.

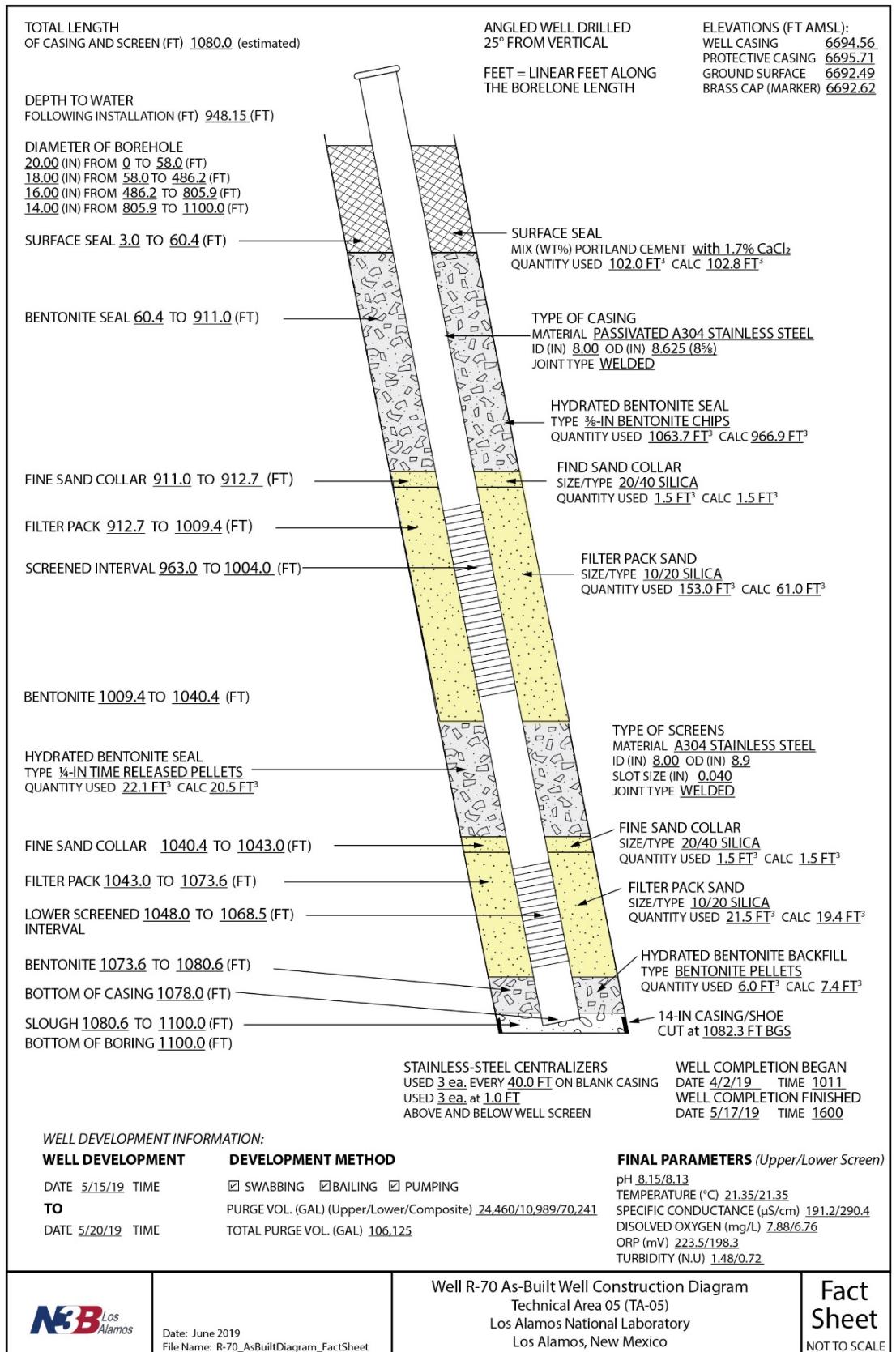


Figure 3.2-1 Monitoring well R-70 as-built construction diagram and technical well completion details

