

## SITE INVESTIGATION, **REMEDIATION AND FINAL C-141 CLOSURE DOCUMENTATION**

## A-9 8-INCH

**DEFS REF: #042403** 

UL-C NE<sup>1</sup>/<sub>4</sub> OF THE NW<sup>1</sup>/<sub>4</sub> OF SECTION 18 T21S R36E

~9.3 MILES WEST-NORTHWEST (BEARING 292.1°) OF

**EUNICE, LEA COUNTY, NEW MEXICO** 

LATITUDE: N32° 29' 09.70" LONGITUDE: W103° 18' 27.80"

**JANUARY 13, 2004** 

**PREPARED BY:** 



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### **Project Summary**

#### Site Specific:

- Company Name: Duke Energy Field Services
- Facility Name: A-9 8" Natural Gas Gathering Line
- Project Reference 042403
- Company Contact: Paul Mulkey
- Site Location: WGS84: N32° 29' 09.70"; W103° 18' 27.80"
- ◆ Legal Description: Unit Letter C, (NE¼ of the NW¼), Section 18, T21S, R36E
- General Description: approximately ~9.3-miles west-northwest (292.1°) of Eunice, Lea County, NM
- Elevation: 3625-ft amsl
   Depth to Ground Water: 106-ft
- Land Ownership: Bureau of Land Management; Leased by DASCO Cattle Corp.
- EPI Personnel: Technical Manager Pat McCasland Consultant – John Good Foreman – Conrad Falcon

#### **Release Specific:**

- Product Released: Natural Gas and associated liquids (NGL)
- Volume Released: ~30 bbl Volume Recovered: 15 bbl
- Time of Occurrence: 4/24/03 Time of Discovery: 4/24/03
- Release Source: 8" Steel Pipeline Internal Corrosion
- ♦ Initial Surface Area Affected: 1,568-ft<sup>2</sup> \*

#### Remediation Specific:

- Final Vertical extent of contamination: 30-ft bgs (73-ppm TPH); Remaining depth to ground water: 76-ft
- Water wells within 1000-ft: 0
   Surface water bodies within 1000-ft: 0
- NMOCD Site Ranking Index: 10 points (>50-ft; <100-ft to top of water table)
- Remedial goals for Soil < 56-ft bgs: TPH 1000 ppm; BTEX 50 ppm; Benzene 10 ppm; Chlorides – 250 ppm
- RCRA Waste Classification: Exempt
- Remediation Option Selected: a) Excavate and dispose of contaminated soil from 0'-8' bgs; b) analytical confirmation of sidewall and perimeter contaminant levels; c) Install 2-ft compacted clay barrier at 6' – 8' bgs depth, with 5-ft overlap; d) backfill with clean topsoil for adequate root zone.
- Disposal Facility: South Monument SWF Volume disposed of: 2,896-yd<sup>3</sup>
- Project Completion Date: June 4, 2003
- Additional Commentary: \* Due to historical leakage, sub-surface affected area was larger than preliminary surface indications (6,165-ft<sup>2</sup>).

#### **1.0 Introduction & Background**

This report addresses the site investigation and remediation of the Duke Energy Field Services (DEFS) "A-9 8-Inch 042403" natural gas gathering pipeline remediation site. On April 24, 2003, Environmental Plus, Inc. (EPI) was notified by DEFS regarding a newly discovered natural gas liquids (NGL) release at a location on the A-9 8" pipeline. The initial C-141 Form submitted to the New Mexico Oil Conservation Division (NMOCD) on April 28, 2003 reports the release volume as ~30-bbl with 15-bbl recovered. EPI responded the following day (4/25/03) and commenced GPS delineation, photography, preliminary excavation and characterization of the site. The site initially consisted of a 1,568–ft<sup>2</sup> area with obvious surface NGL contamination (*Plate 3, Attachments*). Excavation of the site revealed sub-surface contamination from previous releases. Remediation of this release site consisted of the excavation and disposal of 2,896-yd<sup>3</sup> (0-ft to 8-ft depth) of contaminated soil from a 6,165-ft<sup>2</sup> final excavation extent. The contaminated soil was disposed of at the South Monument NMOCD approved surface waste facility. After confirmation of adequate lateral excavation, a 2-ft compacted clay barrier was installed at the 6-ft to 8-ft excavation level. The remainder of the excavation (6-ft depth) was backfilled with clean topsoil purchased from DASCO Cattle Corp. The site was contoured for adequate drainage. The project was completed on June 4, 2003.

The release site is located in Unit Letter C (NE¼ of the NW¼), Section 18, T21S, R36E, N32° 29' 09.70" and W103° 18' 27.80". The site is located approximately 9.3-miles west-northwest (292.1°) of Eunice, Lea County, NM. The property is owned by the Bureau of Land Management and leased for grazing purposes by DASCO Cattle Co. (Atlee Snyder). A site location map, site topographical map and detailed GPS site diagrams are included in the Attachments as *Plates 1, 2, 3 and 5*.

The NGL release at this site was discovered on April 24, 2003 and reported to NMOCD that afternoon by Stan Shaver, DEFS. The Initial NMOCD C-141 Form was submitted on April 28, 2003 by EPI. The leak was the result of internal corrosion of the A-9 8" natural gas pipeline. The pipeline was temporarily repaired with a clamp by DEFS personnel, and eventually replaced by a section of poly pipe.

### 2.0 Site Description

#### 2.1 Geological Description

The United States Geological Survey (USGS) Ground-Water Report 6, "Geology and Ground-Water Conditions in Southern Lea County, New Mexico," A. Nicholson and A. Clebsch, 1961, describes the near surface geology of southern Lea County as an intergrade of the Quaternary Alluvium (QA) sediments, i.e., fine to medium sand, with the mostly eroded Cenozoic Ogallala (CO) formation. Typically, the QA and CO formations in the area are capped by a thick interbed of caliche and generally overlain by sandy soil. The release site is located in the Eunice Plain physiographic subdivision, described by Nicholson & Clebsch as an area "underlain by a hard caliche surface and is almost entirely covered by reddish-brown dune sand". The thickness of the sand cover ranges from 2-5 feet in most areas to as much as 20-30 feet in drift areas.

#### 2.2 Ecological Description

The area is typical of the Upper Chihuahuan Desert Biome consisting primarily of hummocky sand hills covered with Harvard Shin Oak (Querqus harvardi) interspersed with Honey Mesquite (Prosopis glandulosa) along with typical desert grasses, flowering annuals and flowering perennials. Mammals represented, include Orrd's and Merriam's Kangaroo Rat, Deer Mouse, White Throated Wood Rat, Cottontail Rabbit, Black Tailed Jackrabbit, Mule Deer, Bobcat, Red Fox and Coyote. Reptiles, Amphibians, and Birds are numerous and typical of area. A survey of Listed, Threatened, or Endangered species was not conducted.

#### 2.3 Area Ground Water

The subsurface at the site is composed of a hard caliche base covered with 2-3-feet of reddish sand/clay topsoil. The presence of ground water in this area of Lea County is best described as intermittent. Based on data obtained from the Office of the State Engineer for a water well approximately 5000-ft southeast of the site, a conservative estimate of ground water depth at this site, if present, would be ~106-ft bgs.

#### 2.4 Area Water Wells and/or Surface Water Features

There are no water wells and/or surface water features within 1000-ft of the release site.

There are no surface water bodies within 1000-ft of the site.

#### 3.0 NMOCD Site Ranking

Contaminant delineation and site characterization accomplished at this site indicate that the chemical parameters of the soil and ground water were characterized consistent with the NMOCD guidelines published in the following documents:

- <u>Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993)</u>
- Unlined Surface Impoundment Closure Guidelines (February 1993)

Acceptable thresholds for **contaminants/constituents of concern** (CoCs), i.e., TPH<sup>8015m</sup>, Benzene, and the mass sum of Benzene, Toluene, Ethyl Benzene, and total Xylene (BTEX), was determined based on the NMOCD Ranking Criteria as follows:

- Depth to Ground water, i.e., distance from the lower most acceptable concentration to the ground water.
- Wellhead Protection Area, i.e., distance from fresh water supply wells.
- Distance to Surface Water Body, i.e., horizontal distance to all down gradient surface water bodies.

Based on the proximity of the site to protectable area water wells, surface water bodies, and depth to ground water from the lower most contamination, the NMOCD ranking score for the site is 10 points with the soil remedial goals highlighted in the Site Ranking Matrix presented as Table 1 on page 5.

### 4.0 Subsurface Soil Investigation

The subsurface soil analyses were accomplished on May 2 and May 23, 2003 with the drilling and sampling of two boreholes in the central area of the release down to 40-ft bgs. Analyses results indicate that TPH, BTEX and Chloride contamination above NMOCD remedial goals exists at the 0-35-ft depth zone within the central area of the release. (*Plates 4, 6 and 7; Attachments*).

#### 5.0 Ground Water Investigation

Ground water depth is conservatively projected to be 106-ft bgs at the site, based on the nearest recorded water well. The site was excavated to a level depth of 8-ft. All contaminated soil left within the excavation (*see Section 7.0 below*) was covered with a 2-ft impermeable layer of compacted clay. The remaining 6-ft depth of the excavation was backfilled with clean caliche and topsoil. Based on the VADSAT Risk Assessment Models for remaining benzene and chlorides and a remaining depth to ground water of >65-ft, there will be no need for further ground water investigation at this site.

1. Grou	und Water	2. Wellhea	d Protection Area	3.	Distance to Surface Water
Depth to ( 20 j	GW <50 feet: points	lf <1000' from <200' from priv	n water source, or; vate domestic water	<200	horizontal feet: 20 points
Depth to feet: 1	GW 50 to 99 10 points	sourc	e: 20 points	20	00-1000 horizontal feet: 10 points
Depth to G 0 p	GW >100 feet: points	lf >1000' from >200' from priv sourc	n water source, or; vate domestic water se: <i>0 points</i>	>100	0 horizontal feet: <i>0 points</i>
Ground Wa	ter Score = 10	Wellhead Pro	otection Score = 0	S	urface Water Score= 0
an a	Site Rank	(1+2+3) = 10 + 0	) + 0 = 10 points (for	r soil 0-	-56'bgs)
and an	Total Site Rank	king Score and A	cceptable Remedial (	Goal Co	oncentrations
Parameter	20	)+	10		0
Benzene <sup>1</sup>	10 p	opm	10 ppm		10 ppm
BTEX <sup>1</sup>	50 p	opm	50 ppm		50 ppm
ТРН	100	ppm	1000 ppm		5000 ppm

 Table 1 - Site Ranking Matrix

#### 6.0 VADSAT Risk Assessment

Very conservative 1000-year Risk Assessment Models of vertical hydrocarbon (benzene) and inorganic chloride migration for this site were generated utilizing the American Petroleum Institute's VADSAT 3.0 software. Although the sampling protocol for this site does not show an inordinate presence of Benzene, it is the chemical species utilized to run the assessment because it is the lightest and fastest migrating of the chemical choices VADSAT offers. VADSAT calculates the Mean Infiltration Rate based on annual precipitation minus a runoff coefficient and the evaporation rate. This number must be positive, so VADSAT does not accommodate arid and semi-arid areas such as southeast NM where the evaporation rate exceeds the precipitation rate.

Although the water table is assumed to be  $\sim$ 106-ft deep at this site, there is no empirical confirmation of this assumption. To allow for more conservancy in the VADSAT risk assessment modeling, the water table depth was artificially set at 50-feet for both assessment models presented with this site.

Two contrasting assessment sets were run for this site: one clay barrier/no barrier set for Chlorides present in the soil at >4200 ppm and one clay barrier/no barrier set for Benzene with a correlated TPH concentration of 32,000 ppm. Other than the two variable constituents and the presence, or lack of, the clay barrier, the input parameters for each assessment are identical. The downstream receptors were set at 1-meter, 10-meters and 100-meters (X=1 X=10 X=100). The transverse offset (Y value) was set at 0-meters, and the depth into the aquifer (Z value) was set at 0.

The results of the computer risk assessment modeling for benzene without a clay barrier in place indicate that benzene present would reach the top of a 50-ft aquifer directly under the site in approximately 20-years (2023) and reach its peak concentration of 1.678 X  $10^{-2}$  ppm 120-years later (2143). The results of the computer risk assessment modeling for chlorides without a clay barrier in place indicate that chlorides present would reach the top of a 50-ft aquifer directly under the site in

approximately 20-years (2023) and reach its peak concentration of 18.28 X  $10^3$  ppm 160-years later (2163). The risk assessment models of the site for both benzene and chlorides, with a clay barrier in place, show a flat-line of 0 values for the 1000-year period modeled, thus the contaminant migration for either constituent theoretically would never reach the aquifer. (See Attachments, pages 27–34).

#### 7.0 Remediation Process

Remediation of the site commenced on April 25, 2003 and continued through June 4, 2003. Remediation of the site consisted of excavation and disposal of 2,896  $yd^3$  of contaminated soil from the excavation down to the 8-ft bgs level. All contaminated soil excavated from the site was disposed of at the South Monument Surface Waste Treatment Facility.

Upon determination that the vertical extent of contamination went to approximately 35-ft bgs beneath the release area, it was decided to isolate the contaminated soil below the 8-ft depth level with the installation of a 2-ft compacted clay barrier. The perimeter of the excavation was expanded approximately 5-ft to provide a clean overlap zone for the clay barrier system. Soil samples of the excavation sidewalls and expanded perimeter were obtained prior to installation of the barrier. One perimeter area (north) displayed a bottom TPH contamination level of 2,370 mg/kg, however, the sidewall in this same area had a TPH level of <40 mg/kg. The 2,370 mg/kg level of TPH contamination beneath the clay barrier perimeter at this one location will present no future problem.

The clay barrier was placed in two stages, 1-ft thickness in each stage. After each 1-ft layer of clay was placed, it was compacted and tested by Pettigrew and Associates, Hobbs, NM. Both layers tested >95% compaction. (*Compaction test results are included in the Attachments*). After the clay barrier was in place and certified, the remainder of the excavation was backfilled with clean topsoil, smoothed and then contoured. (*Plate 5 is a final site demarcation incorporating a GPS delineation of the surface damage area*).

#### 8.0 Closure Justification

This report documents successful implementation of the Risk Assessment and Site Closure Proposal (05-29-03) approved by NMOCD for this release site. 2,896-yd<sup>3</sup> of soil contaminated above acceptable CoC remedial concentrations was excavated and removed from the location. Disposal of the RCRA Exempt contaminated soils was at the South Monument approved land farm. A 2-ft compacted and certified clay barrier was placed over all contaminated soil that was allowed to remain in place in the excavation. The VADSAT Risk Assessment model for this site, with a conservative parameter basis, indicates that there is no risk inherent to leaving the contaminants in-place and that no threat to the existing aquifer beneath the site presents itself. The excavation was backfilled with clean caliche and topsoil and properly contoured to provide adequate drainage. Based on the data presented in this report, Environmental Plus, Inc., on behalf of Duke Energy Field Services, requests that the NMOCD require "no further action" at this site.

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![](_page_10_Figure_0.jpeg)

![](_page_11_Figure_1.jpeg)

![](_page_12_Figure_0.jpeg)

			Duke Energy F	Field Se	rvices -	A-9 8"	- Excav	ation Sa	ampling	Results	;			
Bold	highlighted cells indic	cate values	in excess of the NMOCD r	emedial act	ion guideline	e thresholds:	TPH = 100	0 mg/Kg; Be	enzene = 10	mg/Kg; BTE	X = 50 mg/ł	(g; Cl = 250	+ backgrou	ind
Sample	Excavation	Depth	SAMPLE ID#	GRO <sup>2</sup>	DRO <sup>3</sup>	TPH⁴	BTEX⁵	Benzene	Toluene	Ethyl Benzene	Total Xylenes	CI.	SO4	pН
Date	Samping Area	(ft - bgs <sup>1</sup> )		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
2-May	Borehole #1	5-ft	SDA985203BH1-5	3100	49900	-53000	238.540	0.640	27.200	24.700	186.000			
2-May	Borehole #1	10-ft	SDA985203BH1-10	2390	28400	30790	258.100	0.600	30.600	26.900	200.000	4240		
1-May	BottomHole	13-ft	SDA98in050103EDHG-13	7580	19200	26780	613.960	5.760	152.000	62:200	394:000	128		
2-May	Borehole #1	15-ft	SDA985203BH1-15	1680	20400	22080	172.950	0.050	10.600	17.300	145.000	1120		
2-May	Borehole #1	20-ft	SDA985203BH1-20	4660	2-27300	31960	497.840	1.140	64.200	51.500	381.000	178		
2-May	Borehole #1	25-ft	SDA985203BH1-25	1750	18200	19950	298.000	0.400	37.000	31.600	229.000	240		
23-May	Borehole #2	25-ft	SDA952303CBH-25	1990	7390	9380	381.910	1.510	85.000	38.400	257.000			
23-May	Borehole #2	30-ft	SDA952303CBH-30	56	956	1012	37.196	0.005	0.410	0.481	36.300			
23-May	Borehole #2	40.ft	SDA952303CBH-40	10	10	20	0.030	0.005	0.005	0.005	0.015			
28-May	SW Sidewall	4-8-ft	SDA952803SWSWC	10	16	26	0.030	0.005	0.005	0.005	0.015			
28-May	NW Sidewall	4-8-ft	SDA952803NWSWC	10	26	36	0.030	0.005	0.005	0.005	0.015			
28-May	SE Sidewall	4-8-ft	SDA952803SESWC	10	10	20	0.030	0.005	0.005	0.005	0.015			
28-May	NE Sidewall	4-8-ft	SDA952803NESWC	10	22	32	0.030	0.005	0.005	0.005	0.015			
28-May	South Btm Perimeter	8-ft	SDA952803SBPC	10	315	325	0.030	0.005	0.005	0.005	0.015			
28-May	North Btm Perimeter	8-ft	SDA952803NBPC	10	2360	2370	0.030	0.005	0.005	0.005	0.015			
28-May	East Btm Perimeter	8-ft	SDA952803EBPC	10	281	291	0.030	0.005	0.005	0.005	0.015			
28-May	West Btm Perimeter	8-ft	SDA952803WBPC	10	794	804	0.046	0.005	0.005	0.005	0.031			
<sup>1</sup> bgs = belo <sup>5</sup> BTEX = S	w ground surface <sup>2</sup> ( um of CoC's (Detection	GRO - Gasol Limits = 0.00	ine Range Organics (Detection) 05 mg/Kg: 0.015 mg/Kg) Not	on Limit = 10 e: Reported d	mg/Kg) <sup>3</sup> D etection limit:	RO - Diesel I s are conside	Range Organ red "de minin	ics (Detection	Limit = 10 m	g/Kg) <sup>4</sup> TPH ed in the TPH	I - Total Petro and BTEX su	pleum Hydroc	arbon (GRO-	+DRO)

![](_page_14_Figure_0.jpeg)

# Plate N T Borehole Sample Analytical Results **Bar Charts**

Duke Energy Field Services

14

![](_page_15_Figure_0.jpeg)

## LABORATORY ANALYTICAL RESULTS

![](_page_17_Figure_0.jpeg)

![](_page_18_Picture_1.jpeg)