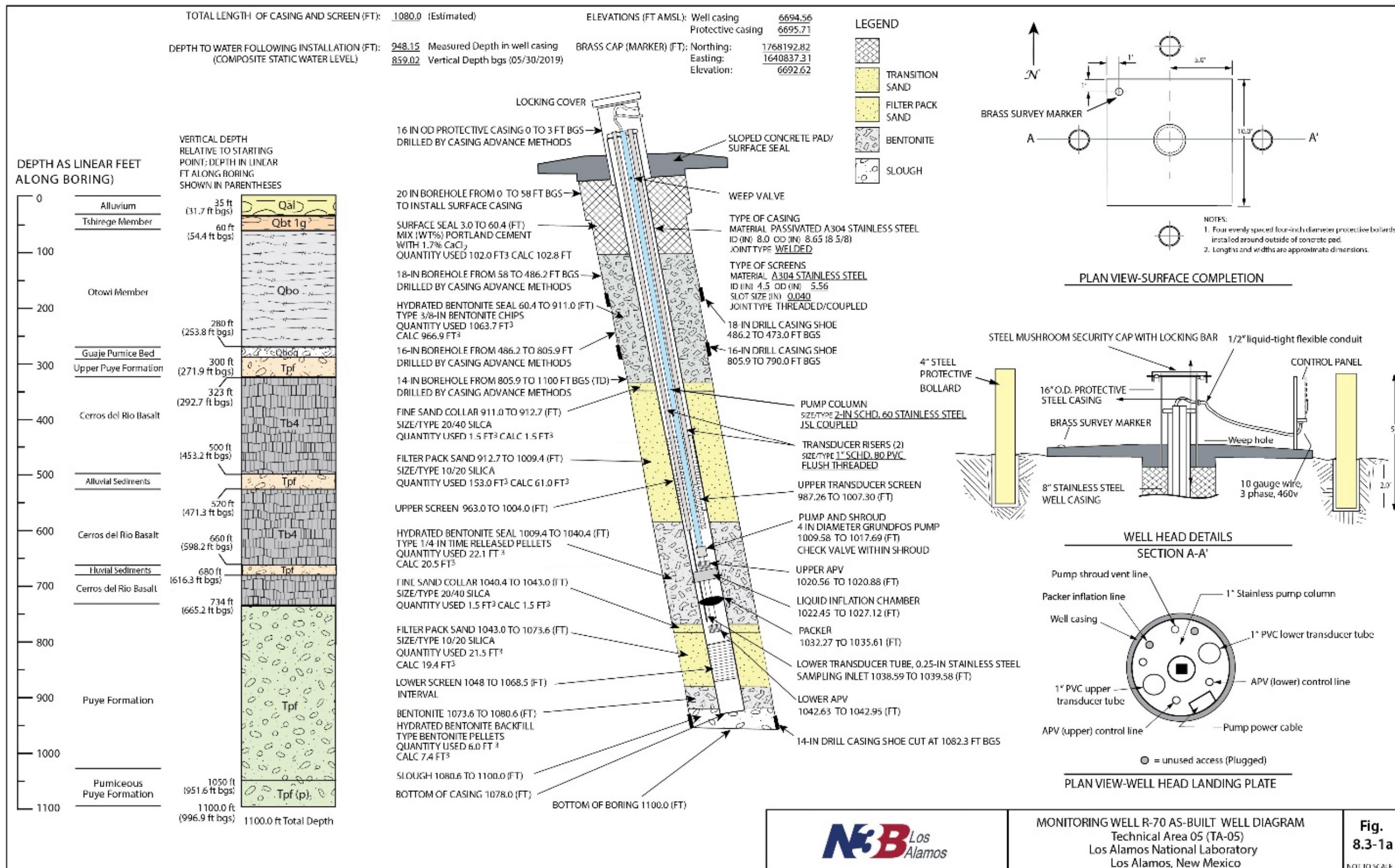


Figure 8.3.1a Installation and construction details for the R-70 sampling system

R-70 SAMPLING SYSTEM DESIGN PACKAGE TECHNICAL NOTES:

SURVEY INFORMATION

Brass Marker
 Northing: 1768192.82
 Easting: 1640837.31
 Elevation: 6692.62

Well Casing
 Northing: 1768186.69
 Easting: 1640838.04
 Elevation: 6694.56

SAMPLING SYSTEM MATERIALS AND PRODUCT LIST

Pump: Grundfos, OK-10550-930-70
 Pump motor: Franklin Electric, 2HP, 3-phase, 460V
 Motor cable: 10g, 3 lead with ground, double jacket

Discharge column: 2-inch, Johnson Spline Lock (JSL) coupled, schedule 60, non annealed A304 stainless steel

Check valve: Swagelok, 1-in. male X male, 316 stainless steel, mod. SS-CHM16-1, 5000 psi

Couplings: 2.375 NUE/Nitronic 60 and 2.375 JSL

Gauge tubes: 1 inch PVC

Banding: 3/4-inch 201 stainless steel with 201 stainless steel buckles

Thread Compound: Jet Lube, V2

Sampling tree: A304 schedule 40 stainless steel 1-inch nipples, elbows, cross, bushings, hose barbs

AQUIFER TESTING

Constant Rate Pumping Test (screen #1)
 Specific Capacity: 13.47 gpm/ft
 Performed on: 07/23-24/2019

Constant Rate Pumping Test (Screen #2)
 Specific Capacity: 7.5 gpm/ft
 Performed on: 05/26-27/2019

DEDICATED SAMPLING SYSTEM

Pump (shrouded)
 Make: Grundfos
 Model: OK-10550-930-70
 S/N: P11832 1001
 environmental retrofit
 Base of shroud at 1017.69 ft bgs

Motor
 Make: Franklin Electric
 Model: 23432786020
 S/N: 19A14-18-00699C

Pump Shroud
 A304 stainless steel, 4.25-in x 0.0120-in, wall tube, Baski Inc. custom; at 1009.58-1017.69 ft bgs

Pump Column
 2-in. JSL coupled schedule 60 non annealed A304 stainless steel tubing

Upper Transducer Tube
 1-in. (I.D.) flush threaded schedule 80 PVC pipe with 10-ft (long) 0.020-in. slotted screen at 987.26 to 1007.30 ft bgs

Lower Transducer Tube
 1-in. (I.D.) flush threaded schedule 80 PVC pipe to 1007.3 ft bgs. Lower transducer tube made of 0.25-in stainless steel tube that extends from a threaded end-cap at the bottom of the PVC tube through the isolation packer. Female bottom cap. Stainless steel screen at 1038.59 to 1039.58 ft bgs.

Upper Transducer
 In Situ LT500 (30 psi)
 S/N: 694581 (Manufactured 2019-10)

Lower Transducer
 In Situ LT500 (30 psi)
 S/N: 694573 (Manufactured 2019-10)

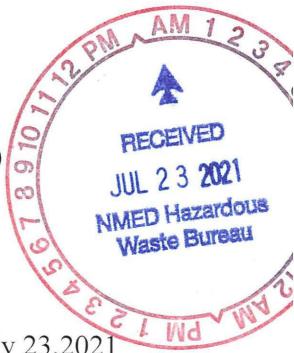
Note: BGS (below ground surface) in this figure refers to linear ft along slanted well casing.

	R-70 SAMPLING SYSTEM DESIGN PACKAGE TECHNICAL NOTES Technical Area 05 (TA-05) Los Alamos National Laboratory Los Alamos, New Mexico	Fig. 8.3-1b
Drafted By: N3B Project Number: 86306	Date: October 10, 2019 Filename:	NOT TO SCALE

Figure 8.3-1b Technical notes for the installation and construction of the R-70 sampling system



DEPARTMENT OF ENERGY
Environmental Management Los Alamos Field Office (EM-LA)
Los Alamos, New Mexico 87544



EMLA-2021-BF144-02-001

July 23, 2021

Mr. Ricardo Maestas
 Acting Bureau Chief
 Hazardous Waste Bureau
 New Mexico Environment Department
 2905 Rodeo Park Drive East, Building 1
 Santa Fe, NM 87505-6313

Subject: Response to Notice of Disapproval, Completion Report for Regional Aquifer Well R-70, Revision 1, and the Response to the New Mexico Environment Department's Draft Comments on the Completion Report for Regional Aquifer Well R-70

Dear Mr. Maestas:

The U.S. Department of Energy (DOE) Environmental Management Los Alamos Field Office (EM-LA) is in receipt of the New Mexico Environment Department's (NMED's) letter, "Notice of Disapproval, Completion Report for Regional Aquifer Well R-70, Revision 1, and the Response to the New Mexico Environment Department's Draft Comments on the Completion Report for Regional Aquifer Well R-70," dated May 25, 2021. The purpose of this correspondence is to request an alternate path forward for resolution of outstanding issues with the R-70 well completion report. EM-LA would like to reach technical consensus with NMED and then provide a revision to the document that meets the expectations of both EM-LA and NMED.