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603 PHONE (505) 393-2328 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR ENVIRONMENTAL PLUS, INC. ATTN: JOHN GOOD P.O. BOX 1558 EUNICE, NM 88231 FAX TO: (505) 394-2601

Receiving Date: 05/02/03 Reporting Date: 05/06/03 Project Owner: DUKE ENERGY FIELD SERVICES Project Name: DEFS A-9 8" 042403 Project Location: UL-C SECTION 18 T21S R36E Sampling Date: 05/01/03 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: GP Analyzed By: BC/AH

LAB NUMBER SAMPLE ID	GRO (C <sub>6</sub> -C₁₀) (mg/Kg)	DRO (>C <sub>10</sub> -C <sub>28</sub> ) (mg/Kg)	Cl* (mg/Kg)
ANALYSIS DATE	05/05/03	05/05/03	05/05/03
H7631-1 SDA98in050103EDHG-13	7580	19200	128
Quality Control	790	813	1050
True Value QC	800	800	1000
% Recovery	98.8	102	105
Relative Percent Difference	0.3	1.2	2.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; CI<sup>\*</sup>: Std. Methods 4500-CI<sup>\*</sup>B \*Analysis performed on a 1:4 w:v aqueous extract.

buyers for Cosh

516103 Date

#### H7631A.XLS

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![](_page_19_Picture_1.jpeg)

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CTUN/I

ANALYTICAL RESULTS FOR ENVIRONMENTAL PLUS, INC. ATTN: JOHN GOOD P.O. BOX 1558 EUNICE, NM 88231 FAX TO: (505) 394-2601

Receiving Date: 05/02/03 Reporting Date: 05/06/03 Project Owner: DUKE ENERGY FIELD SERVICES Project Name: DEFS A-9 8" 042403 Project Location: UL-C SECTION 18 T21S R36E Sampling Date: 05/01/03 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: GP Analyzed By: BC/AH

TOTAL

LAB NUMBER SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mġ/Kġ)	BENZENE (mg/Kg)	XYLENES (mg/Kg)
ANALYSIS DATE	05/05/03	05/05/03	05/05/03	05/05/03
H7631-1 SDA98in050103EDHG-13	5.76	152	62.2	394
Quality Control	0.112	0.108	0.109	0.309
True Value QC	0.100	0.100	0.100	0.300
% Recovery	112	108	109	103.0
Relative Percent Difference	4.7	0.9	1.1	3.8

METHOD: EPA SW-846 8260

buy all Af Coth

5/6/08 Date

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or lort, shall be limited to the amount pad by client for analyses All claims, including those for negligence and any other cause whatsoever shall be deemed waired unless made in writing and received by Cardinal within thiny (30) days after completion of the applicable service **HFROMED SMIL Control** (1997) and the completion of the applicable deemed waires interface the cardinal within thiny (30) days after completion of the applicable service **HFROMED SMIL Control** (1997) and the control of the control of the control of the applicable of the control of

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Client Company	DUKE EN	ERGY FIELD	SER	RVI	CES	3	1		-	J <b>r</b> ini		Ę	 	j= <b>2</b>			ſ	1	1							
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Project Location	UL-C SEC	CTION 18 T2	<b>1</b> S	R3	6E								40													
EPI Sampler Nan	ne BRADLE	BLEVINS					1																			
			. ]				MA	TRIX	1		PR	E8E	RV.	SAM	PLING	1										
LAB I.D.	SAMPLE I.	D.	(G)KAB OR (C)OMP	# CONTAINERS	<b>GROUND WATER</b>	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	ACID/BASE	ICE/COOL	OTHER	DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (CI)	SULFATES (SO4)	Hd	TCLP	OTHER >>>				
67632-1 1	SDA985203BH1-5		GŤ	1			X				H	X	Ť	2-Mav	8:40	X	X	Ť	<u> </u>		Ċ.	Ē			-†	-1
-2- 2	SDA985203BH1-10		GŤ	1			X					X		2-May	9:00	X	X	Īx							1	-†
-7 3	SDA985203BH1-15		G	1			X				· · · · ·	X		2-May	9:45	X	X	X							-	-1
_ic 4	SDA985203BH1-20		G	1			X					X		2-May	11:30	X	X	X								_
< 5	SDA985203BH1-25		G	1			X					X		2-May	14:10	X	X	X								-1
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ampler Relinguished	m	Data 5/2/03 RI Time 4: 10	ecelv	ved E	y. 11	n	Ľ		Λ			Fax Rem	Res	uits To Joi :	hn Good (	505-	394-2	2601				- reader		Ber and party of	944 W	U.4
telinquished by: CMILLE		Delas/5/03 Ra	Cel	red B	hr (18 N.L			U	Ų																	
Jelivered by:		Sample Co Yes	ool &	i nta	ici D	V		Cha	ecked	By:																

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DEFS A-9 8Inch 042403 Chain of Custody 050502.xls

![](_page_21_Picture_1.jpeg)

PHONE (915) 673-7001 - 2111 BEECHWOOD - ABILENE, TX 79803 PHONE (505) 393-2326 - 101 E. MARLAND - HOBBS, NM 88240

ANALYTICAL RESULTS FOR ENVIRONMENTAL PLUS, INC. ATTN: JOHN GOOD P.O. BOX 1558 EUNICE, NM 88231 FAX TO: (505) 394-2601

Receiving Date: 05/05/03 Reporting Date: 05/07/03 Project Owner: DUKE ENERGY FIELD SERVICES Project Name: DEFS A-9 8" 042403 Project Location: UL-C SECTION 18 T21S R36E Sampling Date: 05/02/03 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: AH Analyzed By: BC/AH

LAB NUMBE	R SAMPLE ID	GRO (C <sub>6</sub> C <sub>10</sub> ) (mg/Kg)	DRO (>C <sub>10</sub> -C <sub>28</sub> ) (mg/Kg)	Cl⁺ (mg/Kg)	
ANALYSIS C	DATE	05/06/03	05/06/03	05/06/03	-
H7633-1	SDA985203BH1-5	3100	49900	-	-
H7633-2	SDA985203BH1-10	2390	28400	4240	-
H7633-3	SDA985203BH1-15	1680	20400	1120	-
H7633-4	SDA985203BH1-20	4660	27300	176	-
H7633-5	SDA985203BH1-25	1750	18200	240	_
Quality Cont	rol	771	806	1050	
True Value C	2C	800	800	1000	
% Recovery		96.4	101	105	
Relative Per	cent Difference	5.7	1.7	2.0	

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; CI': Std. Methods 4500-CI'B \*Analyses performed on 1:4 w:v aqueous extracts.

517,03 Date

#### H7633A.XLS

PLEASE NOTE: Liability and Demages. Cerdinat's isability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be listeed to the amount paid by client for analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed waired unless made in writing and received by Cerdinat within themy (30) days after completion of the applicable service. In no event shall Cardinat be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, is subsidiaries, affiliates or successors arising out of or related to the performance of services herunder by Cardinat, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

![](_page_22_Picture_1.jpeg)

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79903 PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR ENVIRONMENTAL PLUS, INC. ATTN: JOHN GOOD P.O. BOX 1558 EUNICE, NM 88231 FAX TO: (505) 394-2601

Receiving Date: 05/05/03 Reporting Date: 05/07/03 Project Owner: DUKE ENERGY FIELD SERVICES Project Name: DEFS A-9 8" 042403 Project Location: UL-C SECTION 18 T21S R36E Sampling Date: 05/02/03 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: AH Analyzed By: BC/AH

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LAB NUMBER	SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	BENZENE (mg/Kg)	XYLENES (mg/Kg)
ANALYSIS DA	TE	05/07/03	05/07/03	05/07/03	05/07/03
H7633-1	SDA985203BH1-5	0.640	27.2	24.7	186
H7633-2	SDA985203BH1-10	0.600	30.6	26.9	200
H7633-3	SDA985203BH1-15	< 0.050	10.6	17.3	145
H7633-4	SDA985203BH1-20	1.14	64.2	51.5	381
H7633-5	SDA985203BH1-25	0.400	37.0	31.6	229
Quality Control	<b></b>	0.099	0.106	0.103	0.290
True Value QC		0.100	0.100	0.100	0.300
% Recovery		99.0	106	103	96.8
<b>Relative Perce</b>	nt Difference	7.9	4.1	1.0	2.4

METHOD: EPA SW-846 8260

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PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remarky for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analysis. All claims, including those for negligence and any other cause whatapever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In programm seall defined be liable for incidential or consequential damages. Including, without limitation, business interruptions, loss of use, or loss of profils incurried by client, its subsidiaries, affliates of subcession strating out of or related to the performance of services herewide by Cardinal, regardless of whether such claim is based upon any of the above-stated measures or histories.

Cardinal	Laborator	ies Inc	с.																								
101 East Marland	I, Hobbs, NM 88240						21	11 E	Beec	:hw	ood	, At	bilen	ie, TX 796	603												
505-393-2326 F	ax 505-393-2476						91	5-67	'3-7	001	F	ax 9	915-	673-7020													
Company Name	Environm	ental Plus, I	nc.				,					Bil	To	attre Larres		e terr			AN	ALY	818	; RE	QU	EST	د. برد عالیزیر	ta sette an	
EPI Project Mana	iger John Goo	d														T	Γ		Γ	Γ	Γ	$\square$					
Billing Address	P.O. BOX	1558																									
City, State, Zip	Eunice No	ew Mexico 8	82	31			]		_	1			яШı	e.													1
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Client Company	DUKE EN	ERGY FIELD	SE	RVI	CES	3	1		-		<u></u>		Ĵ	<u>∫</u> ≈ <b>≡</b>					1								
Project Name (Ib	No Ref) DEFS (A-9	) 8° 042403	53 (			- 144 - <u>1</u> 4 							M	•													1
Project Location	UL-C SEC	<b>CTION 18 T</b> 2	215	R3	6E								a, 1, 1, 1,	~				l						[			
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					Ι		MA	TRIX			PR	E8E	RV.	SAMP	PLING	1											1
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LAB I.D.	SAMPLE I.	D.	(G)RAB OR (	# CONTAINE	GROUND W	WASTEWATI	SOIL	CRUDE OIL	SLUDGE	OTHER:	ACID/BASE	ICE/COOL	OTHER	DATE	TIME	BTEX 8021B	<b>TPH 8015M</b>	CHLORIDES	SULFATES (	H	TCLP	OTHER >>>					
H7685-1 1	SDA952303CBH-25		G	1	I	1	X					X		23-May	8:40	X	X	Î –		Î		П					
- 2 2	SDA952303CBH-30		G	1	Î		X					X	T	23-May	9:25	X	X										·
-3 3	SDA952303CBH-35		G	. 1	Ī	Γ	X				Ĺ	X	T	23-May	10:20	X	X					П					
-4 4	8DA952303CBH-40		G	1			X				Î	X	T	23-May	12:45	X	X		1			П					
5																T						П					
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Sampler Relinguished:	Paym ~	Date 123/03	lece	ived I		 		1	-	ſ		Fax REM	Res ARKS	ults To Joi 3:	nn Good	505-	394-	2601	!			<u> </u>		<u></u>			
Relinquished by	and	Date <u>5-27-03</u> Time	Rep	H.	n In l	ab ste	<b>1</b> 7	1 l	l		_																
Delivered by:	<u> </u>	Sample Yes	Cool	é inte N	aict ( Io	)	11	Che	oked	By:																	

![](_page_24_Picture_1.jpeg)

PHONE (915) 673-7001 · 2111 BEECHWOOD · ABILENE, TX 79603 PHONE (505) 393-2326 + 101 E. MARLAND + HOBBS, NM 88240

ANALYTICAL RESULTS FOR ENVIRONMENTAL PLUS, INC. ATTN: JOHN GOOD P.O. BOX 1558 EUNICE, NM 88231 FAX TO: (505) 394-2601

Receiving Date: 05/27/03 Reporting Date: 05/28/03 Project Owner: DUKE ENERGY FIELD SERVICES Project Name: DEFS A-9 8" 042403 Project Location: UL-C SECTION 18 T21S R36E

Sampling Date: 05/23/03 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: AH Analyzed By: BC

		GRO	DRO			ETHYL	TOTAL
LAB NO.	SAMPLE ID	(C6-C10)	(>C <sub>10</sub> -C <sub>28</sub> )	BENZENE	TOLUENE	BENZENE	XYLENES
		(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
ANALYSI	S DATE:	05/27/03	05/27/03	05/27/03	05/27/03	05/27/03	05/27/03
H7685-1	SDA952303CBH-25	1990	7390	1.51	85.0	38.4	257
H7685-2	SDA952303CBH-30	55.5	946	< 0.005	0.410	0.481	36.3
H7685-3	SDA952303CBH-35	<10.0	62.5	< 0.005	< 0.005	< 0.005	<0.015
H7685-4	SDA952303CBH-40	<10.0	<10.0	<0.005	< 0.005	<0.005	<0.015
Quality Co	ontrol	779	824	0.094	0.093	0.092	0.273
True Valu	e QC	800	800	0.100	0.100	0.100	0.300
% Recove	iry	97.4	103	93.6	93.0	92.2	91.1
<b>Relative</b> F	ercent Difference	2.3	10.3	7.1	1.1	4.4	4.3

METHODS: TPH GRO & DRO - EPA SW-846 8015 M; BTEX - SW-846 8260.

Burgess J. A. Oboke. Ph. D.

512805

Date

H7685.XLS

PLEASE NOTE: Liability and Damages. Cardine's tability and client's exclusive remec. All claims, including those for negligence and any other cause whatsoever shall be deem service. In no event shall Cardinal be tables for incidental or consequential damages, inc affiliates or successors arising out of or related to the performance of services hereunder I by for any claim ansing, whether based in contract or tort, shall be limited to the amount paid by chart for ane ad waived unless made in writing and received by **Cardinal** within thinty (30) days after completion of the app Juding, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsid s, incl by C im is based upon dinal me of the

Cardinal	l Laborator	ries Inc																								
101 East Marland	d, Hobbs, NM 88240						21	11 E	eed	:hw	ood	, At	oilen	e, TX 796	303											
505-393-2326	Fax 505-393-2476						91	5-67	'3-7	001	F	ax S	015-	673-7020	)											
Company Name	Environm	ental Plus, li	nc.				-	an na tan 'a tan		27 Contrast 		Bil	l Ta			La			AN		(515	RE	QU	EST		
EPI Project Mana	ager John Goo	d														Τ										
Billing Address	P.O. BOX	(1558				_	]																i I			
City, State, Zip	Eunice N	ew Mexico 8	823	31					_	1		· ·	爴													
EPI Phone#/Fax#	\$ <u>505-394-</u>	3481 / 505-3	94-	260	)1		] <			, d.exia		đ	E													
Client Company	DUKE EN	ERGY FIELD	SE	RVI	CES	}	]		~	j.	<u> </u>		Ĵ	<u>}</u> =-												
Project Name (II	ov. Rei) Defs Af	9 8 042403		137	\$C.					•			I													
Project Location	UL-C SEC	<b>CTION 18 T2</b>	1S	R3	6E		]						**** #* par	-												
EPI Sampler Nan	ne JOHN GO	DOD															1									
							MA	TRIX			PR	E8E	RV.	SAM	PLING	1										
LAB I.D.	SAMPLE I.	D.	(G)RAB OR (C)OMP	# CONTAINERS	<b>GROUND WATER</b>	WASTEWATER	soll	CRUDE OIL	SLUDGE	OTHER:	ACID/BASE	ICE/COOL	OTHER	DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (CI)	SULFATES (SO, )	H	TCLP	OTHER >>>				
1-71089-1 1	8DA952803SWSW0	C 1	C	1			X	-		-	Ī	X	T	28-May	8:30	X	X				Ē				十	十
- 7 2	SDA952803NWSW	C	С	1			X					X	Î	28-May	8:35	X	X									
-33	SDA952803SESWC		С	1			X					X		28-May	8:40	X	X									Т
-4 4	SDA952803NESWC		C	1			X					X		28-May	8:45	X	X								T	
-5 5	SDA952803SBPC		С	1			X					X		28-May	8:50	X	X									Т
-( <sub>0</sub> 6	SDA952803NBPC		С	1			X					X	l	28-May	8:55	X	X									
-7 7	SDA952803EBPC		С	1			X					X	Γ	28-May	9:00	X	X									
-8 8	SDA952803WBPC		C	1			X				Γ	X		28-May	9:05	X	X									T
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Delivered by	~	Sample C Yes		6 Ints N	act (	5		Che	icked	<u>Вү:</u>																

![](_page_26_Picture_1.jpeg)

PHONE (915) 673-7001 · 2111 BEECHWOOD · ABILENE, TX 78603 PHONE (505) 393-2328 + 101 E. MARLAND + HOBBS, NM 88240

ANALYTICAL RESULTS FOR ENVIRONMENTAL PLUS, INC. ATTN: JOHN GOOD P.O. BOX 1558 EUNICE, NM 88231 FAX TO: (505) 394-2601

Receiving Date: 05/28/03 Reporting Date: 06/04/03 Project Owner: DUKE ENERGY FIELD SERVICES Project Name: DEFS A-9 8" 042403 Project Location: UL-C SECTION 18 T21S R36E

Sampling Date: 05/28/03 Sample Type: SOIL Sample Condition: COOL & IN TACT Sample Received By: AH Analyzed By: BC

		GRO	DRO			ETHYL	TOTAL
LAB NO.	SAMPLE ID	(C6-C10)	(>C10-C28)	BENZENE	TOLUENE	BENZENE	XYLENES
		(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
ANALYSIS	DATE:	05/28/03	05/28/03	05/29/03	05/29/03	05/29/03	05/29/03
H7689-1	SDA952803SWSWC	<10.0	15.5	<0.005	<0.005	<0.005	<0.015
H7689-2	SDA952803NWSWC	<10.0	26.2	<0.005	<0.005	<0.005	<0.015
H7689-3	SDA952803SESWC	<10.0	<10.0	< 0.005	< 0.005	<0.005	< 0.015
H7689-4	SDA952803NESWC	<10.0	21.6	<0.005	< 0.005	< 0.005	<0.015
H7689-5	SDA952803SBPC	<10.0	315	< 0.005	<0.005	<0.005	<0.015
H7689-6	SDA952803NBPC	<10.0	733*	< 0.005	<0.005	< 0.005	<0.015
H7689-7	SDA952803EBPC	<10.0	281	<0.005	<0.005	< 0.005	<0.015
H7689-8	SDA952803WBPC	<10.0	483*	<0.005	<0.005	<0.005	<0.015*
Quality Co	ontrol	814	844	0.092	0.098	0.091	0.268
True Value	e QC	800	800	0.100	0.100	0.100	0.300
% Recove	ry	102	106	91.9	97.9	90.8	89.3
<b>Relative P</b>	ercent Difference	2.5	3.4	1.9	5.1	1.6	2.1

METHODS: TPH GRO & DRO - EPA SW-846 8015 M; BTEX - SW-846 8260. \*From reanalysis on 06/02/03.