With respect to specific comments in the notice of disapproval (NOD) letter, responses from DOE are enclosed.

With respect to the general comments in the NOD letter, DOE requests that these issues be discussed in a technical meeting focused solely on the R-70 aquifer testing issue. Note that previous DOE well completion report deliverables with technical approaches consistent with those of the present report were approved by NMED, including the well completion reports for monitoring wells R-68 and R-69 (July 2017, LA-UR-17-26063; October 2019, EM2019-0335). These data and parameter estimates provide important inputs to ongoing studies. DOE believes that NMED's objection to using the R-70 aquifer test information in future studies is not well founded because the R-70 tests can be analyzed using techniques and software that deal with the non-constant pumping rate. DOE would like to demonstrate this in a future meeting and a revision to this report. Given this fundamental disagreement, DOE requests that technical discussions be held, with the goal of achieving better alignment between NMED and DOE technical staff.

With respect to the U.S. Environmental Protection Agency (EPA) comments and recommendations referred to in the NOD letter, NMED has not provided DOE with (1) any of the information NMED provided to EPA to conduct this review or (2) EPA's review comments. DOE respectfully requests that these materials be provided and technical discussions be held, possibly with EPA's participation.

Once DOE has reviewed EPA's comments and recommendations, DOE would like to have a technical meeting with NMED to discuss outstanding comments (consistent with requirements in the Compliance Order on Consent). DOE will commit to delivering Revision 2 of the subject document 60 days after the comment resolution meeting is held and agreement is reached on the path forward.

If you have any questions, please contact Christian Maupin (505) 695-4281 (christian.maupin@em-la.doe.gov) or Cheryl Rodriguez at (505) 414-0450 (cheryl.rodriguez@em.doe.gov).

Sincerely,

M Lee

 Digitally signed by M Lee
Bishop for
 Date: 2021.07.23
 12:06:56 -06'00'
 Arturo Q. Duran
 Compliance and Permitting Manager
 Environmental Management
 Los Alamos Field Office

Enclosure(s):

1. Two hard copies with electronic files – Responses to Specific Comments from the Notice of Disapproval, Completion Report for Regional Aquifer Well R-70, Revision 1, and the Response to the New Mexico Environment Department's Draft Comments on the Completion Report for Regional Aquifer Well R-70, Los Alamos National Laboratory, EPA ID#NM0890010515, HWB-LANL-19-080, Dated May 25, 2021 (EM2021-0355)

cc (letter and enclosure[s] emailed):

Laurie King, EPA Region 6, Dallas, TX
 Raymond Martinez, San Ildefonso Pueblo, NM
 Dino Chavarria, Santa Clara Pueblo, NM
 Chris Catechis, NMED-DOE-OB/-RPD
 Steve Yanicak, NMED-DOE-OB
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PRS website

**Responses to Specific Comments from the Notice of Disapproval, Completion Report for Regional Aquifer Well R-70, Revision 1, and the Response to the New Mexico Environment Department's Draft Comments on the Completion Report for Regional Aquifer Well R-70, Los Alamos National Laboratory, EPA ID#NM0890010515, HWB-LANL-19-080,
Dated May 25, 2021**

INTRODUCTION

To facilitate review of this response, the New Mexico Environment Department's (NMED's) comments are included verbatim. The U.S. Department of Energy (DOE) Environmental Management Los Alamos Field Office responses follow each NMED comment.

SPECIFIC COMMENTS

NMED Comment

1. *Explain why "Monitoring" was struck from the Report title considering R-70 is intended to serve as a monitoring well. Restore the original title to the Report in a second revision.*

DOE Response

1. DOE concurs with the comment, and will restore "Monitoring" to the title of the report for Revision 2.

NMED Comment

2. *Section 8.1 Well Development, page 10.*

DOE Statement: *Field parameter data are discussed in greater detail in Appendix B, and aquifer test data will be discussed in the assessment report for evaluation of conditions in the regional aquifer around well R-70, which is due to NMED no later than June 30, 2021.*

NMED Comment: *Use of the R-70 aquifer test data in the pending Assessment Report is not acceptable. NMED and DOE agreed during the Meeting to remove this information from the Report because the testing was not conducted properly in the field nor the data analyzed correctly (see general comment above). In NMED's August 4, 2020 email to DOE that approved a revised submittal date for the Assessment Report, NMED stated that if the R-70 aquifer testing results are to be used in the Assessment Report that the Comments must be resolved beforehand. Considering that the Comments have not been resolved and that it was mutually agreed to remove the testing from the Report, it should have been obvious to DOE that these data are also not valid for use in any other submittal. NMED requires DOE to submit another revision of the Report that does not include this statement and to not use and reference the R-70 aquifer tests in any manner in future reports.*