Burgess J. A. Coloke, Ph. D

6/4/02 Date

H7689A.XLS

PLEASE NOTE: Liability and Damages. Condinant's liability and client's exclusive remedy for any claim ansing, whether based in contract or tort, shall be immed to the amount paid by client for analyses. All claims, including those for negligence and any other cause whethoever shall be deemed warded unless made in writing and receiver by Candhai within thirty (30) days after completion of the applicable service. In no event shall Candhale be liable for incidential or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profile incidential or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profile incidential or benefits within the applicable and any of the above-stated to the performance of services herounder by Candhal, regardless of whether such claim is based upon any of the above-stated traces or cherwise.

![](_page_27_Figure_1.jpeg)

Plate 9 - VADSAT Benzene Risk Assessment Charts

#### VADSAT Data Table (Benzene without a clay barrier)

		1 Meter	10 Meter	100 Meter			1 Meter	10 Meter	100 Meter
	Water	Down	Down	Down		Water	Down	Down	Down
Year	Table	Gradient	Gradient	Gradient	Year	Table	Gradient	Gradient	Gradient
2003	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2503	1.60E-02	2.54E-03	1.28E-03	3.73E-05
2013	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2513	1.60E-02	2.53E-03	1.28E-03	3.72E-05
2023	3.83E-10	5.30E-11	2.14E-11	1.19E-13	2523	1.59E-02	2.53E-03	1.28E-03	3.72E-05
2033	1.13E-06	1.69E-07	7.55E-08	8.71E-10	2533	1.59E-02	2.53E-03	1.28E-03	3.71E-05
2043	7.97E-05	1.21E-05	5.76E-06	9.74E-08	2543	1.59E-02	2.52E-03	1.28E-03	3.71E-05
2053	8.85E-04	1.37E-04	6.68E-05	1.41E-06	2553	1.59E-02	2.52E-03	1.27E-03	3.70E-05
2063	3.53E-03	5.51E-04	2.73E-04	6.58E-06	2563	1.58E-02	2.51E-03	1.27E-03	3.70E-05
2073	7.70E-03	1.21E-03	6.06E-04	1.58E-05	2573	1.58E-02	2.51E-03	1.27E-03	3.69E-05
2083	1.17E-02	1.85E-03	9.30E-04	2.56E-05	2583	1.58E-02	2.51E-03	1.27E-03	3.69E-05
2093	1.44E-02	2.33E-03	1.15E-03	3.26E-05	2593	1.58E-02	2.50E-03	1.27E-03	3.68E-05
2103	1.59E-02	2.57E-03	1.27E-03	3.65E-05	2603	1.58E-02	2.50E-03	1.26E-03	3.68E-05
2113	1.65E-02	2.67E-03	1.32E-03	3.83E-05	2613	1.57E-02	2.50E-03	1.26E-03	3.67E-05
2123	1.67E-02	2.71E-03	1.34E-03	3.89E-05	2623	1.57E-02	2.49E-03	1.26E-03	3.67E-05
2133	1.68E-02	2.72E-03	1.35E-03	3.91E-05	2633	1.57E-02	2.49E-03	1.26E-03	3.66E-05
2143	1.68E-02	2.72E-03	1.35E-03	3.92E-05	2643	1.57E-02	2.49E-03	1.26E-03	3.66E-05
2153	1.68E-02	2.72E-03	1.35E-03	3.91E-05	2653	1.56E-02	2.48E-03	1.26E-03	3.65E-05
2163	1.68E-02	2.71E-03	1.34E-03	3.91E-05	2663	1.56E-02	2.48E-03	1.25E-03	3.65E-05
2173	1.67E-02	2.71E-03	1.34E-03	3.90E-05	2673	1.56E-02	2.48E-03	1.25E-03	3.64E-05
2183	1.67E-02	2.65E-03	1.34E-03	3.90E-05	2683	1.56E-02	2.47E-03	1.25E-03	3.64E-05
2193	1.67E-02	2.65E-03	1.34E-03	3.89E-05	2693	1.56E-02	2.47E-03	1.25E-03	3.63E-05
2203	1.67E-02	2.64E-03	1.34E-03	3.89E-05	2703	1.55E-02	2.47E-03	1.25E-03	3.63E-05
2213	1.66E-02	2.64E-03	1.33E-03	3.88E-05	2713	1.55E-02	2.46E-03	1.25E-03	3.62E-05
2223	1.66E-02	2.64E-03	1.33E-03	3.88E-05	2723	1.55E-02	2.46E-03	1.24E-03	3.62E-05
2233	1.66E-02	2.63E-03	1.33E-03	3.87E-05	2733	1.55E-02	2.46E-03	1.24E-03	3.61E-05
2243	1.66E-02	2.63E-03	1.33E-03	3.87E-05	2743	1.55E-02	2.45E-03	1.24E-03	3.61E-05
2253	1.65E-02	2.63E-03	1.33E-03	3.86E-05	2753	1.54E-02	2.45E-03	1.24E-03	3.60E-05
2263	1.65E-02	2.62E-03	1.33E-03	3.85E-05	2763	1.54E-02	2.45E-03	1.24E-03	3.60E-05
2273	1.65E-02	2.62E-03	1.32E-03	3.85E-05	2773	1.54E-02	2.44E-03	1.23E-03	3.59E-05
2283	1.6 <u>5E</u> -02	2. <u>61E-03</u>	1.32E-03	3.84E-05	2783	1.54E-02	2.44E-03	1.23E-03	3.59E-05
2293	1.65E-02	2.61E-03	1.32E-03	3.84E-05	2793	1.53E-02	2.44E-03	1.23E-03	3.58E-05
2303	1.64E-02	2.61E-03	1.32E-03	3.83E-05	2803	1.53E-02	2.43E-03	1.23E-03	3.58E-05
2313	1.64E-02	2.60E-03	1.32E-03	3.83E-05	2813	1.53E-02	2.43E-03	1.23E-03	3.57E-05
2323	1.64E-02	2.60E-03	1.31E-03	3.82E-05	2823	1.53E-02	2.43E-03	1.23E-03	3.57E-05
2333	1.6 <u>4E</u> -02	2.60E-03	1.31E-03	3.82E-05	2833	1.53E-02	2.42E-03	1.22E-03	3.56E-05
2343	1.63E-02	2.59E-03	1.31E-03	3.81E-05	2843	1.52E-02	2.42E-03	1.22E-03	3.56E-05
2353	1.63E-02	2.59E-03	1.31E-03	3.81E-05	2853	1.52E-02	2.42E-03	1.22E-03	3.55E-05
2363	1.63E-02	2.59E-03	1.31E-03	3.80E-05	2863	1.52E-02	2.41E-03	1.22E-03	3.55E-05
2373	1.63E-02	2.58E-03	1.31E-03	3.80E-05	2873	1.52E-02	2.41E-03	1.22E-03	3.54E-05
2383	1.62E-02	2.58E-03	1.30E-03	3.79E-05	2883	1.52E-02	2.41E-03	1.22E-03	3.54E-05
2393	1.62E-02	2.57E-03	1.30E-03	3.79E-05	2893	1.51E-02	2.40E-03	1.21E-03	3.53E-05
2403	1.62E-02	2.57E-03	1.30E-03	3.78E-05	2903	1.51E-02	2.40E-03	1.21E-03	3.53E-05
2413	1.62E-02	2.57E-03	1.30E-03	_3.77E-05	2913	1.51E-02	2.40E-03	1.21E-03	3.52E-05
2423	1.62E-02	2.56E-03	1.30E-03	3.77E-05	2923	1.51E-02	2.39E-03	1.21E-03	3.52E-05
2433	1.61E-02	2.56E-03	1.29E-03	3.76E-05	2933	1.50E-02	2.39E-03	1.21E-03	3.51E-05
2443	1.61E-02	2.56E-03	1.29E-03	3.76E-05	2943	1.50E-02	2.39E-03	1.21E-03	3.51E-05
2453	1.61E-02	2.55E-03	1.29E-03	3.75E-05	2953	1.50E-02	2.38E-03	1.20E-03	3.50E-05
2463	1.61E-02	2.55E-03	1.29E-03	3.75E-05	2963	1.50E-02	2.38E-03	1.20E-03	3.50E-05
2473	1.60E-02	2.55E-03	1.29E-03	3.74E-05	2973	1.50E-02	2.38E-03	1.20E-03	3.49E-05
2483	1.60E-02	2.54E-03	1.29E-03	3.74E-05	2983	1.49E-02	2.37E-03	1.20E-03	3.49E-05
2493	1.60E-02	2.54E-03	1.28E-03	3.73E-05	2993	1.49E-02	2.37E-03	1.20E-03	3.48E-05

#### VADSAT Risk Assessment Criteria and Data (Benzene)

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                              VADSAT Version 3.0
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   +
   +
        A Monte Carlo Model for Assessing the Effects of Soil
   +
                   Contamination on Groundwater Quality
   +
   +
                                  Developed by:
                 Environmental Systems and Technologies Inc.
                         Blacksburg, Virginia
    +
                    Tel: 703-552-0685, Fax: 703-951-5307
                                       For
                     The American Petroleum Institute
                                      1995
PROJECT TITLE: DEFS A9 8inch 042403
SOURCE AND CHEMICAL DATA ****
DEPTHM, MEAN THICKNESS OF WASTE ZONE (m) = 12.19200
DEPSTD, STD.DEV. OF THICKNESS OF WASTE ZONE =
                                            0.00000
AREAM, MEAN WASTE ZONE AREA (m^2)
                                     = 185.81000
STDA, STD.DEV. OF WASTE ZONE AREA
                                        0.00000
                                    =
RLWM, MEAN L/W RATIO (-)
                                  1.00000
                                      0.00000
STDRLW, STD.DEV. OF L/W RATIO
                                  =
CVRTHM, MEAN VALUE OF COVER THICKNESS (m) = 0.00000
CVRTHS, STD.DEV. OF COVER THICKNESS
                                     = 0.00000
KOCM, MEAN ORG. CARBON PARTITION COEF (cm^3/g)= 83.20000
STDKOC, STD.DEV. OF ORG.CARBON PARTITION COEF=
                                              0.00000
FMOLM, MEAN INIT.VOL.FRAC. OF CONTAMINANT(-) =
                                            0.00019
FMOLSTD, STD.DEV. OF VOL FRAC. OF CONTAMINANT=
                                             0.00000
CMFM, MASS OF CONTAMINANT PER MASS OF WASTE(mg/kg) =
                                                    6.00000
CMFSD, STD.DEV. OF MASS CONTAMINANT PER MASS WASTE =
                                                    0.00000
HCCONM, HYDCARBON MASS FRAC. IN WASTE (mg/kg)= 32000.00000
HCCONS, STD OF HYDCARBON MASS FRAC. IN WASTE = 0.00000
CHEMICAL SPECIES
                                 benzene
MOLW, MOLECULAR WT. OF CONTAMINANT (g/mole) = 78.10000
AVERMW, AVG. MOL. WT. OF OILY WASTE (g/mole) = 100.00000
RHO, DENSITY OF CONTAMINANT (g/cm^3)
                                          0.87600
                                       =
RHOG, AVERAGE DENSITY OF HYDROCARBON (q/cm^3)= 0.90000
SOL, AQUEOUS SOLUB. OF CONTAMINANT (g/m^3) = 1790.00000
HENRYC, HENRY'S CONSTANT (-)
                                  =
                                      0.23000
```

DIFFA, DIFFUSION COEF. IN FREE AIR $(m^2/day) = 0.77000$
HYDROGEOLOGICAL PROPERTIES
** UNSATURATED ZONE INPUT PARAMETERS ** GAMMAM, MEAN UNSAT ZONE DECAY COEF (1/day) = 0.00010 STDGAM, STD.DEV. OF UNSAT ZONE DECAY COEF = 0.00000
UNFOCM, MEAN UNSAT ZONE ORGANIC CARBON FRACTION (-) = 0.00000 UNFOCS, STD.DEV. OF UNSAT ZONE ORGANIC CARBON FRAC. = 0.00000
FKSW, MEAN SAT. CONDUCTIVITY (m/day) = 0.02900 STDFKS, STD.DEV. OF SAT. CONDUCTIVITY = 0.000
DISTM, MEAN DEPTH TO GROUNDWATER (m) = $15.24000$ STDDST, STD.DEV. OF DEPTH TO GROUNDWATER = $0.00000$
UNPORM, MEAN VADOSE ZONE POROSITY (-) = 0.38000 SUNPOR, STD.DEV. OF VADOSE ZONE POROSITY = 0.00000
PARNM, MEAN VALUE OF VG PARAMETER N (-) $=$ 1.23000 SDPARN, STD.DEV. OF VG PARAMETER N $=$ 0.00000
RESWCM, MEAN RESIDUAL WATER CONTENT $(-) = 0.01110$ RESWCS, STD.DEV. OF RESIDUAL WATER CONTENT = 0.00000
ALFINM = 0, UNSAT DISPERSIVITY CALCULATED INTERNALLY ** SATURATED ZONE INPUT PARAMETERS **
LAMBW, MEAN SAT. ZONE DECAY COEFF. (1/day) = 0.00010 SLAMB, STD.DEV. OF SAT. ZONE DECAY COEFF. = 0.00000
PORM, MEAN SAT. ZONE POROSITY (-) = 0.20000 STDPOR, STD.DEV. OF SAT. ZONE POROSITY = 0.00000
FOCM, MEAN SAT. ZONE ORG. CARBON FRAC. (-) = 0.00000 STDFOC, STD.DEV. SAT. ZONE ORG. CARBON FRAC.= 0.00000
ALRLTM, MEAN DISPERS, RATIO LONG/TRANSV. (-) = 3.00000 SALRLT, STD.DEV. OF DISP. RATIO LONG/TRANSV. = 0.00000
ALRTVM, MEAN DISPERS. RATIO TRANSV/VERT. (-) = 87.00000 SALRTV, STD.DEV. OF DISP. RATIO TRANSV/VERT. = 0.00000
CONDS, SAT. HYDRAULIC COND. (m/day) = 1.03000 SCONDS, STD.DEV. OF SAT HYDRAULIC COND. = 0.00000
GRADS, HYDRAULIC GRADIENT (m/m) = 0.02700 SGRADS, STD.DEV. OF HYDRAULIC GRADIENT = 0.00000
HMEAN, MEAN AQUIFER THICKNESS (m)=15.24000STDH, STD.DEV. OF AQUIFER THICKNESS=0.00000
QINM, MEAN INFILTRATION RATE (m/day) = 0.00011 QINSTD, STD.DEV. OF INFILTRATION RATE = 0.00000

#### LOCATION OF RECEPTORS:

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X (M)		Y (M)	Z (M)
RECEPTOR(1)	1.0	0.0	0.0
RECEPTOR(2)	10.0	0.0	0.0
RECEPTOR(3)	100.0	0.0	0.0

![](_page_31_Figure_1.jpeg)

#### Plate 10 - VADSAT Chlorides Risk Assessment Charts

#### VADSAT Data (Chlorides without a clay barrier)

1		1 Meter	10 Meter	100 Meter			1 Meter	10 Meter	100 Meter
	Water	Down	Down	Down		Water	Down	Down	Down
Year	Table	Gradient	Gradient	Gradient	Year	Table	Gradient	Gradient	Gradient
2003	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2503	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2013	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2513	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2023	4.83E-05	6.63E-06	2.70E-06	1.51E-08	2523	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2033	2.00E-01	2.96E-02	1.33E-02	1.54E-04	2533	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2043	1.94E+01	2.97E+00	1.40E+00	2.39E-02	2543	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2053	2.92E+02	4.58E+01	2.21E+01	4.70E-01	2553	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2063	1.54E+03	2.45E+02	1.20E+02	2.94E+00	2563	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2073	4.33E+03	6.93E+02	3.43E+02	9.15E+00	2573	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2083	8.15E+03	1.31E+03	6.51E+02	1.84E+01	2583	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2093	1.19E+04	1.91E+03	9.54E+02	2.80E+01	2593	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2103	1.47E+04	2.37E+03	1.19E+03	3.57E+01	2603	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2113	1.65E+04	2.66E+03	1.33E+03	4.07E+01	2613	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2123	1.75E+04	2.82E+03	1.42E+03	4.36E+01	2623	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2133	1.80E+04	2.90E+03	1.46E+03	4.50E+01	2633	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2143	1.82E+04	2.94E+03	1.48E+03	4.57E+01	2643	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2153	1.83E+04	2.96E+03	1.48E+03	4.60E+01	2653	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2163	1.83E+04	2.96E+03	1.49E+03	4.61E+01	2663	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2173	1.80E+04	2.91E+03	1.46E+03	4.55E+01	2673	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2183	1.66E+04	2.69E+03	1.35E+03	4.28E+01	2683	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2193	1.36E+04	2.22E+03	1.12E+03	3.62E+01	2693	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2203	9.78E+03	1.59E+03	8.06E+02	2.67E+01	2703	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2213	6.14E+03	1.00E+03	5.08E+02	1.72E+01	2713	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2223	3.43E+03	5.60E+02	2.84E+02	9.85E+00	2723	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2233	1.73E+03	2.83E+02	1.44E+02	5.08E+00	2733	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2243	8.05E+02	1.32E+02	6.72E+01	2.40E+00	2743	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2253	3.50E+02	5.74E+01	2.93E+01	1.06E+00	2753	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2263	1.44E+02	2.36E+01	1.20E+01	4.40E-01	2763	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2273	5.63E+01	9.24E+00	4.73E+00	<u>1.7</u> 4E-01	2773	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2283	2.12E+01	3.48E+00	1.78E+00	6.61E-02	2783	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2293	7.72E+00	1.27E+00	6.50E-01	2.43E-02	2793	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2303	2.73E+00	4.50E-01	2.31E-01	8.64E-03	2803	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2313	9.45E-01	1.56E-01	7.98E-02	3.01E-03	2813	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2323	3.20E-01	5.28E-02	2.71E-02	1.02E-03	2823	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2333	1.06E-01	1.74E-02	8.95E-03	3.41E-04	2833	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2343	3.32E-02	5.50E-03	2.84E-03	1.11E-04	2843	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2353	1.1/E-02	1.90E-03	9.52E-04	3.43E-05	2853	U.UUE+00	0.00E+00	0.00E+00	0.00E+00
2363	3.91E-03	0.32E-04	3.1/E-04	1.06E-05	2863	U.UUE+00	0.00E+00	0.00E+00	0.00E+00
23/3	1.92E-03	3.10E-04	1.595-04	4.93E-06	28/3		0.00E+00	0.00E+00	
2383	1.95E-03	0.00E+00	0.00E+00	0.40E-09	2883	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2393	0.00E+00	0.00E+00	0.00E+00	2.02E-14	2893	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2403	0.000000	0.00E+00	0.00E+00	2.40E-19	2903	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2413			0.000000	2.54E-24	2913	0.00E+00		0.00E+00	
2423			0.0000000		2923				
2433	0.000+00	0.000+00			2933		0.000+00		
2443					2943		0.000000		
2455					2953				
2403	0.000-+00	0.000-+00	0.00L+00		2903		0.000+00	0.000-+00	0.00E+00
2473	0.00E+00	0.00E+00	0.00L+00	0.00E+00	29/3		0.000-+00		0.00E+00
2493	0.00F+00	0.00F+00	0.00F+00	0.00F+00	2303	0.00E+00	0.00E+00	0.00E+00	0.00E+00
		1 31335 1 30		<u></u>	1 2000	1 2.225 . 00	- 3.33C - 30		

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VADSAT Risk Assessment Criteria and Data (Chlorides)

VADSAT Version 3.0 + + + + A Monte Carlo Model for Assessing the Effects of Soil + + Contamination on Groundwater Quality + + + Developed by: + Environmental Systems and Technologies Inc. Blacksburg, Virginia Tel: 703-552-0685, Fax: 703-951-5307 + + For + The American Petroleum Institute + 1995 + PROJECT TITLE: DEFS A9 8inch 042403 SOURCE AND CHEMICAL DATA \*\*\*\* DEPTHM, MEAN THICKNESS OF WASTE ZONE (m) = 12.19200 DEPSTD, STD.DEV. OF THICKNESS OF WASTE ZONE = 0.00000 = 185.81000 AREAM, MEAN WASTE ZONE AREA (m^2) STDA, STD.DEV. OF WASTE ZONE AREA = 0.00000 RLWM, MEAN L/W RATIO (-) = 1.00000 STDRLW, STD.DEV. OF L/W RATIO = 0.00000 CVRTHM, MEAN VALUE OF COVER THICKNESS (m) = 0.00000 CVRTHS, STD.DEV. OF COVER THICKNESS = 0.00000 MEAN MASS FRACTION OF SALT IN WASTE (mg/kg) = 4239.90234 STD OF MASS FRACTION OF SALT IN WASTE = 0.00000 CZEROM, MEAN AQU. PHASE CONC OF SALT  $(g/m^3) = 18332.00000$ CZEROS, STD.DEV. OF AQU. PHASE CONC. OF SALT = 0.00000 CHEMICAL SPECIES Sodium Chloride HYDROGEOLOGICAL PROPERTIES \_\_\_\_\_ \*\* UNSATURATED ZONE INPUT PARAMETERS \*\* GAMMAM, MEAN UNSAT ZONE DECAY COEF (1/day) = 0.00010 STDGAM, STD.DEV. OF UNSAT ZONE DECAY COEF = 0.00000 UNFOCM, MEAN UNSAT ZONE ORGANIC CARBON FRACTION (-) = 0.00000 UNFOCS, STD.DEV. OF UNSAT ZONE ORGANIC CARBON FRAC. = 0.00000 = FKSW, MEAN SAT. CONDUCTIVITY (m/day) 0.02900 STDFKS, STD.DEV. OF SAT. CONDUCTIVITY 0.000 =

	DISTM, MEAN DEPTH TO GROUNDWATER (m) STDDST, STD.DEV. OF DEPTH TO GROUNDWATER	=	15.24000 0.00000
	UNPORM, MEAN VADOSE ZONE POROSITY (-) SUNPOR, STD.DEV. OF VADOSE ZONE POROSITY	=	0.38000 0.00000
	PARNM, MEAN VALUE OF VG PARAMETER N (-) SDPARN, STD.DEV. OF VG PARAMETER N	=	1.23000 0.00000
	RESWCM, MEAN RESIDUAL WATER CONTENT (-) RESWCS, STD.DEV. OF RESIDUAL WATER CONTENT	=	0.01110 0.00000
ALFIN	NM = 0, UNSAT DISPERSIVITY CALCULATED INTERNA ** SATURATED ZONE INPUT PARAMETERS **	ALLY	
	LAMBW, MEAN SAT. ZONE DECAY COEFF. (1/day) SLAMB, STD.DEV. OF SAT. ZONE DECAY COEFF.	=	0.00010 0.00000
	PORM, MEAN SAT. ZONE POROSITY (-) STDPOR, STD.DEV. OF SAT. ZONE POROSITY	5 5	0.20000 0.00000
	FOCM, MEAN SAT. ZONE ORG. CARBON FRAC. (-) STDFOC, STD.DEV. SAT. ZONE ORG. CARBON FRAC	= .=	0.00000 0.00000
	ALRLTM, MEAN DISPERS, RATIO LONG/TRANSV. (- SALRLT, STD.DEV. OF DISP. RATIO LONG/TRANSV	) = . =	3.00000 0.00000
	ALRTVM, MEAN DISPERS. RATIO TRANSV/VERT. (- SALRTV, STD.DEV. OF DISP. RATIO TRANSV/VERT	) = . =	87.00000 0.00000
	CONDS, SAT. HYDRAULIC COND. (m/day) SCONDS, STD.DEV. OF SAT HYDRAULIC COND.	n N	1.03000 0.00000
	GRADS, HYDRAULIC GRADIENT (m/m) SGRADS, STD.DEV. OF HYDRAULIC GRADIENT	=	0.02700 0.00000
	HMEAN, MEAN AQUIFER THICKNESS (m) STDH, STD.DEV. OF AQUIFER THICKNESS	8 11	15.24000 0.00000
	QINM, MEAN INFILTRATION RATE (m/day) QINSTD, STD.DEV. OF INFILTRATION RATE	=	0.00011 0.00000

LOCATION OF RECEPTORS:

i.

		X (M)	Y (M)	Z (M)
RECEPTOR (	1)	1.0	0.0	0.0
RECEPTOR (	2)	10.0	0.0	0.0
RECEPTOR (	3)	100.0	0.0	0.0

#### Clay Barrier Compaction Certifications

THE REPORT OF TH		LABORATORY TEST REPORT <b>PETTIGREW and ASSOCIATES, P.A</b> 1110 N. GRIMES HOBBS, NM 88240 (505) 393-9827	ASHTO RIG DEBRA P. HICKS, P.E.J.L.S.I. WILLIAM M. HICKS. UI, P.E.P.S.
То:	Environmental Plus Attn: Roger Boone	Material:	Red Clay
	Eunice, NM 88231	Test Method:	ASTM: D 2922
Project:	Duke 9A Line		
Date of Test:	May 29, 2003	Depth:	1 1/2' Below Finished Subgrade

Test No.	Location	Dry Density % Maximum	% Moisture	Depth
SG-1	Pit - 25' N. & 15' W. of the SE Corner	97.7	13.1	
SG-2	Pit - 10' E. & 15' N. of the SW Corner	98.0	14.2	

Control Density:	110.4 ASTM: D	Optim
Required Compa	action: 95%	
Lab No.:	03 2790-2793	
Copies To:	Environmental Plus	

Optimum Moisture: 15.6%

PETTIGREW and ASSOCIATES

Peretet. BY. / C

RETTICKED TO	LABOF PETTIGREV 11 HOE	RATORY TEST REPORT W and ASSOCIATES, P.A 10 N. GRIMES 3BS, NM 88240		ASHTO R18
FIRS ALLEY	(5	05) 393-9827	DEBRA P. HICKS, WILLIAM M. HICKS	P.E./L.S.I. . III, P.E./P.S.
To:	Environmental Plus Attn: Roger Boone	Material:	Red Clay	
	Eunice, NM 88231	Test Method:	ASTM: D 2922	
Project:	Duke 9A Line			
Date of Test:	May 30, 2003	Depth:	Finished Subgrade	
<b>—</b>		Dry Density		
Test No.	Location	% Maximum	% Moisture	Depth
SG-3	Pit - 25' N. & 15' E. of the SW Corner	95.3	15.1	
SG-4	Pit - 20' N. & 25' W. of the SE Corner	96.8	14.6	
		``		
1			<del></del>	

Control Density:	110.4 ASTM: D	698
Required Compa	ction: 9	5%
Lab No.:	03 2865-2867	
Copies To:	Environmental	Plus

Optimum Moisture: 15.6%

PETTIGREW and ASSOCIATES

ecter. B

![](_page_37_Picture_0.jpeg)

DUKE ENERGY FIELD SERVICES 370 17th Street Suite 2500 Denver, CO 80202

303 595 3331

January 27, 2004

Mr. Larry Johnson New Mexico Oil Conservation Division 1625 N. French Drive Hobbs, New Mexico 88240

RE: Site Investigation, Remediation and Final C-141 Closure Documentation A-9 8-Inch Pipeline Release Duke Energy Field Services, LP UL-C NE ¼ of the NW ¼ of Sec 18, T21S R36E Lea County, NM

Mr. Johnson:

Enclosed please find for your review, one copy of the **Site Investigation**, **Remediation** and **Final C-141 Closure Documentation** for the A-9 8-Inch pipeline release that occurred on April 4, 2003.

Based on the information provided in the above referenced report, Duke Energy Field Services, LP would like to request no further action for this site.

If you have any questions regarding the information provided in the closure reports, please give me a call at 303-605-1718.

Sincerely

**Duke Energy Field Services, LP** 

Stephen Weathers P.G. Sr. Environmental Specialist

cc: Lynn Ward, DEFS Midland Environmental Files

![](_page_37_Picture_15.jpeg)

Enclosure

District I				State of	New Mex	<b>cico</b>		Form C-141		
1625 N. French	n Dr., Hobbs, N	M 88240	Energy	Minerals	and Natur	al Resources	Revised N	March 17, 1999		
District II										
1301 W. Grand	l Avenue, Artes	ia, NM 88210				<b></b>	Submit 2 Conies	to appropriate		
1000 Pio Brazo	os Road Aztec	NM 87410		1220 Sand	rvation Div	ision	District Office in accordance			
District IV	JS ROad, Aztec,	14141 87410		1220 Sout	n St. Franc	is Dr.	District One	le 116 on back		
District IV	nois Dr. Sonto	E. NM 97505		Santa I	re, NM 875	05	with Ku	side of form		
1220 S. St. Fra	ncis Dr., Santa		na Nati	fication				side of form		
		Keie	ase nou	incation a	and Corr	Luitial Report	D Einel Deport			
Name of Cor		JPERATU	<		Contact					
	прану " <b>DCV FIFI I</b>	SEDVICES			Stave Weath	arc				
Address		SERVICES			Telephone N					
PO Box 549	3		Denver (	CO 80217	(303) 605-17	0. / <b>18</b>				
Facility Nam	e		Denver,		Facility Type	<u> </u>				
A-9 8-Inch					Natural Gas	Gathering Pineling	<b>a</b>			
n-> o-men						outhering ripening	<b></b>			
Surface Own	er			Mineral Owi	ner		Lease No.			
BLM				NA			NA			
•			L	OCATION	OF RELEA	ASE	•			
Unit Letter	Section	Township	Range	Feet from	Feet from	Longitude	Latitude	County:		
C	18	215	36E	South Line	West Line	W103° 18' 27.80"	N32° 29' 9.70''	Lea		
				5243	1500					
			<u> </u>	NATURE O	OF RELEAS	<u>SE</u>				
Type of Rele	ase				Volume of R	elease	Volume Recovered			
Natural Gas	s release and	associated inc	uia compon	ients	JU Date and Ho	DDI	Date and Hour of D	bbi		
8" Steel Pin	eline				4/24/2003 4/24/03					
Was Immedi	ate Notice Gi	ven?			If YES, To V	Whom?	1	·		
	🗹 Yes	□ No	□ Not R	equired	Larry Johns	son (NMOCD-Hobb	os)			
By Whom?	-				Date and Ho	ur				
Stan Shaver	(DEFS)	10		<u> </u>	4/24/03 3:00	PM				
Was a Water	course React	ned?	D No		If YES, Volume Impacting the Watercourse.					
If a Watercou	urse was Imn	acted Describ	e Fully *		INA					
NA	uise was mip	acted, Describ	c Puny.							
Describe Cau	use of Probler	m and Remedia	al Action Tal	ken.*						
Internally C	Corroded pip	eline, line was	replaced by	y looping with	h new poly pi	pe.				
Denil	A 60	1.01								
Describe Are	a Allected al	nd Cleanup Ac	tion Taken."			41 1 1 1000				
DCDA Even	a excavated	io 8-it depth.	2-It clay bai ninotod soil	above remed	i at 6-8-it dep	oun pased on 1000-y	ear VADSAT KISK	Assessment.		
NMOCD an	proved surf	ace waste faci	lity (South N	Aonument)	nai guais exca	wated from the site	was disposed of by	EIIata		
I hereby certify	y that the infor	mation given ab	ove is true and and/or file cer	l complete to the tain release noti	he best of my k fications and per	nowledge and understat	nd that pursuant to NM	OCD rules and		
health or the en	nvironment. Th	e acceptance of	a C-141 report	by the NMOCI	D marked as "Fi	nal Report" does not rel	ieve the operator of liabi	lity should their		
operations hav	e failed to ade	equately investig	ate and remed	iate contaminat	ion that pose a	threat to ground wate	er, surface water, huma	n health or the		
environment.	In addition, NM	OCD acceptance	e of a C-141 re	eport does not re	elieve the operat	or of responsibility for o	compliance with any othe	er federal, state,		
or local laws a					·	OIL CONSERVA	TION DIVISION			
Signature:	Signature:					UIL CUNSERVA	NITON DIVISION			
Drinted Mar	Devinted Norman O4 With 4									
	rinted Name: Steve Weathers				Approved by District Supervisor:					
Title:	<b>DEFS Envi</b>	ronmental Sp	ecialist	an and a second se						
	swweathers	@duke-energ	y.com		Approval Da	ite:	Expiration Date:			
Date:	1/13/04	Phone:	(303) 6	605-1718	Conditions	f Approval:		Attached		
L						a Appioval.		l		

Duke	Energy	Incident D	ate and NMOCD Notified	1?	
Field	Services	4/24	1/03 4/24/03 3	:00 PM	
SITE: A-9 8-Inch			Assigned Site	Reference	# 042403
Company:	DUKE ENE	RGY FIEL	D SERVICES		
Street Address:	5805 East I	lighway 80			
Mailing Address:	PO Box 54	93			
City, State, Zip:	Denver, CO	0 80217	· · · · · · · · · · · · · · · · · · ·		
Representative:	Steve Wea	thers			
Representative Teleph	ione: (303) 605-1	718			
Telephone:					
Fluid volume released	(bbls): 30	Recovere	ed (bbls): 15		
	>25 bbls: Noti	fy NMOCD ver	bally within 24 hrs and submit for	m C-141 within	15 days.
	5-25 bbls: Submit form C-1	41 within 15 d	ays (Also applies to unauthorized	releases of 50-	-500 mcf Natural Gas)
Leak, Spill, or Pit (LSF	) Name:	# 042403			
Source of contamination	on:	8" Steel Pi	peline		
Land Owner, i.e., BLM	, ST, Fee, Other:	BLM	620 E. Green	St, Carlsba	d, NM 88220
LSP Dimensions:	· · · · · · · · · · · · · · · · · · ·	(GPS Site	Diagram attached)	· · · · · · · · · · · · · · · · · · ·	
LSP Area:		6.165	-ft <sup>2</sup>		
Location of Reference	Point (RP):				
Location distance and	direction from BP:				
Latitude:		N32° 29' 9.	70"		
Longitude:		W103° 18'	27.80"		
Elevation above mean	sea level:	3625	-ft amsl		
Feet from South Secti	on Line:	5243			
Feet from West Section	on Line:	1500	······		······································
Location - Unit and 1/4	1 1/4· III -	<u>C</u>	NF 1/4 of NW	1/4	
Location - Section:		18		1/-	···· ··· ··· ··· ··· ··· ··· ··· ··· ·
Location - Townshin:		215			·····
Location - Bange:		36F			
Surface water body wi	thin 1000' radius of Site	<u>.</u> .	0		······································
Surface water body wi	thin 1000' radius of Site	<u>ي.</u> م.	0		
Domestic water wells	within 1000' radius of S	ite <sup>.</sup>	0		
Domestic water wells	within 1000' radius of S	ite:	0		<u> </u>
Agricultural water well	s within 1000' radius of 0	Sito.	0		······································
Agricultural water well	s within 1000' radius of	Site:	0		····
Rublic water supply w	s within 1000 radius	of Sito	0		· · · · · · · · · · · · · · · · · · ·
Public water supply we	alle within 1000 radius	of Sitor	0		
Dopth (ft) from land si	urface to ground water		106		
Depth (it) nom iand st	ation (DC):	(DG).	25		······
Depth (It) to containing	ation (DC). $DC = DtCW$		71		······································
Deptin (it) to ground w	aler (DG - DC = DIGW	). 2 Well	/ I		Distance to Curface Water Dedu
I. Groun	id water	2. wein	om water source or	3.1	Distance to Surface water Body
	et: 20 points	<200' from	private domestic water	<200 horiz	ontal feet: 20 points
If Depth to GW 50 to 9	99 feet: 10 points	source: 20	points	200-100 k	norizontal feet: 10 points