DOE Response

2. DOE agreed to remove the aquifer test data from Revision 1 of the well completion report but did not agree for the reason stated by NMED, i.e., "because the testing was not conducted properly in the field nor the data analyzed correctly." Rather, the information was removed to overcome an impasse preventing the finalization of the well completion report. DOE believes that the data are useable and the analysis is valid and would like to engage with NMED to discuss the issue further. DOE believes

that a technical meeting with NMED is necessary to reach a common understanding on the conduct of the test and the uses and limitations of the data.

DOE presented data from the R-70 aquifer tests in the “Assessment Report for the Evaluation of Conditions in the Regional Aquifer Around Well R-70,” delivered to NMED on June 30, 2021, but only for the limited purpose of providing qualitative information on the responses of pumping of the two screens at nearby wells. No quantitative analyses were performed. Therefore, the issue of non-constant-rate pumping had no bearing on the information presented in the assessment report.

NMED Comment

3. Section 8.1.1 Well Development Field Parameters, page 11.

DOE Statement: *In screen 2 the final parameters at the end of well development were pH of 8.13, temperature of 21.4°C, specific conductance of 290.4 µS/cm, DO of 6.76 mg/L, ORP of 198.3 mV, and turbidity of 0.72 NTU. Table 8.1-2 shows field parameters measured during well development.*

NMED Comment: *In specific comment no. 2, NMED requested clarification of the discrepancy between the final parameters listed on page 11 and in Table 8.1-2. In the August Response, DOE stated that the text on page 11 was in error and will revise the Report accordingly. However, the text remains unchanged in the November 2020 Revised Report. If the text on page 11 is in error, it should have been deleted from the Revised Report, but was not deleted in the red line version or from the Revised Report. Resolve this discrepancy and issue the correction in another revision of the Report including a separate red line version.*

DOE Response

3. DOE will make the required corrections to the text. For each screen, the final values in Table 8.1-2 at the end of the section titled “Screen 2 Trial Test during Development (packer inflated - screens isolated)” (and the similarly labeled section for screen 1) are cited in the text. The only corrections required are two minor edits to values in text for screen 1, related to rounding effects.

NMED Comment

4. Section 8.1.1, Well Development Field Parameters, page 11/Figure 8.3-1a – Installation and construction details for the R-70 sampling system, page 21.

- a. *Based on the most recent Well Completion Details, the following are missing and need to be included in the well completion details for R-70 (Figure 8.3-1a) In a second revision of the Report:*
 - i. Pad
 - ii. Transducer sleeves and description
 - iii. Borehole diameter and description
 - iv. Pump location and description
 - v. Check valve location
 - vi. Pump column and description
 - vii. Casing string shoe locations
- b. *Revise Figure 8.3-1a for to be similar to previous regional aquifer monitoring wells mentioned above. Figure 8.3-1a in the Revised Report lacks the graphical clarity and details and well completion information provided in other dual screen chromium monitoring wells (i.e., R-43*

through R-45, R-50, R-61) and in the most recent monitoring well (R-69), which provide far better understanding of the well construction, completion and Baski sampler set up. NMED would like to emphasize to DOE the importance of well construction as-built diagrams as technical references in future decision making and public review. For instance, in the current figure, the symbols for the surface seal and the bentonite appear in the background of the well casing area obscuring necessary details. Also, the transducer tubes and pump column for R-70 need to be drafted in a manner that is well-defined and clear like those of the other well completion details.