		lf >1000' fr	om water source, or,		
If Depth to GW >100 f	eet: 0 points	>200' from	private domestic water	>1000 hori	zontal feet: 0 points
		source: 0 p	points		
Ground water Score:	10	Wellhead I	Protection Area Scor 0	Surface W	ater Score: 0
Site Hank (1+2+3) =	10				•
	Total Si	te Hanking	Score and Acceptable	concentral	
Parameter	20 or >		10		0
Benzene	10 ppm		10 ppm		10 ppm
	50 ppm		50 ppm		50 ppm
	100 ppm		1000 ppm		5000 ppm
100 ppm field VOC h	eadspace measuremer	nt may be s	ubstituted for lab analysis		

![](_page_40_Picture_1.jpeg)

Initial surface evidence of release

![](_page_40_Picture_3.jpeg)

Access from west - - too sandy for heavy trucks

![](_page_40_Picture_5.jpeg)

Commencement of excavation activity

![](_page_40_Picture_7.jpeg)

Initial surface evidence of release

![](_page_40_Picture_9.jpeg)

Commencement of excavation activity

![](_page_40_Picture_11.jpeg)

A-9 8" looped around excavation by DEFS

![](_page_41_Picture_1.jpeg)

Excavation at 8' - - note sidewall contamination

![](_page_41_Picture_3.jpeg)

Installation of 1<sup>st</sup> clay barrier lift

![](_page_41_Picture_5.jpeg)

Installation of 1<sup>st</sup> clay barrier lift

![](_page_41_Picture_7.jpeg)

Installation of 1<sup>st</sup> clay barrier lift

![](_page_41_Picture_9.jpeg)

West portion of excavation

![](_page_41_Picture_11.jpeg)

Caliche access road from west constructed for project

![](_page_42_Picture_1.jpeg)

Site contoured and completed

![](_page_43_Picture_0.jpeg)

## RISK ASSESSMENT

## AND

## SITE CLOSURE PROPOSAL

### A-98-INCH

DEFS REF: #042403

UL-C NE¼ OF THE NW¼ OF SECTION 18 T21S R36E

~9.3 MILES NORTH-NORTHWEST (BEARING 292.1°) OF

EUNICE, LEA COUNTY, NEW MEXICO LATITUDE: N32° 29' 09.70" LONGITUDE: W103° 18' 27.80"

MAY 29, 2003

**PREPARED BY:** 

![](_page_43_Figure_11.jpeg)

![](_page_44_Picture_0.jpeg)

May 29, 2003

Mr. Larry Johnson New Mexico Oil Conservation Division 1625 North French Hobbs, New Mexico 88240

Subject: DEFS A-9 8-Inch Release Site (042403) Risk Assessment and Site Closure Proposal

Dear Mr. Johnson:

Environmental Plus, Inc. (EPI), on behalf of Mr. Paul Mulkey, Duke Energy Field Services, submits the attached "**Risk Assessment and Closure Proposal**" for the above referenced leak site located on land owned by the Federal Bureau of Land Management and leased to DASCO Land Corporation. The site is located in the NE<sup>1</sup>/<sub>4</sub> of the NW<sup>1</sup>/<sub>4</sub> (Unit Letter C), Section 1, Township 21 South, and Range 36 East. The geographic location is  $32^{\circ}29'09.70"$ N and  $103^{\circ}18'27.80"$ W. The site is approximately 9.3 miles north-northwest (bearing 292.1°) of Eunice, Lea County, New Mexico. According to information obtained from the New Mexico Office of the State Engineer (NMOSE) database, ground water level beneath this site is conservatively estimated to be ~106-ft below ground surface (bgs). The site matrix ranking for this site is 10 based on depth to ground water from lowest contaminant level of 50-100-ft.

The remedial action proposal for this site is to install a 2-ft compacted clay barrier over the areal extents of the contamination at the depth interval of 6-ft to 8-ft. Two 1000-year VADSAT Risk Assessments (benzene and chlorides) were performed for this site incorporating conservative data parameters. The results of these VADSAT models indicate that the proposed placement of an impermeable layer above the zone of contamination will eliminate the risk of contaminant migration to the water table, even if artificially placed at 50-ft bgs.

If there are any questions please call Mr. Ben Miller, or myself, at our office or at 505-390-0288 and 505-390-9804, respectively, or Mr. Paul Mulkey at 505-397-5716. All official written communications should be addressed to:

Mr. Paul Mulkey Duke Energy Field Services 11525 West Carlsbad Highway Hobbs, New Mexico 88240

Sincerely,

In And

John Good EPI – Environmental Consultant

cc: Paul Mulkey, Duke Energy Field Services Lynn Ward, Duke Energy Field Services, Midland, TX Steve Weathers, Duke Energy Field Services, Denver, CO Ben Miller, EPI Vice President and General Manager Sherry Miller, EPI President Pat McCasland, EPI Technical Manager file

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2100 AVENUE O

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### **1.0 Introduction**

This document addresses the initial site characterization, partial excavation, vertical contaminant delineation and the proposal to close this site with the installation of an impermeable clay barrier. Environmental Plus, Inc. (EPI), Eunice, New Mexico commenced the initial site characterization and delineation process at this site on April 24, 2003. To date, the following remediation activities have taken place:

 GPS demarcation of the release site and relevant surface features. (See Plate 3, Attachments).

![](_page_46_Picture_4.jpeg)

Excavation (to 8-ft bgs) and on-site stockpiling of ~800-yd<sup>3</sup> of contaminated soil (as of 5-9-03, excavation still in progress). The excavation had an approximate areal extent of 2,628-ft<sup>2</sup>. (See Plate 3, Attachments).

- Drilling and sampling of two boreholes to 40-ft bgs. (See Plates 3, 4, 5 Attachments).
- VADSAT 3.0 Risk Assessment for the site based on sampling results for the boreholes. The sample results (*Plates 4 and 5, Attachments*) indicate that the contamination extends to approximately 35-ft bgs. A value of 40-ft bgs was utilized to run the VADSAT Risk Assessment. (See Plate 6, Attachments).
- Water depths of >200-ft are the most common for this particular area of southern Lea County. The State Engineer's records indicate one water well in the southeast quarter of Section 18 T21S R36E, that has a depth-to-water of 106-ft. A well this shallow is uncommon in the area (and this record may be in error). However, since it is the closest well (~5000-ft) to the release site, the recorded 106-ft depth-to-water value is utilized for all calculations relative to water depth.

![](_page_46_Figure_9.jpeg)

#### 2.0 Background

Environmental Plus, Inc. (EPI) was notified by Duke Energy Field Services on August 24, 2003 regarding a pipeline release and remediation project located on the 8-inch steel "A-9" line southwest of Oil Center. The site is designated "A-9 8inch", and has the DEFS reference number of 042403. The release is located on federal (BLM) land and is leased to DASCO Land Corporation for grazing purposes. The Initial C-141 Form (page 22, Attachments) indicates a 30-bbl loss (NGL) with 15-bbl recovered. The vertical contaminant extent determined from borehole data, and the horizontal extent demonstrated by the preliminary excavation, indicates that this site is predominantly "historical" in nature.

The initial response consisted of excavation and repair (clamping) of the pipeline leak by DEFS personnel on April 24, 2003. EPI commenced remediation activities at the site on the following day. The initial portion of the excavation was taken to a depth of 8-ft. Field testing indicated that the soil was significantly contaminated at the 10-ft level. A test trench was dug to ~13-ft and a soil sample was obtained and submitted for laboratory analysis. A 25-ft borehole was drilled immediately west of the partial excavation on May 2, 2003, with samples being obtained at 5-ft intervals. A subsequent borehole was drilled on May 23, 2003 to obtain soil samples from the zone 25-40-ft bgs. The soil

![](_page_47_Picture_3.jpeg)

analyses results indicate that contamination extends to  $\sim$ 35-ft bgs and has not progressed beyond the 40-ft bgs level. (see Plates 4 and 5).

Due to the prohibitive financial, engineering and safety factors involved with excavating to 35-ft bgs, EPI, on behalf of Duke Energy Field Services, is proposing to remediate and close this site with the installation of an impermeable 2-ft clay barrier. This proposal contains the VADSAT 3.0 Risk Assessment models for this site. The 1000-year assessments (*Plates* 6 and 7, Attachments), compiled for both benzene and chlorides, project "no impact" on the water table with

the installation of an impermeable layer at this site. EPI proposes to excavate and dispose of contaminated soil down to the 8-ft bgs level. The lateral contaminated extents of the release will be determined by field testing (PID) and then verified with composite sidewall samples analyzed for TPH and BTEX. A 5-ft "overlap" area will then be excavated from the perimeter of the excavation. This clean material will be retained as backfill. The two-lift clay barrier system will be installed at the 8-ft depth of the excavation, each 1-ft layer being certified for >95% compaction by a Professional Engineer. The remaining 6-ft of the excavation will be backfilled with clean caliche and topsoil. All contaminated soil removed from the site will be disposed of in the South Monument surface waste disposal facility.

#### 3.0 Site Description

#### 3.1 Site Location

The DEFS "A-9 8-inch 042403" site is located in UL-C of Section 18 T21S R36E. The site is approximately 1,500-ft from the west section line and 5,243-ft from the south section line. The Latitude and Longitude coordinates are:  $32^{\circ}29'09.70$ "N;  $103^{\circ}18'27.80$ "W. The land is owned by the federal government (BLM) and leased to DASCO Land Corporation (see Attachments, *Plates 1, 2 and 3*)

#### 3.2 Geohydrology

The United States Geological Survey (USGS) Ground-Water Report 6, "Geology and Ground-Water Conditions in Southern Lea County, New Mexico," A. Nicholson and A. Clebsch, 1961, describes the near surface geology of southern Lea County as an intergrade of the Quaternary Alluvium (QA) sediments, i.e., fine to medium sand, with the mostly eroded Cenozoic Ogallala (CO) formation. Typically, the QA and CO formations in the area are capped by a thick interbed of caliche and generally overlain by sandy soil. The release site is located in the Eunice Plain physiographic subdivision, described by Nicholson & Clebsch as an area "underlain by a hard caliche surface and is almost entirely covered by reddish-brown dune sand". The thickness of the sand cover ranges from 2-5 feet in most areas to as much as 20-30 feet in drift areas.

The subsurface at the site is composed of a hard caliche base covered with 2-3-feet of reddish sand/clay topsoil. The presence of ground water in this area of Lea County is best described as intermittent. Based on data obtained from the Office of the State Engineer for a water well approximately 5000-ft southeast of the site, a conservative estimate of ground water depth at this site, if present, would be ~106-ft bgs.

![](_page_48_Picture_4.jpeg)

#### 3.3 Ecology

The area is typical of the Upper Chihuahuan Desert Biome consisting primarily of hummocky sand hills covered with Harvard Shin Oak (Ouerous harvardi) interspersed with Mesquite Honey (Prosopis glandulosa) along with typical desert grasses, flowering annuals flowering perennials. and Mammals represented, include Orrd's and Merriam's Kangaroo White Rat. Deer Mouse. Throated Wood Rat, Cottontail Rabbit, Black Tailed Jackrabbit,

Mule Deer, Bobcat, Red Fox and Coyote. Reptiles, Amphibians, and Birds are numerous and typical of area. A survey of Listed, Threatened, or Endangered species was not conducted.

#### 3.4 Area Water Wells and/or Surface Water Features

There are no water wells and/or surface water features within 1000-ft of the release site.

There are no surface water bodies within 1000-ft of the site.

#### 4.0 NMOCD Site Ranking

Contaminant delineation and site characterization accomplished at this site indicate that the chemical parameters of the soil and ground water were characterized consistent with the NMOCD guidelines published in the following documents:

- Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993)
- Unlined Surface Impoundment Closure Guidelines (February 1993)

Acceptable thresholds for contaminants/constituents of concern (CoCs), i.e., TPH<sup>8015m</sup>, Benzene, and the mass sum of Benzene, Toluene, Ethyl Benzene, and total Xylene (BTEX), was determined based on the NMOCD Ranking Criteria as follows:

- Depth to Ground water, i.e., distance from the lower most acceptable concentration to the ground water.
- Wellhead Protection Area, i.e., distance from fresh water supply wells.
- Distance to Surface Water Body, i.e., horizontal distance to all down gradient surface water bodies.

Based on the proximity of the site to protectable area water wells, surface water bodies, and depth to ground water from the lower most contamination, the NMOCD ranking score for the site is 10 points with the soil remedial goals highlighted in the Site Ranking Matrix presented as Table 1.

![](_page_49_Picture_6.jpeg)

 Table 1 - Site Ranking Matrix

1. Gro	und Water	2. Wellhead P	rotection Area	3. Distance to Surface Water		
Depth to ( 20	GW <50 feet: points	If <1000' from w <200' from privat	vater source, or;	<200 horizontal feet: 20 points		
Depth to feet: 1	GW 50 to 99 10 points	source:	20 points	20	00-1000 horizontal feet: 10 points	
Depth to G 0 p	GW >100 feet: points	lf >1000' from w >200' from privat source:	vater source, or; te domestic water 0 points	; ter >1000 horizontal feet: <i>0 point</i>		
Ground Wa	ter Score = 10	Wellhead Prote	ction Score = 0	s	urface Water Score= 0	
	Site Rank	(1+2+3) = 10 + 0 +	0 = 10 points (for	r soil O	- <b>56'bgs</b> )	
··········	Total Site Rank	king Score and Acc	eptable Remedial G	Goal Co	oncentrations	
Parameter	20	)+	10		0	
Benzene <sup>1</sup>	10 g	opm	10 ppm	-	10 ppm	
BTEX <sup>1</sup>	50 g	opm	50 ppm		50 ppm	
TPH	H 100 ppm		1000 ppm		5000 ppm	

#### 5.0 Subsurface Soil Investigation

The subsurface soil analyses were accomplished on May 2 and May 23, 2003 with the drilling and sampling of two boreholes in the central area of the release down to 40-ft bgs. Analyses results indicate

that TPH, BTEX and Chloride contamination above NMOCD remedial goals exists at the 0-35-ft depth zone within the central area of the release. *(See Plates 4 and 5 in the Attachments)*.

#### 6.0 Ground Water Investigation

Ground water depth is conservatively projected to be 106-ft bgs at the site, based on the nearest recorded water well. The site will be excavated to a level depth of 8-ft. All contaminated soil left within the excavation *(see Section 8.0 below)* will be covered with a 2-ft impermeable layer of compacted clay. The remaining 6-ft depth of the excavation will be backfilled with clean caliche and topsoil. Based on the containment of the Constituents of Concern, VADSAT Risk Assessment Models for benzene and chlorides and a remaining depth to ground water of >65-ft, there will be no need for further ground water investigation at this site.

#### 7.0 VADSAT Risk Assessment

Very conservative 1000-year Risk Assessment Models of vertical hydrocarbon (benzene) and inorganic chloride migration for this site were generated utilizing the American Petroleum Institute's VADSAT 3.0 software. Although the sampling protocol for this site does not show an inordinate presence of Benzene, it was the chemical species utilized to run the assessment because it is the lightest and fastest migrating of the chemical choices VADSAT offers. VADSAT calculates the Mean Infiltration Rate based on annual precipitation minus a runoff coefficient and the evaporation rate. This number must be positive, so VADSAT does not accommodate arid and semi-arid areas such as southeast NM where the evaporation rate exceeds the precipitation rate.

Although the water table is assumed to be  $\sim 106$ -ft deep at this site, there is no empirical confirmation of this assumption. To allow for more conservancy in the VADSAT risk assessment modeling, the water table depth was artificially set at 50-feet for both assessment models presented with this site.

Two contrasting assessment sets were run for this site: one clay barrier/no barrier set for Chlorides present in the soil at >4200 ppm and one clay barrier/no barrier set for Benzene with a correlated TPH concentration of 32,000 ppm. Other than the two variable constituents and the presence, or lack of, the clay barrier, the input parameters for each assessment are identical. The downstream receptors were set at 1-meter, 10-meters and 100-meters (X=1 X=10 X=100). The transverse offset (Y value) was set at

0-meters, and the depth into the aquifer (Z value) was set at 0.

The results of the computer risk assessment modeling for benzene without a clay barrier in place indicate that benzene present would reach the top of a 50-ft aquifer directly under the site in approximately 20-years (2023) and reach its peak concentration of 1.678 X 10<sup>-2</sup> ppm 120-years later (2143). The results of the computer risk assessment modeling for chlorides without a clay barrier in place indicate that chlorides present would reach the top of a 50-ft aquifer directly under the site in approximately 20-years (2023) and

![](_page_50_Figure_10.jpeg)

reach its peak concentration of 18.28 X  $10^3$  ppm 160-years later (2163). The risk assessment models of the site for both benzene and chlorides, with a clay barrier in place, show a flat-line of 0 values for the 1000-year period modeled, thus the contaminant migration for either constituent theoretically would never reach the aquifer. (See Attachments, pages 14–21).

#### 8.0 Closure Proposal

Based upon the VADSAT Risk Assessment model for this site which predicts no ground water impact with the placement of an impermeable layer, Duke Energy Field Services proposes to contract with EPI for the placement of a 2-ft compacted clay barrier, with 5-ft overlap, over the contaminated soil in the excavation. The clay barrier will be placed in two stages, 1-ft thickness in each stage. After each 1ft layer of clay is placed, it will be compacted and tested for compaction percentage by Pettigrew and Associates, Hobbs, NM. After the clay barrier is in place and certified, the remainder of the excavation will be backfilled with the clean caliche and topsoil, smoothed and contoured.

![](_page_51_Picture_4.jpeg)

### Attachments: (pages 8-23)

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Site Metrics Form	23

![](_page_53_Figure_0.jpeg)

![](_page_54_Figure_0.jpeg)

![](_page_55_Figure_0.jpeg)

![](_page_56_Figure_0.jpeg)

![](_page_56_Figure_1.jpeg)

Sample	Excavation	Depth	[	GRO <sup>3</sup>		TPH <sup>6</sup>	BTEX <sup>6</sup>	Benzene	Toluene	Ethyl	Total	CI.	so₄	Ha
Date	Sampling Area		SAMPLE ID#	mo/Ka	ma/Ka	ma/Ka	ma/Ka	ma/Ka	ma/Ka	Benzene ma/Ka	Xytenes ma/Ka	ma/Ka	mo/Ka	
2-May	Borehole #1	5-ft	SDA985203BH1-5	3100	49900	63000	238.640	0.640	27.200	24.700	186.000	mgring		1
2-May	Borehole #1	10-ft	SDA985203BH1-10	2390	28400	30790	258.100	0.600	30.600	26.900	200.000	4240		
1-May	BottomHole	13-ft	SDA98in050103EDHG-13	···· ··· 7680	- 19200		29 613.960	5.7 <b>6</b> 0	152.000	62:200	394.000	128		1
2-May	Borehole #1	15-ft	SDA985203BH1-15	1680	20400	22080	172.980	0.050	10.600	17.300	145.000	1120	i	1
2-May	Borehole #1	20-ft	SDA985203BH1-20	4660	27300		497.840	1.140	-64.200	61.600	381.000	178		
2-May	Borehole #1	25-ft	SDA9852038H1-25	1750	18200	19950	298.000	0.400	37.000	31.600	229.000	240		
23-May	Borehole #2	25-ft	SDA952303CBH-25	1990	7390	9380	301.910	1.510	85.000	38.400	267.000			
23-May	Borehole #2	30-ft	SDA952303CBH-30	56	956	1012	37.196	0.005	0.410	0.481	36.300			
23-May	Borehole #2	35-ft	SDA952303CBH-35	10	63	73	0.030	0.005	0.005	0.005	0.015			
23-May	Borehole #2	40.ft	SDA952303CBH-40	10	10	20	0.030	0.005	0.005	0.005	0.015			
	Benzene	) - mgAcg							] [		·····			
		^ <b>0</b> √	∞ ∞ ö	0	<b>1</b> 8		5 5	8			TPH -	·mg/kg 23 45 29 25	50 00 00	

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![](_page_58_Figure_1.jpeg)

#### Plate 6 - VADSAT Benzene Risk Assessment Charts

I Meter         10 Meter         100 Meter         Netter         Down         Down <th>I Meter         10 Meter         10 Meter         10 Meter         10 Meter         10 Meter         10 Meter           Vear         Table         Gradient         Gradient<!--</th--><th></th><th></th><th></th><th>· · · · · · · · · · · · · · · · · · ·</th><th></th><th>· · ·</th><th></th><th></th><th></th><th></th></th>	I Meter         10 Meter         10 Meter         10 Meter         10 Meter         10 Meter         10 Meter           Vear         Table         Gradient         Gradient </th <th></th> <th></th> <th></th> <th>· · · · · · · · · · · · · · · · · · ·</th> <th></th> <th>· · ·</th> <th></th> <th></th> <th></th> <th></th>				· · · · · · · · · · · · · · · · · · ·		· · ·				
Water         Down         Down <t< td=""><td>Water         Down         <thdown< th="">         Down         Down         <th< td=""><td></td><td></td><td>1 Meter</td><td>10 Meter</td><td>100 Meter</td><td></td><td></td><td>1 Meter</td><td>10 Meter</td><td>100 Meter</td></th<></thdown<></td></t<>	Water         Down         Down <thdown< th="">         Down         Down         <th< td=""><td></td><td></td><td>1 Meter</td><td>10 Meter</td><td>100 Meter</td><td></td><td></td><td>1 Meter</td><td>10 Meter</td><td>100 Meter</td></th<></thdown<>			1 Meter	10 Meter	100 Meter			1 Meter	10 Meter	100 Meter
Year         Table         Gradient         Gr	Year         Table         Gradient         Gr		Water	Down	Down	Down		Water	Down	Down	Down
2003         0.00E+00         2513         1.06E+02         2.53E+03         1.28E+03         3.72E+05           2003         1.31E+06         1.66E+07         7.55E+08         1.71E+01         2533         1.59E+02         2.52E+03         1.28E+03         3.71E+05           2003         9.79E+05         1.21E+03         5.6E+06         2533         1.59E+02         2.52E+03         1.27E+03         3.70E+05           2003         1.77E+03         3.66E+04         1.58E+06         2531         1.58E+02         2.51E+03         1.27E+03         3.66E+05           2003         1.47E+02         2.37E+03         3.82E+05         2531         1.58E+02         2.50E+03         1.22E+03         3.69E+05           2131         1.56E+02         2.77E+03         3.85E+06         2603         1.57E+02         2.69E+03         3.67E+05           2131         1.66E+02         2.77E+03         3.56E+05         2633         1.57E+02         2.69E+03         3.66E+05	2003         0.000E+000         0.000E+000         0.000E+000         0.000E+000         0.00E+000         0.00E+000         0.00E+000         0.00E+000         0.00E+000         2513         1.60E+02         2.53E+03         1.28E+03         3.72E+05           2023         3.83E+10         5.30E+11         2.14E+11         1.19E+03         2.53E+03         1.28E+03         3.72E+05           2003         7.79E+05         1.21E+05         5.76E+06         8.74E+06         2.53E+03         1.28E+03         3.71E+05         0.58E+06         2.55E+03         1.27E+03         3.70E+05         2.52E+03         1.27E+03         3.70E+05         2.51E+03         1.27E+03         3.69E+05         2.53E+03         1.26E+03         3.69E+05         2.53E+03         1.26E+03         3.69E+05         2.53E+03         1.26E+03         3.69E+05         2.53E+03         1.55E+02         2.50E+03         1.26E+03         3.66E+05         2.531         1.55E+02         2.50E+03         1.26E+03         3.66E+05         2.531         1.55E+02         2.49E+03         1.26E+03         3.66E+05	Year	Table	Gradient	Gradient	Gradient	Year	Table	Gradient	Gradient	Gradient
2013         0.00E+00         0.00E+00         2513         1.60E-02         2.53E-03         1.28E-03         3.72E-05           2023         3.35E-10         5.30E-11         2.19E-10         2533         1.59E-02         2.53E-03         1.28E-03         3.71E-05           2033         1.13E-06         1.69E-07         7.55E-08         8.71E-10         2533         1.59E-02         2.53E-03         1.28E-03         3.71E-05           2033         8.55E-04         1.37E-04         6.58E-06         2563         1.59E-02         2.51E-03         1.27E-03         3.70E-05           2033         5.51E-04         2.73E-04         6.58E-06         2563         1.58E-02         2.51E-03         1.27E-03         3.69E-05           2033         1.77E-02         1.35E-03         3.26E-05         2593         1.58E-02         2.51E-03         1.27E-03         3.69E-05           2133         1.68E-02         2.77E-03         1.32E-03         3.89E-05         2603         1.58E-02         2.50E-03         1.22E-03         3.69E-05           2133         1.68E-02         2.77E-03         1.33E-03         3.91E-05         2633         1.57E-02         2.49E-03         1.28E-03         3.66E-05           2133	2013         0.00E+00         0.00E+00         2513         1.60E-02         2.53E-03         1.28E+03         3.72E-05           2023         3.38E+05         5.50E-01         2.14E+11         1.19E+10         2533         1.59E-02         2.53E-03         1.28E+03         3.72E-05           2033         1.13E-06         1.60E-07         7.55E-08         8.71E+10         2533         1.59E-02         2.52E-03         1.28E+03         3.71E-05           2033         8.55E-04         1.37E-04         6.58E-06         2563         1.59E-02         2.51E-03         1.27E+03         3.70E-05           2033         1.77E-03         1.85E-04         2.53E-03         1.27E-03         3.69E-05         2531         1.58E-02         2.51E-03         1.27E-03         3.69E-05           2033         1.47E-02         1.85E-03         3.26E-05         2533         1.58E-02         2.50E-03         1.27E-03         3.69E-05           2033         1.47E-02         1.85E-03         3.26E-05         2533         1.58E-02         2.50E-03         1.27E-03         3.69E-05           2133         1.66E-02         2.77E-03         1.32E-03         3.69E-05         2633         1.57E-02         2.69E-03         3.67E-05 <t< td=""><td>2003</td><td>0.00E+00</td><td>0.00E+00</td><td>0.00E+00</td><td>0.00E+00</td><td>2503</td><td>1.60E-02</td><td>2.54E-03</td><td>1.28E-03</td><td>3.73E-05</td></t<>	2003	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2503	1.60E-02	2.54E-03	1.28E-03	3.73E-05
2023         3.83E-10         5.30E-11         2.14E-11         1.15E-03         1.59E-02         2.53E-03         1.28E-03         3.72E-05           2033         1.13E-06         1.69E-07         7.55E-06         9.74E-08         2.53E-03         1.28E-03         3.72E-05           2043         7.97F-05         1.21E-05         5.76E-06         9.74E-08         2.53E-03         1.28E-03         3.71E-05           2003         3.53E-03         5.51E-04         2.73E-04         5.58E-06         2.55E-03         1.27E-03         3.69E-05           2003         1.77E-03         1.21E-03         6.06E-04         1.58E-02         2.51E-03         1.27E-03         3.69E-05           2003         1.47E-02         2.37E-03         1.32E-03         3.68E-05         2603         1.58E-02         2.50E-03         1.27E-03         3.69E-05           2013         1.56E-02         2.67E-03         1.32E-03         3.68E-05         2603         1.57E-02         2.90E-03         1.28E-03         3.69E-05           2113         1.65E-02         2.67E-03         1.32E-03         3.66E-05         2633         1.57E-02         2.49E-03         1.28E-03         3.66E-05           2123         1.66E-02         2.77E-03	2023         3.83E-10         5.96E-17         5.246         8.71E-10         2523         1.59E-02         2.53E-03         1.28E-03         3.71E-05           2033         1.31E-06         1.66E-07         7.55E-06         9.74E-08         2.543         1.59E-02         2.53E-03         1.28E-03         3.71E-05           2033         8.55E-04         1.37E-04         6.68E-06         1.41E-06         2553         1.59E-02         2.51E-03         1.27E-03         3.07E-05           2033         5.55E-04         2.35E-04         5.58E-06         2.56E-03         1.27E-03         3.69E-05           2033         1.44F-02         2.33E-03         1.15E-03         3.26E-06         2.533         1.58E-02         2.50E-03         1.27E-03         3.69E-05           2133         1.55E-02         2.57E-03         1.32E-03         3.69E-05         2633         1.57E-02         2.50E-03         1.26E-03         3.66E-05           2133         1.68E-02         2.77E-03         1.35E-03         3.91E-05         2633         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2133         1.68E-02         2.77E-03         1.35E-03         3.92E-05         2633         1.56E-02         2.48E-03         1	2013	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2513	1.60E-02	2.53E-03	1.28E-03	3.72E-05
2033         1.13E-06         1.69E-07         7.55E-08         8.71E-10         2533         1.59E-02         2.52E-03         1.28E-03         3.71E-05           2053         8.85E-04         1.37E-04         6.68E-05         1.41E-06         2553         1.59E-02         2.52E-03         1.22E-03         3.70E-05           2053         8.55E-04         1.37E-04         6.58E-06         2563         1.58E-02         2.51E-03         1.27E-03         3.70E-05           2003         1.77D-02         1.85E-03         3.26E-05         2573         1.58E-02         2.51E-03         1.27E-03         3.69E-05           2003         1.44E-02         2.37E-03         1.26E-03         3.69E-05         2533         1.58E-02         2.50E-03         1.27E-03         3.69E-05           2133         1.56E-02         2.67E-03         1.32E-03         3.83E-05         2623         1.57E-02         2.69E-03         1.26E-03         3.66E-05           2133         1.68E-02         2.72E-03         1.35E-03         3.91E-05         2633         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2133         1.68E-02         2.72E-03         1.35E-03         3.92E-05         2663         1.56E-02         2.49	2033         1.13E-06         1.69E-07         7.55E-08         8.71E-10         2533         1.59E-02         2.52E-03         1.22E+03         3.71E-05           2033         8.85E-04         1.37E-04         6.68E-05         1.41E-06         2553         1.59E-02         2.52E-03         1.22F+03         3.70E-05           2033         5.51E-04         2.73E-04         6.58E-06         2563         1.58E-02         2.51E-03         1.27F+03         3.69E-05           2033         1.77D-02         1.82E-03         3.66E-05         2593         1.58E-02         2.51E-03         1.27F+03         3.69E-05           2033         1.59E-02         2.57F-03         1.27E-03         3.66E-05         2633         1.58E-02         2.50E-03         1.22F+03         3.69E-05           2133         1.68E-02         2.77E-03         1.32E-03         3.93E-05         2633         1.57E-02         2.99E-03         1.26E-03         3.66E-05           2133         1.68E-02         2.77E-03         1.35E-03         3.91E-05         2633         1.56E-02         2.49E-03         1.26E-03         3.66E-05           2133         1.68E-02         2.77E-03         1.35E-03         3.91E-05         2663         1.56E-02         2.49	2023	3.83E-10	5.30E-11	2.14E-11	1.19E-13	2523	1.59E-02	2.53E-03	1.28E-03	3.72E-05
2043         7.97E-06         1.27E-03         1.27E-03         1.27E-03         3.77E-05           2053         8.85E-04         1.37E-04         6.68E-06         1.555         1.59E-02         2.52E-03         1.27E-03         3.70E-05           2073         7.70E-03         1.21E-03         6.06E-04         1.58E-05         2573         1.58E-02         2.51E-03         1.27E-03         3.69E-05           2033         1.17E-02         1.25E-03         3.02E-05         2583         1.58E-02         2.50E-03         1.27E-03         3.69E-05           2033         1.44E-02         2.33E-03         1.25E-03         3.68E-05         2603         1.57E-02         2.50E-03         1.26E-03         3.66E-05           2113         1.65E-02         2.77E-03         1.33E-03         3.91E-05         2633         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2133         1.66E-02         2.72E-03         1.35E-03         3.91E-05         2663         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2133         1.66E-02         2.72E-03         1.35E-03         3.91E-05         2663         1.56E-02         2.48E-03         1.26E-03         3.66E-05          2133	2043         7.97E-05         1.21E-05         5.76E-06         6.78E-06         1.59E-02         2.52E-03         1.22E-03         3.70E-05           2063         3.55E-04         1.37E-04         6.58E-06         2553         1.59E-02         2.52E-03         1.27E-03         3.70E-05           2073         7.70E-03         1.21E-03         6.06E-04         1.58E-02         2.51E-03         1.27E-03         3.69E-05           2003         1.47E-02         2.38E-03         3.58E-02         2.50E-03         1.27E-03         3.69E-05           2013         1.59E-02         2.57E-03         1.32E-03         3.68E-05         2583         1.58E-02         2.50E-03         1.22E-03         3.69E-05           2131         1.65E-02         2.67E-03         1.32E-03         3.83E-05         2631         1.57E-02         2.99E-03         1.26E-03         3.66E-05           2133         1.66E-02         2.77E-03         1.33E-03         3.92E-05         2643         1.57E-02         2.99E-03         1.26E-03         3.66E-05           2133         1.66E-02         2.77E-03         1.34E-03         3.99E-05         2653         1.56E-02         2.49E-03         1.26E-03         3.66E-05           2133         1.6	2033	1.13E-06	1.69E-07	7.55E-08	8.71E-10	2533	1.59E-02	2.53E-03	1.28E-03	3.71E-05
2063         8.85E-04         1.37E-04         6.58E-06         2553         1.59E-02         2.52E-03         1.27E-03         3.70E-05           2063         3.53E-03         5.51E-04         2.73E-04         6.58E-06         2563         1.58E-02         2.51E-03         1.27E-03         3.66E-05           2003         1.77E-02         1.28E-03         3.25E-05         2583         1.58E-02         2.51E-03         1.27E-03         3.66E-05           2003         1.59E-02         2.57E-03         1.27E-03         3.66E-05         2593         1.58E-02         2.50E-03         1.26E-03         3.66E-05           2123         1.56E-02         2.57E-03         1.32E-03         3.91E-05         2633         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2123         1.66E-02         2.72E-03         1.39E-03         3.91E-05         2633         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2143         1.68E-02         2.72E-03         1.39E-03         3.91E-05         2663         1.56E-02         2.48E-03         1.25E-03         3.66E-05           2143         1.68E-02         2.71E-03         1.34E-03         3.99E-05         2663         1.56E-02         2.48	2053         8.85E-04         1.37E-04         6.58E-06         2553         1.59E-02         2.51E-03         1.27E-03         3.70E-05           2063         3.53E-03         5.51E-04         2.73E-04         6.58E-06         2563         1.58E-02         2.51E-03         1.27E-03         3.09E-05           2003         1.77E-02         1.58E-03         3.26E-05         2583         1.58E-02         2.51E-03         1.27E-03         3.69E-05           2003         1.59E-02         2.57E-03         1.27E-03         3.69E-05         2603         1.58E-02         2.50E-03         1.26E-03         3.69E-05           2113         1.65E-02         2.67E-03         1.32E-03         3.39E-05         2603         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2113         1.66E-02         2.72E-03         1.35E-03         3.91E-05         2663         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2113         1.68E-02         2.71E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.48E-03         1.25E-03         3.66E-05           2113         1.66E-02         2.48E-03         1.25E-03         3.66E-05         2663         1.56E-02         2.48	2043	7.97E-05	1.21E-05	5.76E-06	9.74E-08	2543	1.59E-02	2.52E-03	1.28E-03	3.71E-05
2063         3.53E-03         5.51E-04         2.58E-06         2563         1.58E-02         2.51E-03         1.27E-03         3.07E-05           2073         7.70E-03         1.21E-03         6.06E-04         1.58E-05         2573         1.58E-02         2.51E-03         1.27E-03         3.69E-05           2003         1.44E-02         2.33E-03         1.15E-03         3.26E-05         2593         1.58E-02         2.50E-03         1.27E-03         3.66E-05           2103         1.59E-02         2.57E-03         1.27E-03         3.68E-05         2503         1.57E-02         2.50E-03         1.26E-03         3.67E-05           2113         1.65E-02         2.67E-03         1.32E-03         3.89E-05         2633         1.57E-02         2.49E-03         1.26E-03         3.67E-05           2113         1.66E-02         2.77E-03         1.32E-03         3.91E-05         2633         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2113         1.66E-02         2.77E-03         1.32E-03         3.90E-05         2663         1.56E-02         2.49E-03         1.25E-03         3.66E-05           2113         1.67E-02         2.66E-03         1.34E-03         3.99E-05         2663         1.56	2063         3.53E-03         5.51E-04         2.73E-04         6.58E-06         2563         1.58E-02         2.51E-03         1.27E-03         3.69E-05           2073         7.70E-03         1.21E-03         6.06E-04         1.58E-05         2573         1.58E-02         2.51E-03         1.27E-03         3.69E-05           2033         1.44E-02         2.33E-03         1.15E-03         3.26E-05         2593         1.58E-02         2.50E-03         1.27E-03         3.66E-05           2133         1.65E-02         2.67E-03         1.32E-03         3.89E-05         2623         1.57E-02         2.49E-03         1.26E-03         3.67E-05           2133         1.66E-02         2.77E-03         1.32E-03         3.91E-05         2633         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2133         1.66E-02         2.77E-03         1.32E-03         3.91E-05         2663         1.56E-02         2.49E-03         1.26E-03         3.66E-05           2133         1.66E-02         2.71E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.48E-03         1.25E-03         3.64E-05           2133         1.66E-02         2.64E-03         1.34E-03         3.89E-05	2053	8.85E-04	1.37E-04	6.68E-05	1.41E-06	2553	1.59E-02	2.52E-03	1.27E-03	3.70E-05
2073         7.70E-03         1.21E-03         6.06E-04         1.58E-05         2573         1.58E-02         2.51E-03         1.27E-03         3.69E-05           2083         1.17E-02         1.85E-03         9.30E-04         2.56E-05         2583         1.58E-02         2.50E-03         1.27E-03         3.69E-05           2103         1.59E-02         2.57E-03         1.32E-03         3.68E-05         2603         1.58E-02         2.50E-03         1.26E-03         3.66E-05           2113         1.65E-02         2.77E-03         1.32E-03         3.89E-05         2613         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2123         1.66E-02         2.77E-03         1.35E-03         3.91E-05         2663         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2133         1.66E-02         2.77E-03         1.35E-03         3.91E-05         2663         1.56E-02         2.49E-03         1.25E-03         3.66E-05           2133         1.66E-02         2.77E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.49E-03         1.25E-03         3.64E-05           2133         1.67E-02         2.66E-03         1.34E-03         3.89E-05	2073         7.70E-03         1.21E-03         6.06E-041         1.58E-05         2573         1.58E-02         2.51E-03         1.27E-03         3.69E-05           2083         1.17E-02         1.35E-03         3.26E-04         2.56E-05         2583         1.58E-02         2.50E-03         1.27E-03         3.66E-05           2103         1.59E-02         2.57E-03         1.27E-03         3.86E-05         2603         1.58E-02         2.50E-03         1.26E-03         3.67E-05           2113         1.65E-02         2.77E-03         1.32E-03         3.92E-05         2633         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2113         1.66E-02         2.77E-03         1.39E-03         3.92E-05         2643         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2113         1.66E-02         2.77E-03         1.39E-03         3.91E-05         2653         1.56E-02         2.48E-03         1.25E-03         3.66E-05           2113         1.66E-02         2.77E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.47E-03         1.25E-03         3.66E-05           2113         1.66E-02         2.66E-03         1.34E-03         3.89E-05 <td< td=""><td>2063</td><td>3.53E-03</td><td>5.51E-04</td><td>2.73E-04</td><td>6.58E-06</td><td>2563</td><td>1.58E-02</td><td>2.51E-03</td><td>1.27E-03</td><td>3.70E-05</td></td<>	2063	3.53E-03	5.51E-04	2.73E-04	6.58E-06	2563	1.58E-02	2.51E-03	1.27E-03	3.70E-05
2083         1.17E-02         1.85E-03         3.26E-05         2583         1.58E-02         2.50E-03         1.27E-03         3.66E-05           2093         1.44E-02         2.33E-03         1.15E-03         3.26E-05         2593         1.58E-02         2.50E-03         1.27E-03         3.66E-05           2103         1.59E-02         2.57E-03         1.32E-03         3.83E-05         2633         1.57E-02         2.49E-03         1.26E-03         3.67E-05           2133         1.66E-02         2.72E-03         1.35E-03         3.92E-05         2633         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2133         1.66E-02         2.72E-03         1.35E-03         3.92E-05         2663         1.56E-02         2.49E-03         1.26E-03         3.66E-05           2133         1.66E-02         2.71E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.49E-03         1.25E-03         3.66E-05           2133         1.67E-02         2.66E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.47E-03         3.56E-05           2133         1.67E-02         2.66E-03         1.34E-03         3.89E-05         2023         1.55E-02         2.47	2083         1.17E-02         1.85E-03         3.26E-05         2583         1.58E-02         2.50E-03         1.27E-03         3.66E-05           2093         1.44E-02         2.37E-03         1.32E-03         3.26E-05         2593         1.58E-02         2.50E-03         1.26E-03         3.66E-05           2103         1.57E-02         2.77E-03         1.32E-03         3.83E-05         2633         1.57E-02         2.49E-03         1.26E-03         3.67E-05           2133         1.68E-02         2.77E-03         1.35E-03         3.92E-05         2643         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2143         1.68E-02         2.77E-03         1.35E-03         3.91E-05         2663         1.56E-02         2.49E-03         1.26E-03         3.66E-05           2163         1.66E-02         2.71E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.49E-03         1.25E-03         3.64E-05           2183         1.67E-02         2.64E-03         1.34E-03         3.89E-05         2033         1.56E-02         2.47E-03         1.25E-03         3.64E-05           2133         1.67E-02         2.64E-03         1.34E-03         3.89E-05         2773         1.55	2073	7.70E-03	1.21E-03	6.06E-04	1.58E-05	2573	1.58E-02	2.51E-03	1.27E-03	3.69E-05