- c. *Revise Figure 3.2-1 Monitoring well R-70 as-built construction diagram and technical well completion details to include well development, final parameter and well survey information like Figure 7.2-1 for R-61.*
- d. *Correct the different pattern used for the top filter pack to be the same as the bottom filter pack, the legend and Figure 3.2-1, if both screens have the same 10/20 gradation filter pack. Likewise, correct the pattern for the transition sand to match with that shown in the legend and Figure 3.2-1.*
- e. *Correct "Filter Rack" to read "Filter Pack" in the diagram annotations and make the descriptions in the figure on page 21 match the descriptions provided in the text on page 11. Provide better quality assurance and quality control on this and all figures submitted to NMED.*
- f. *Label the features shown in the as-built well diagram within the lower filter pack below the "lower transducer screen" as requested. It is not clear what these features are and how they relate to the other dedicated well components. Please label these features and make the well completion details in the as-built diagram clearer and readily understandable as in the previous chromium group monitoring wells. Revise Figure 8.3-1b to include and explain these features.*
- g. *Indicate where the lower screen transducer tube port is in the well head plan view in the pending revision of this figure.*

DOE Response

- 4. DOE has made the required changes. See revised Figures 3.2-1, 8.3-1a, and 8.3-1b.

NMED Comment

- 5. **Section 8.2 Aquifer Testing, page 11.**

DOE Statement: Applicable R-70 aquifer test results and analysis will be included in the assessment report for evaluation of conditions in the regional aquifer around well R-70, which is due to NMED no later than June 30, 2021.

NMED Comment: NMED requires DOE to remove this and all similar statements and subsection 8.2 from the second revision of the Report. See NMED's general comment and specific comment no. 1 above.

DOE Response

- 5. The referenced statement and one other similar statement will be removed in Revision 2.

NMED Comment**6. Section 10.0 Acknowledgements, page 13.**

DOE Statement: David C. Schafer designed, implemented, and analyzed the aquifer tests.

NMED Comment: Remove the aquifer tests acknowledgement and all references to the aquifer tests from the second revision of the Report considering NMED and EPA have judged the tests to have been improperly conducted and the results to be unsuitable for hydraulic analyses.

DOE Response

6. DOE will remove this sentence in the interest of reaching resolution on the comments. However, in doing so, DOE does not concur with the rationale provided by NMED.