2093         1.44E-02         2.33E-03         1.25E-03         3.26E-05         2593         1.58E-02         2.50E-03         1.27E-03         3.66E-05           2103         1.59E-02         2.57E-03         1.32E-03         3.89E-05         2603         1.58E-02         2.50E-03         1.26E-03         3.66E-05           2113         1.68E-02         2.71E-03         1.35E-03         3.91E-05         2633         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2133         1.68E-02         2.72E-03         1.35E-03         3.91E-05         2633         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2143         1.68E-02         2.72E-03         1.34E-03         3.91E-05         2663         1.56E-02         2.49E-03         1.26E-03         3.66E-05           2173         1.67E-02         2.72E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.49E-03         1.25E-03         3.66E-05           2133         1.67E-02         2.66E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.47E-03         1.25E-03         3.64E-05           2133         1.67E-02         2.66E-03         1.34E-03         3.89E-05	2093         1.44E-02         2.33E-03         1.25E-03         3.26E-05         2593         1.58E-02         2.50E-03         1.27E-03         3.66E-05           2103         1.59E-02         2.57E-03         1.32E-03         3.89E-05         2603         1.58E-02         2.50E-03         1.26E-03         3.66E-05           2113         1.65E-02         2.71E-03         1.34E-03         3.89E-05         2633         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2133         1.68E-02         2.72E-03         1.35E-03         3.91E-05         2633         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2143         1.68E-02         2.72E-03         1.35E-03         3.91E-05         2663         1.56E-02         2.48E-03         1.26E-03         3.66E-05           2173         1.67E-02         2.66E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.48E-03         1.25E-03         3.64E-05           2133         1.67E-02         2.66E-03         1.34E-03         3.89E-05         2713         1.55E-02         2.47E-03         1.25E-03         3.64E-05           2133         1.66E-02         2.66E-03         1.34E-03         3.88E-05	2083	1.17E-02	1.85E-03	9.30E-04	2.56E-05	2583	1.58E-02	2.51E-03	1.27E-03	3.69E-05
2103         1.59E-02         2.57E-03         1.22E-03         3.68E-05         2603         1.58E-02         2.50E-03         1.26E-03         3.68E-05           2113         1.66E-02         2.71E-03         1.32E-03         3.89E-05         2633         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2133         1.66E-02         2.72E-03         1.35E-03         3.91E-05         2633         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2143         1.66E-02         2.72E-03         1.35E-03         3.91E-05         2663         1.56E-02         2.49E-03         1.26E-03         3.66E-05           2163         1.66E-02         2.71E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.49E-03         1.25E-03         3.64E-05           2131         1.67E-02         2.65E-03         1.34E-03         3.89E-05         2703         1.55E-02         2.47E-03         1.25E-03         3.64E-05           2131         1.66E-02         2.66E-03         1.34E-03         3.89E-05         2703         1.55E-02         2.47E-03         1.25E-03         3.63E-05           2131         1.66E-02         2.64E-03         1.33E-03         3.88E-05	1:03         1.59E-02         2.57E-03         1.22E-03         3.65E-05         2603         1.58E-02         2.50E-03         1.26E-03         3.66E-05           2113         1.65E-02         2.71E-03         1.32E-03         3.89E-05         2613         1.57E-02         2.50E-03         1.26E-03         3.67E-05           2123         1.66E-02         2.72E-03         1.35E-03         3.91E-05         2633         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2143         1.68E-02         2.72E-03         1.35E-03         3.91E-05         2663         1.56E-02         2.49E-03         1.26E-03         3.66E-05           2163         1.67E-02         2.66E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.49E-03         1.25E-03         3.66E-05           2103         1.67E-02         2.66E-03         1.34E-03         3.89E-05         2693         1.56E-02         2.47E-03         1.25E-03         3.64E-05           2103         1.67E-02         2.66E-03         1.34E-03         3.89E-05         2733         1.55E-02         2.46E-03         1.24E-03         3.62E-05           2203         1.66E-02         2.64E-03         1.34E-03         3.89E-05	2093	1.44E-02	2.33E-03	1.15E-03	3.26E-05	2593	1.58E-02	2.50E-03	1.27E-03	3.68E-05
2113       1.66E-02       2.67E-03       1.32E-03       3.83E-05       2613       1.57E-02       2.49E-03       1.26E-03       3.67E-05         2123       1.68E-02       2.72E-03       1.35E-03       3.91E-05       2623       1.57E-02       2.49E-03       1.26E-03       3.66E-05         2133       1.68E-02       2.72E-03       1.35E-03       3.91E-05       2633       1.57E-02       2.49E-03       1.26E-03       3.66E-05         2153       1.68E-02       2.71E-03       1.34E-03       3.91E-05       2663       1.56E-02       2.48E-03       1.25E-03       3.66E-05         2173       1.67E-02       2.71E-03       1.34E-03       3.90E-05       2663       1.56E-02       2.48E-03       1.25E-03       3.64E-05         2193       1.67E-02       2.66E-03       1.34E-03       3.89E-05       2703       1.55E-02       2.47E-03       1.25E-03       3.62E-05         2213       1.66E-02       2.64E-03       1.33E-03       3.88E-05       2773       1.55E-02       2.46E-03       1.24E-03       3.62E-05         2233       1.66E-02       2.64E-03       1.33E-03       3.88E-05       2773       1.55E-02       2.46E-03       1.24E-03       3.62E-05         2233 <td>2113       1.65E-02       2.67E-03       1.32E-03       3.83E-05       2613       1.57E-02       2.49E-03       1.26E-03       3.67E-05         2123       1.67E-02       2.71E-03       1.34E-03       3.89E-05       2623       1.57E-02       2.49E-03       1.26E-03       3.66E-05         2133       1.68E-02       2.72E-03       1.35E-03       3.91E-05       2633       1.57E-02       2.49E-03       1.26E-03       3.66E-05         2131       1.68E-02       2.71E-03       1.34E-03       3.91E-05       2663       1.56E-02       2.48E-03       1.25E-03       3.66E-05         2131       1.67E-02       2.65E-03       1.34E-03       3.90E-05       2673       1.56E-02       2.48E-03       1.25E-03       3.64E-05         2133       1.67E-02       2.66E-03       1.34E-03       3.89E-05       2703       1.55E-02       2.47E-03       1.25E-03       3.63E-05         2131       1.66E-02       2.64E-03       1.38E-03       3.88E-05       2773       1.55E-02       2.46E-03       1.24E-03       3.62E-05         2233       1.66E-02       2.64E-03       1.33E-03       3.87E-05       2733       1.55E-02       2.46E-03       1.24E-03       3.61E-05         2233<td>2103</td><td>1.59E-02</td><td>2.57E-03</td><td>1.27E-03</td><td>3.65E-05</td><td>2603</td><td>1.58E-02</td><td>2.50E-03</td><td>1.26E-03</td><td>3.68E-05</td></td>	2113       1.65E-02       2.67E-03       1.32E-03       3.83E-05       2613       1.57E-02       2.49E-03       1.26E-03       3.67E-05         2123       1.67E-02       2.71E-03       1.34E-03       3.89E-05       2623       1.57E-02       2.49E-03       1.26E-03       3.66E-05         2133       1.68E-02       2.72E-03       1.35E-03       3.91E-05       2633       1.57E-02       2.49E-03       1.26E-03       3.66E-05         2131       1.68E-02       2.71E-03       1.34E-03       3.91E-05       2663       1.56E-02       2.48E-03       1.25E-03       3.66E-05         2131       1.67E-02       2.65E-03       1.34E-03       3.90E-05       2673       1.56E-02       2.48E-03       1.25E-03       3.64E-05         2133       1.67E-02       2.66E-03       1.34E-03       3.89E-05       2703       1.55E-02       2.47E-03       1.25E-03       3.63E-05         2131       1.66E-02       2.64E-03       1.38E-03       3.88E-05       2773       1.55E-02       2.46E-03       1.24E-03       3.62E-05         2233       1.66E-02       2.64E-03       1.33E-03       3.87E-05       2733       1.55E-02       2.46E-03       1.24E-03       3.61E-05         2233 <td>2103</td> <td>1.59E-02</td> <td>2.57E-03</td> <td>1.27E-03</td> <td>3.65E-05</td> <td>2603</td> <td>1.58E-02</td> <td>2.50E-03</td> <td>1.26E-03</td> <td>3.68E-05</td>	2103	1.59E-02	2.57E-03	1.27E-03	3.65E-05	2603	1.58E-02	2.50E-03	1.26E-03	3.68E-05
2123         1.67E-02         2.71E-03         1.34E-03         3.99E-05         2633         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2133         1.68E-02         2.72E-03         1.35E-03         3.91E-05         2633         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2153         1.68E-02         2.72E-03         1.35E-03         3.91E-05         2663         1.56E-02         2.48E-03         1.26E-03         3.66E-05           2163         1.67E-02         2.71E-03         1.44E-03         3.90E-05         2663         1.56E-02         2.48E-03         1.25E-03         3.64E-05           2183         1.67E-02         2.66E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.47E-03         1.25E-03         3.64E-05           2103         1.67E-02         2.64E-03         1.34E-03         3.89E-05         2703         1.55E-02         2.47E-03         1.25E-03         3.62E-05           2203         1.66E-02         2.64E-03         1.33E-03         3.88E-05         2773         1.55E-02         2.46E-03         1.24E-03         3.62E-05           2233         1.66E-02         2.64E-03         1.33E-03         3.88E-05	2123         1.67E-02         2.71E-03         1.34E-03         3.99E-05         2633         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2133         1.68E-02         2.72E-03         1.35E-03         3.91E-05         2633         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2153         1.68E-02         2.72E-03         1.35E-03         3.91E-05         2663         1.56E-02         2.48E-03         1.26E-03         3.66E-05           2163         1.66E-02         2.71E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.48E-03         1.25E-03         3.64E-05           2183         1.67E-02         2.65E-03         1.34E-03         3.89E-05         2703         1.55E-02         2.47E-03         1.25E-03         3.63E-05           2203         1.67E-02         2.64E-03         1.34E-03         3.89E-05         2773         1.55E-02         2.46E-03         1.24E-03         3.62E-05           2213         1.66E-02         2.64E-03         1.33E-03         3.89E-05         2773         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2233         1.66E-02         2.63E-03         1.33E-03         3.89E-05	2113	1.65E-02	2.67E-03	1.32E-03	3.83E-05	2613	1.57E-02	2.50E-03	1.26E-03	3.67E-05
2133         1.66E-02         2.72E-03         1.35E-03         3.91E-05         2633         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2143         1.68E-02         2.72E-03         1.35E-03         3.91E-05         2633         1.55E-02         2.49E-03         1.26E-03         3.66E-05           2163         1.68E-02         2.71E-03         1.34E-03         3.91E-05         2663         1.56E-02         2.48E-03         1.25E-03         3.66E-05           2173         1.67E-02         2.65E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.48E-03         1.25E-03         3.64E-05           2133         1.67E-02         2.66E-03         1.34E-03         3.89E-05         2703         1.55E-02         2.47E-03         1.25E-03         3.62E-05           2213         1.66E-02         2.64E-03         1.33E-03         3.88E-05         2713         1.55E-02         2.46E-03         1.24E-03         3.62E-05           2233         1.66E-02         2.64E-03         1.33E-03         3.87E-05         2773         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2243         1.66E-02         2.63E-03         1.33E-03         3.88E-05	2133       1.68E-02       2.72E-03       1.35E-03       3.91E-05       2633       1.57E-02       2.49E-03       1.26E-03       3.66E-05         2143       1.68E-02       2.72E-03       1.35E-03       3.91E-05       2663       1.56E-02       2.48E-03       1.26E-03       3.66E-05         2163       1.66E-02       2.71E-03       1.34E-03       3.91E-05       2663       1.56E-02       2.48E-03       1.25E-03       3.66E-05         2173       1.67E-02       2.65E-03       1.34E-03       3.90E-05       2663       1.56E-02       2.48E-03       1.25E-03       3.64E-05         2193       1.67E-02       2.65E-03       1.34E-03       3.89E-05       2693       1.55E-02       2.47E-03       1.25E-03       3.64E-05         2213       1.66E-02       2.64E-03       1.34E-03       3.89E-05       2773       1.55E-02       2.46E-03       1.24E-03       3.62E-05         2223       1.66E-02       2.64E-03       1.33E-03       3.87E-05       2773       1.55E-02       2.46E-03       1.24E-03       3.62E-05         2233       1.66E-02       2.63E-03       1.33E-03       3.87E-05       2773       1.55E-02       2.46E-03       1.24E-03       3.61E-05         22431 </td <td>2123</td> <td>1.67E-02</td> <td>2.71E-03</td> <td>1.34E-03</td> <td>3.89E-05</td> <td>2623</td> <td>1.57E-02</td> <td>2.49E-03</td> <td>1.26E-03</td> <td>3.67E-05</td>	2123	1.67E-02	2.71E-03	1.34E-03	3.89E-05	2623	1.57E-02	2.49E-03	1.26E-03	3.67E-05
2143         1.66E-02         2.72E-03         1.35E-03         3.92E-05         2643         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2153         1.68E-02         2.71E-03         1.34E-03         3.91E-05         2663         1.56E-02         2.48E-03         1.25E-03         3.66E-05           2163         1.67E-02         2.71E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.48E-03         1.25E-03         3.64E-05           2183         1.67E-02         2.66E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.47E-03         1.25E-03         3.64E-05           2213         1.66E-02         2.64E-03         1.34E-03         3.89E-05         2713         1.55E-02         2.47E-03         1.25E-03         3.62E-05           22231         1.66E-02         2.64E-03         1.33E-03         3.88E-05         2773         1.55E-02         2.46E-03         1.24E-03         3.62E-05           2233         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2743         1.55E-02         2.46E-03         1.24E-03         3.61E-05           22431         1.66E-02         2.63E-03         1.33E-03         3.88E-05 <t< td=""><td>2143         1.66E-02         2.72E-03         1.35E-03         3.92E-05         2643         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2153         1.68E-02         2.71E-03         1.34E-03         3.91E-05         2663         1.56E-02         2.48E-03         1.26E-03         3.66E-05           2173         1.67E-02         2.71E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.48E-03         1.25E-03         3.64E-05           2133         1.67E-02         2.65E-03         1.34E-03         3.89E-05         2663         1.56E-02         2.47E-03         1.25E-03         3.64E-05           2133         1.67E-02         2.66E-03         1.34E-03         3.89E-05         2773         1.55E-02         2.47E-03         1.25E-03         3.62E-05           2213         1.66E-02         2.64E-03         1.33E-03         3.89E-05         2773         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2233         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2773         1.54E-02         2.46E-03         1.24E-03         3.61E-05           2233         1.66E-02         2.63E-03         1.33E-03         3.89E-05</td><td>2133</td><td>1.68E-02</td><td>2.72E-03</td><td>1.35E-03</td><td>3.91E-05</td><td>2633</td><td>1.57E-02</td><td>2.49E-03</td><td>1.26E-03</td><td>3.66E-05</td></t<>	2143         1.66E-02         2.72E-03         1.35E-03         3.92E-05         2643         1.57E-02         2.49E-03         1.26E-03         3.66E-05           2153         1.68E-02         2.71E-03         1.34E-03         3.91E-05         2663         1.56E-02         2.48E-03         1.26E-03         3.66E-05           2173         1.67E-02         2.71E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.48E-03         1.25E-03         3.64E-05           2133         1.67E-02         2.65E-03         1.34E-03         3.89E-05         2663         1.56E-02         2.47E-03         1.25E-03         3.64E-05           2133         1.67E-02         2.66E-03         1.34E-03         3.89E-05         2773         1.55E-02         2.47E-03         1.25E-03         3.62E-05           2213         1.66E-02         2.64E-03         1.33E-03         3.89E-05         2773         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2233         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2773         1.54E-02         2.46E-03         1.24E-03         3.61E-05           2233         1.66E-02         2.63E-03         1.33E-03         3.89E-05	2133	1.68E-02	2.72E-03	1.35E-03	3.91E-05	2633	1.57E-02	2.49E-03	1.26E-03	3.66E-05
2153         1.68E-02         2.72E-03         1.35E-03         3.91E-05         2653         1.56E-02         2.48E-03         1.25E-03         3.65E-05           2173         1.67E-02         2.71E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.48E-03         1.25E-03         3.66E-05           2193         1.67E-02         2.66E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.47E-03         1.25E-03         3.64E-05           2193         1.67E-02         2.66E-03         1.34E-03         3.89E-05         2693         1.56E-02         2.47E-03         1.25E-03         3.66E-05           2203         1.66E-02         2.64E-03         1.33E-03         3.88E-05         2773         1.55E-02         2.46E-03         1.2E-03         3.62E-05           2233         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2773         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2243         1.66E-02         2.63E-03         1.33E-03         3.88E-05         2773         1.54E-02         2.46E-03         1.24E-03         3.60E-05           2273         1.65E-02         2.62E-03         1.32E-03         3.89E-05         2	2153         1.68E-02         2.72E-03         1.35E-03         3.91E-05         2653         1.56E-02         2.48E-03         1.25E-03         3.65E-05           2173         1.67E-02         2.71E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.48E-03         1.25E-03         3.64E-05           2193         1.67E-02         2.66E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.47E-03         1.25E-03         3.64E-05           2203         1.67E-02         2.64E-03         1.33E-03         3.89E-05         2703         1.55E-02         2.47E-03         1.25E-03         3.62E-05           2213         1.66E-02         2.64E-03         1.33E-03         3.88E-05         2713         1.55E-02         2.46E-03         1.24E-03         3.62E-05           2223         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2733         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2243         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2743         1.55E-02         2.46E-03         1.24E-03         3.60E-05           2253         1.65E-02         2.63E-03         1.33E-03         3.88E-05	2143	1.68E-02	2.72E-03	1.35E-03	3.92E-05	2643	1.57E-02	2.49E-03	1.26E-03	3.66E-05