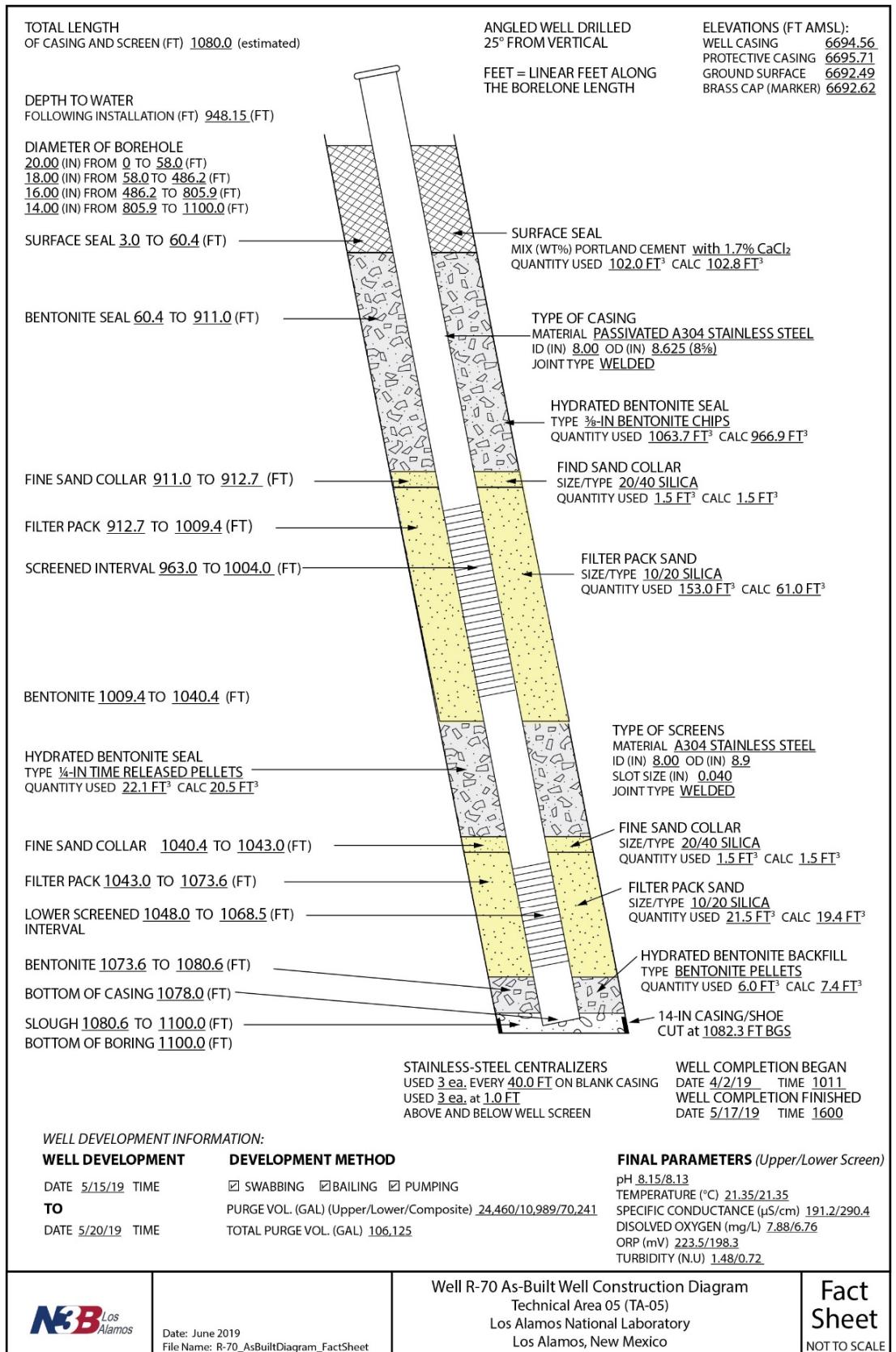


Figure 3.2-1 Monitoring well R-70 as-built construction diagram and technical well completion details

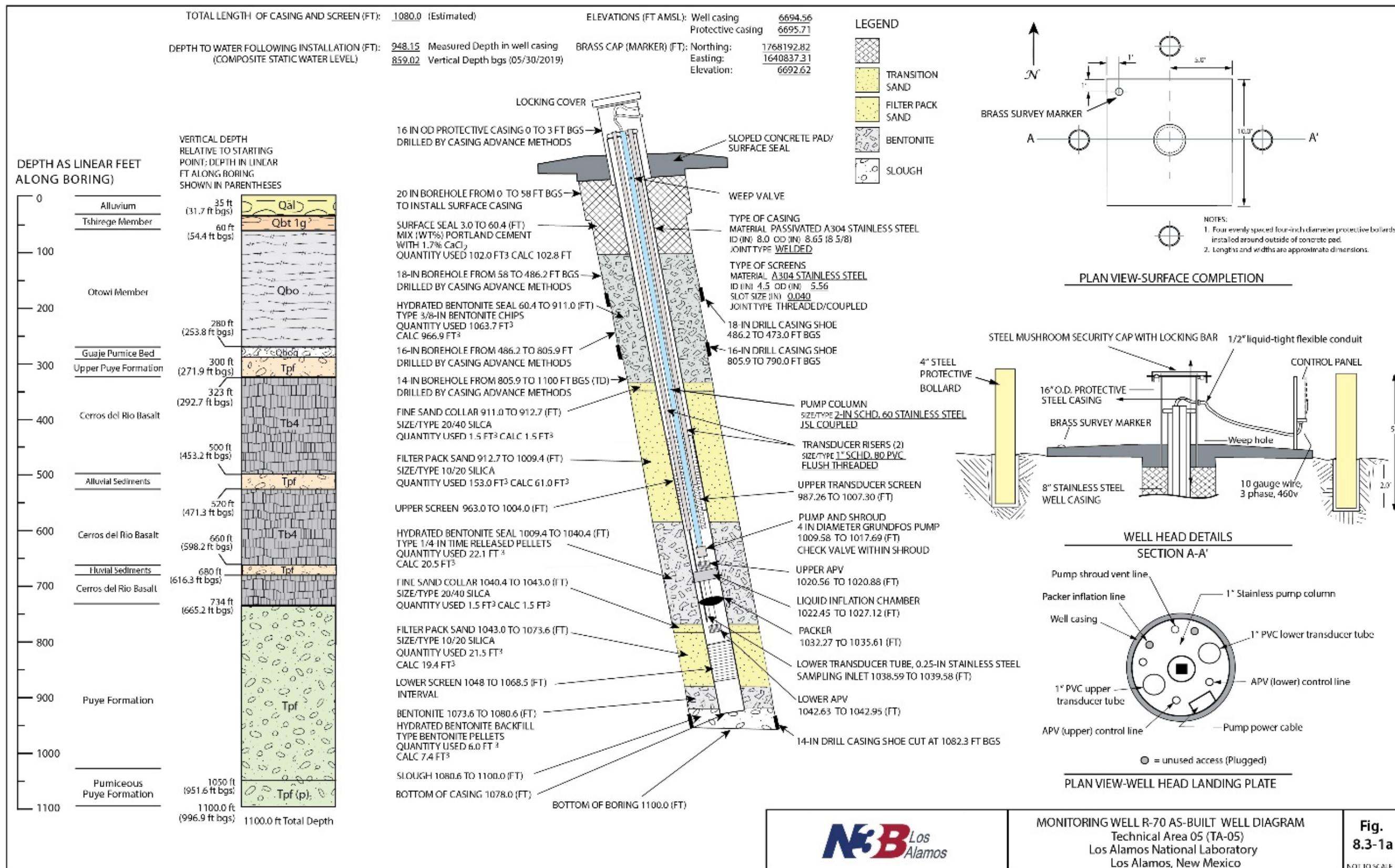


Figure 8.3.1a Installation and construction details for the R-70 sampling system

R-70 SAMPLING SYSTEM DESIGN PACKAGE TECHNICAL NOTES:

SURVEY INFORMATION

Brass Marker
 Northing: 1768192.82
 Easting: 1640837.31
 Elevation: 6692.62

Well Casing
 Northing: 1768186.69
 Easting: 1640838.04
 Elevation: 6694.56

SAMPLING SYSTEM MATERIALS AND PRODUCT LIST

Pump: Grundfos, OK-10550-930-70
 Pump motor: Franklin Electric, 2HP, 3-phase, 460V
 Motor cable: 10g, 3 lead with ground, double jacket

Discharge column: 2-inch, Johnson Spline Lock (JSL) coupled, schedule 60, non annealed A304 stainless steel

Check valve: Swagelok, 1-in. male X male, 316 stainless steel, mod. SS-CHM16-1, 5000 psi

Couplings: 2.375 NUE/Nitronic 60 and 2.375 JSL

Gauge tubes: 1 inch PVC

Banding: 3/4-inch 201 stainless steel with 201 stainless steel buckles

Thread Compound: Jet Lube, V2

Sampling tree: A304 schedule 40 stainless steel 1-inch nipples, elbows, cross, bushings, hose barbs

AQUIFER TESTING

Constant Rate Pumping Test (screen #1)
 Specific Capacity: 13.47 gpm/ft
 Performed on: 07/23-24/2019

Constant Rate Pumping Test (Screen #2)
 Specific Capacity: 7.5 gpm/ft
 Performed on: 05/26-27/2019

DEDICATED SAMPLING SYSTEM

Pump (shrouded)
 Make: Grundfos
 Model: OK-10550-930-70
 S/N: P11832 1001
 environmental retrofit
 Base of shroud at 1017.69 ft bgs

Motor
 Make: Franklin Electric
 Model: 23432786020
 S/N: 19A14-18-00699C

Pump Shroud
 A304 stainless steel, 4.25-in x 0.0120-in, wall tube, Baski Inc. custom; at 1009.58-1017.69 ft bgs

Pump Column
 2-in. JSL coupled schedule 60 non annealed A304 stainless steel tubing

Upper Transducer Tube
 1-in. (I.D.) flush threaded schedule 80 PVC pipe with 10-ft (long) 0.020-in. slotted screen at 987.26 to 1007.30 ft bgs

Lower Transducer Tube
 1-in. (I.D.) flush threaded schedule 80 PVC pipe to 1007.3 ft bgs. Lower transducer tube made of 0.25-in stainless steel tube that extends from a threaded end-cap at the bottom of the PVC tube through the isolation packer. Female bottom cap. Stainless steel screen at 1038.59 to 1039.58 ft bgs.

Upper Transducer
 In Situ LT500 (30 psi)
 S/N: 694581 (Manufactured 2019-10)

Lower Transducer
 In Situ LT500 (30 psi)
 S/N: 694573 (Manufactured 2019-10)

Note: BGS (below ground surface) in this figure refers to linear ft along slanted well casing.

	R-70 SAMPLING SYSTEM DESIGN PACKAGE TECHNICAL NOTES Technical Area 05 (TA-05) Los Alamos National Laboratory Los Alamos, New Mexico	Fig. 8.3-1b
Drafted By: N3B Project Number: 86306	Date: October 10, 2019 Filename:	NOT TO SCALE

Figure 8.3-1b Technical notes for the installation and construction of the R-70 sampling system