2163         1.68E-02         2.71E-03         1.34E-03         3.91E-05         2663         1.56E-02         2.48E-03         1.25E-03         3.64E-05           2173         1.67E-02         2.65E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.47E-03         1.25E-03         3.64E-05           2183         1.67E-02         2.65E-03         1.34E-03         3.89E-05         2663         1.56E-02         2.47E-03         1.25E-03         3.64E-05           2103         1.67E-02         2.64E-03         1.34E-03         3.89E-05         2703         1.55E-02         2.47E-03         1.25E-03         3.62E-05           2223         1.66E-02         2.64E-03         1.33E-03         3.88E-05         2773         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2233         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2.733         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2243         1.66E-02         2.63E-03         1.33E-03         3.88E-05         2773         1.54E-02         2.44E-03         1.24E-03         3.60E-05           2273         1.65E-02         2.62E-03         1.32E-03         3.84E-05 <td< td=""><td>2163         1.68E-02         2.71E-03         1.34E-03         3.91E-05         2663         1.56E-02         2.48E-03         1.25E-03         3.66E-05           2173         1.67E-02         2.65E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.48E-03         1.25E-03         3.64E-05           2193         1.67E-02         2.66E-03         1.34E-03         3.89E-05         2693         1.55E-02         2.47E-03         1.25E-03         3.63E-05           2203         1.67E-02         2.64E-03         1.33E-03         3.89E-05         2713         1.55E-02         2.46E-03         1.25E-03         3.62E-05           2213         1.66E-02         2.64E-03         1.33E-03         3.87E-05         2773         1.55E-02         2.46E-03         1.24E-03         3.62E-05           2233         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2773         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2253         1.65E-02         2.63E-03         1.33E-03         3.87E-05         2773         1.54E-02         2.44E-03         1.24E-03         3.60E-05           2273         1.65E-02         2.63E-03         1.32E-03         3.88E-05</td><td>2153</td><td>1.68E-02</td><td>2.72E-03</td><td>1.35E-03</td><td>3.91E-05</td><td>2653</td><td>1.56E-02</td><td>2.48E-03</td><td>1.26E-03</td><td>3.65E-05</td></td<>	2163         1.68E-02         2.71E-03         1.34E-03         3.91E-05         2663         1.56E-02         2.48E-03         1.25E-03         3.66E-05           2173         1.67E-02         2.65E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.48E-03         1.25E-03         3.64E-05           2193         1.67E-02         2.66E-03         1.34E-03         3.89E-05         2693         1.55E-02         2.47E-03         1.25E-03         3.63E-05           2203         1.67E-02         2.64E-03         1.33E-03         3.89E-05         2713         1.55E-02         2.46E-03         1.25E-03         3.62E-05           2213         1.66E-02         2.64E-03         1.33E-03         3.87E-05         2773         1.55E-02         2.46E-03         1.24E-03         3.62E-05           2233         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2773         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2253         1.65E-02         2.63E-03         1.33E-03         3.87E-05         2773         1.54E-02         2.44E-03         1.24E-03         3.60E-05           2273         1.65E-02         2.63E-03         1.32E-03         3.88E-05	2153	1.68E-02	2.72E-03	1.35E-03	3.91E-05	2653	1.56E-02	2.48E-03	1.26E-03	3.65E-05
2173         1.67E-02         2.71E-03         1.34E-03         3.90E-05         2663         1.56E-02         2.48E-03         1.25E-03         3.64E-05           2193         1.67E-02         2.65E-03         1.34E-03         3.99E-05         2663         1.56E-02         2.47E-03         1.25E-03         3.64E-05           2103         1.67E-02         2.64E-03         1.34E-03         3.89E-05         2693         1.56E-02         2.47E-03         1.25E-03         3.63E-05           2213         1.66E-02         2.64E-03         1.33E-03         3.88E-05         2713         1.55E-02         2.46E-03         1.2EE-03         3.62E-05           2223         1.66E-02         2.64E-03         1.33E-03         3.88E-05         2773         1.55E-02         2.46E-03         1.24E-03         3.60E-05           2243         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2743         1.55E-02         2.45E-03         1.24E-03         3.60E-05           2263         1.65E-02         2.62E-03         1.32E-03         3.85E-05         2773         1.54E-02         2.44E-03         1.22E-03         3.60E-05           2273         1.65E-02         2.62E-03         1.32E-03         3.84E-05	2173         1.67E-02         2.71E-03         1.34E-03         3.90E-05         2673         1.56E-02         2.48E-03         1.25E-03         3.64E-05           2193         1.67E-02         2.65E-03         1.34E-03         3.90E-05         2693         1.56E-02         2.47E-03         1.25E-03         3.64E-05           2203         1.67E-02         2.64E+03         1.34E-03         3.89E-05         2703         1.55E-02         2.47E-03         1.25E-03         3.62E-05           2213         1.66E-02         2.64E+03         1.33E-03         3.88E-05         2773         1.55E-02         2.46E-03         1.22E-03         3.62E-05           22233         1.66E-02         2.64E+03         1.33E-03         3.88E-05         2773         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2243         1.66E-02         2.63E-03         1.33E-03         3.88E-05         2773         1.55E-02         2.46E-03         1.24E-03         3.60E-05           2263         1.65E-02         2.62E-03         1.32E-03         3.88E-05         2773         1.54E-02         2.44E-03         1.24E-03         3.60E-05           2273         1.65E-02         2.61E-03         1.32E-03         3.84E-05 <td< td=""><td>2163</td><td>1.68E-02</td><td>2.71E-03</td><td>1.34E-03</td><td>3.91E-05</td><td>2663</td><td>1.56E-02</td><td>2.48E-03</td><td>1.25E-03</td><td>3.65E-05</td></td<>	2163	1.68E-02	2.71E-03	1.34E-03	3.91E-05	2663	1.56E-02	2.48E-03	1.25E-03	3.65E-05
2183         1.67E-02         2.65E-03         1.34E-03         3.90E-05         2683         1.56E-02         2.47E-03         1.25E-03         3.64E-05           2193         1.67E-02         2.64E-03         1.34E-03         3.89E-05         2693         1.56E-02         2.47E-03         1.25E-03         3.63E-05           2213         1.66E-02         2.64E-03         1.33E-03         3.88E-05         2703         1.55E-02         2.46E-03         1.25E-03         3.62E-05           2223         1.66E-02         2.64E-03         1.33E-03         3.87E-05         2713         1.55E-02         2.46E-03         1.24E-03         3.62E-05           2233         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2713         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2263         1.65E-02         2.62E-03         1.33E-03         3.86E-05         2773         1.54E-02         2.44E-03         1.24E-03         3.60E-05           2263         1.65E-02         2.62E-03         1.32E-03         3.84E-05         2773         1.54E-02         2.44E-03         1.23E-03         3.60E-05           2263         1.65E-02         2.60E-03         1.32E-03         3.84E-05	2183         1.67E-02         2.65E-03         1.34E-03         3.90E-05         2683         1.56E-02         2.47E-03         1.25E-03         3.64E-05           2193         1.67E-02         2.64E-03         1.34E-03         3.89E-05         2693         1.56E-02         2.47E-03         1.25E-03         3.63E-05           2213         1.66E-02         2.64E-03         1.33E-03         3.88E-05         2713         1.55E-02         2.46E-03         1.25E-03         3.62E-05           2223         1.66E-02         2.64E-03         1.33E-03         3.88E-05         2773         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2233         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2773         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2263         1.65E-02         2.62E-03         1.33E-03         3.88E-05         2773         1.54E-02         2.44E-03         1.22E-03         3.60E-05           2273         1.65E-02         2.62E-03         1.32E-03         3.88E-05         2773         1.54E-02         2.44E-03         1.22E-03         3.60E-05           2233         1.65E-02         2.61E-03         1.32E-03         3.84E-05	2173	1.67E-02	2.71E-03	1.34E-03	3.90E-05	2673	1.56E-02	2.48E-03	1.25E-03	3.64E-05
2193         1.67E-02         2.65E-03         1.34E-03         3.89E-05         2693         1.56E-02         2.47E-03         1.25E-03         3.63E-05           2213         1.66E-02         2.64E-03         1.33E-03         3.89E-05         2703         1.55E-02         2.46E-03         1.25E-03         3.63E-05           2213         1.66E-02         2.64E-03         1.33E-03         3.89E-05         2713         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2233         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2773         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2243         1.66E-02         2.63E-03         1.33E-03         3.88E-05         2773         1.55E-02         2.45E-03         1.24E-03         3.61E-05           2263         1.65E-02         2.62E-03         1.33E-03         3.85E-05         2763         1.54E-02         2.44E-03         1.24E-03         3.60E-05           2273         1.65E-02         2.61E-03         1.32E-03         3.84E-05         2793         1.53E-02         2.44E-03         1.23E-03         3.59E-05           2203         1.66E-02         2.60E-03         1.32E-03         3.83E-05	2193         1.67E-02         2.65E-03         1.34E-03         3.89E-05           2203         1.67E-02         2.64E-03         1.34E-03         3.89E-05           2213         1.66E-02         2.64E-03         1.33E-03         3.89E-05           2213         1.66E-02         2.64E-03         1.33E-03         3.89E-05           2213         1.66E-02         2.64E-03         1.33E-03         3.89E-05           2223         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2713         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2233         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2743         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2263         1.66E-02         2.62E-03         1.32E-03         3.85E-05         2773         1.54E-02         2.45E-03         1.24E-03         3.60E-05           2263         1.66E-02         2.61E-03         1.32E-03         3.84E-05         2773         1.54E-02         2.44E-03         1.23E-03         3.59E-05           2203         1.66E-02         2.60E-03         1.32E-03         3.83E-05         2793         1.53E-02         2.44E-03         1.22E-03	2183	1.67E-02	2.65E-03	1.34E-03	3.90E-05	2683	1.56E-02	2.47E-03	1.25E-03	3.64E-05
2203         1.67E-02         2.64E-03         1.34E-03         3.89E-05         2703         1.55E-02         2.47E-03         1.25E-03         3.63E-05           2213         1.66E-02         2.64E-03         1.33E-03         3.88E-05         2713         1.55E-02         2.46E-03         1.22E-03         3.62E-05           2233         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2733         1.55E-02         2.46E-03         1.24E-03         3.61E-05           22431         1.66E-02         2.63E-03         1.33E-03         3.87E-05         27733         1.55E-02         2.45E-03         1.24E-03         3.61E-05           2263         1.65E-02         2.62E-03         1.33E-03         3.85E-05         2773         1.54E-02         2.45E-03         1.24E-03         3.60E-05           22731         1.65E-02         2.62E-03         1.33E-03         3.84E-05         2773         1.54E-02         2.44E-03         1.23E-03         3.59E-05           2283         1.65E-02         2.61E-03         1.32E-03         3.84E-05         2773         1.54E-02         2.44E-03         1.23E-03         3.59E-05           2303         1.64E-02         2.60E-03         1.32E-03         3.84E-05         <	2203         1.67E-02         2.64E-03         1.34E-03         3.89E-05         2703         1.55E-02         2.47E-03         1.25E-03         3.63E-05           2213         1.66E-02         2.64E-03         1.33E-03         3.88E-05         2713         1.55E-02         2.46E-03         1.24E-03         3.62E-05           2223         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2733         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2243         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2733         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2253         1.65E-02         2.63E-03         1.33E-03         3.85E-05         2773         1.54E-02         2.45E-03         1.24E-03         3.60E-05           2263         1.65E-02         2.62E-03         1.32E-03         3.85E-05         2773         1.54E-02         2.44E-03         1.23E-03         3.59E-05           2293         1.65E-02         2.61E-03         1.32E-03         3.84E-05         2793         1.53E-02         2.44E-03         1.23E-03         3.59E-05           2303         1.64E-02         2.60E-03         1.32E-03         3.83E-05	2193	1.67E-02	2.65E-03	1.34E-03	3.89E-05	2693	1.56E-02	2.47E-03	1.25E-03	3.63E-05
2213         1.66E-02         2.64E-03         1.33E-03         3.88E-05         2713         1.55E-02         2.46E-03         1.25E-03         3.62E-05           2223         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2733         1.55E-02         2.46E-03         1.24E-03         3.62E-05           2233         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2733         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2243         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2743         1.55E-02         2.45E-03         1.24E-03         3.60E-05           2263         1.65E-02         2.62E-03         1.33E-03         3.85E-05         2773         1.54E-02         2.44E-03         1.24E-03         3.60E-05           2283         1.65E-02         2.61E-03         1.32E-03         3.84E-05         2783         1.53E-02         2.44E-03         1.23E-03         3.58E-05           2303         1.64E-02         2.61E-03         1.32E-03         3.82E-05         2803         1.53E-02         2.43E-03         1.23E-03         3.58E-05           2333         1.64E-02         2.60E-03         1.31E-03         3.82E-05	2213         1.66E-02         2.64E-03         1.33E-03         3.88E-05           2223         1.66E-02         2.64E-03         1.33E-03         3.88E-05           2233         1.66E-02         2.63E-03         1.33E-03         3.87E-05           2243         1.66E-02         2.63E-03         1.33E-03         3.87E-05           2243         1.66E-02         2.63E-03         1.33E-03         3.87E-05           2263         1.65E-02         2.62E-03         1.33E-03         3.85E-05           2263         1.65E-02         2.62E-03         1.32E-03         3.85E-05           2273         1.55E-02         2.44E-03         1.24E-03         3.60E-05           2263         1.65E-02         2.62E-03         1.32E-03         3.85E-05         2773         1.54E-02         2.44E-03         1.22E-03         3.59E-05           2293         1.65E-02         2.61E-03         1.32E-03         3.84E-05         2793         1.53E-02         2.44E-03         1.23E-03         3.58E-05           2303         1.64E-02         2.60E-03         1.31E-03         3.82E-05         2833         1.53E-02         2.43E-03         1.23E-03         3.57E-05           2333         1.64E-02         2.	2203	1.67E-02	2.64E-03	1.34E-03	3.89E-05	2703	1.55E-02	2.47E-03	1.25E-03	3.63E-05
2223         1.66E-02         2.64E-03         1.33E-03         3.88E-05         2723         1.55E-02         2.46E-03         1.24E-03         3.62E-05           2233         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2733         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2243         1.66E-02         2.63E-03         1.33E-03         3.86E-05         2733         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2253         1.65E-02         2.63E-03         1.33E-03         3.86E-05         2773         1.54E-02         2.45E-03         1.24E-03         3.60E-05           2263         1.65E-02         2.62E-03         1.32E-03         3.88E-05         2763         1.54E-02         2.44E-03         1.22E-03         3.59E-05           2293         1.65E-02         2.61E-03         1.32E-03         3.84E-05         2793         1.53E-02         2.44E-03         1.23E-03         3.59E-05           2303         1.64E-02         2.60E-03         1.32E-03         3.83E-05         2813         1.53E-02         2.43E-03         1.22E-03         3.58E-05           2313         1.64E-02         2.60E-03         1.31E-03         3.82E-05	2223         1.66E-02         2.64E-03         1.33E-03         3.88E-05           2233         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2733         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2243         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2743         1.55E-02         2.45E-03         1.24E-03         3.61E-05           2253         1.65E-02         2.62E-03         1.33E-03         3.85E-05         2773         1.54E-02         2.45E-03         1.24E-03         3.60E-05           2263         1.65E-02         2.62E-03         1.32E-03         3.85E-05         2773         1.54E-02         2.44E-03         1.23E-03         3.69E-05           2283         1.65E-02         2.61E-03         1.32E-03         3.84E-05         2793         1.53E-02         2.44E-03         1.23E-03         3.59E-05           2303         1.64E-02         2.60E-03         1.32E-03         3.82E-05         2803         1.53E-02         2.43E-03         1.23E-03         3.59E-05           2333         1.64E-02         2.60E-03         1.31E-03         3.82E-05         2833         1.53E-02         2.42E-03         1.22E-03         3.55E-05	2213	1.66E-02	2.64E-03	1.33E-03	3.88E-05	2713	1.55E-02	2.46E-03	1.25E-03	3.62E-05
2233         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2733         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2243         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2743         1.55E-02         2.46E-03         1.24E-03         3.61E-05           2253         1.65E-02         2.62E-03         1.33E-03         3.85E-05         2763         1.54E-02         2.45E-03         1.24E-03         3.60E-05           2263         1.65E-02         2.62E-03         1.32E-03         3.85E-05         2763         1.54E-02         2.44E-03         1.22E-03         3.59E-05           2283         1.65E-02         2.61E-03         1.32E-03         3.84E-05         2773         1.54E-02         2.44E-03         1.23E-03         3.59E-05           2303         1.64E-02         2.60E-03         1.32E-03         3.83E-05         2803         1.53E-02         2.44E-03         1.23E-03         3.58E-05           2313         1.64E-02         2.60E-03         1.31E-03         3.82E-05         2833         1.53E-02         2.43E-03         1.22E-03         3.57E-05           2333         1.64E-02         2.60E-03         1.31E-03         3.80E-05	2233       1.66E-02       2.63E-03       1.33E-03       3.87E-05       2733       1.55E-02       2.46E-03       1.24E-03       3.61E-05         2253       1.65E-02       2.63E-03       1.33E-03       3.87E-05       2743       1.55E-02       2.46E-03       1.24E-03       3.61E-05         2263       1.65E-02       2.62E-03       1.33E-03       3.85E-05       2763       1.54E-02       2.45E-03       1.24E-03       3.60E-05         2273       1.65E-02       2.61E-03       1.32E-03       3.85E-05       2763       1.54E-02       2.44E-03       1.22E-03       3.59E-05         2283       1.65E-02       2.61E-03       1.32E-03       3.84E-05       2773       1.54E-02       2.44E-03       1.22E-03       3.59E-05         2303       1.64E-02       2.60E-03       1.32E-03       3.83E-05       2803       1.53E-02       2.44E-03       1.22E-03       3.58E-05         2313       1.64E-02       2.60E-03       1.31E-03       3.82E-05       2803       1.53E-02       2.44E-03       1.22E-03       3.55E-05         2333       1.64E-02       2.59E-03       1.31E-03       3.80E-05       2833       1.53E-02       2.44E-03       1.22E-03       3.55E-05         2343 <td>2223</td> <td>1.66E-02</td> <td>2.64E-03</td> <td>1.33E-03</td> <td>3.88E-05</td> <td>2723</td> <td>1.55E-02</td> <td>2.46E-03</td> <td>1.24E-03</td> <td>3.62E-05</td>	2223	1.66E-02	2.64E-03	1.33E-03	3.88E-05	2723	1.55E-02	2.46E-03	1.24E-03	3.62E-05
2243       1.66E-02       2.63E-03       1.33E-03       3.87E-05       2743       1.55E-02       2.45E-03       1.24E-03       3.61E-05         2253       1.65E-02       2.63E-03       1.33E-03       3.86E-05       2753       1.54E-02       2.45E-03       1.24E-03       3.60E-05         2263       1.65E-02       2.62E-03       1.32E-03       3.85E-05       2763       1.54E-02       2.44E-03       1.22E-03       3.50E-05         2283       1.65E-02       2.61E-03       1.32E-03       3.84E-05       2773       1.54E-02       2.44E-03       1.23E-03       3.59E-05         2293       1.65E-02       2.61E-03       1.32E-03       3.84E-05       2773       1.53E-02       2.44E-03       1.23E-03       3.59E-05         2303       1.64E-02       2.60E-03       1.32E-03       3.84E-05       2803       1.53E-02       2.43E-03       1.23E-03       3.58E-05         2313       1.64E-02       2.60E-03       1.31E-03       3.82E-05       2833       1.53E-02       2.43E-03       1.22E-03       3.57E-05         2333       1.64E-02       2.60E-03       1.31E-03       3.81E-05       2833       1.52E-02       2.42E-03       1.22E-03       3.55E-05         2343 <td>2243         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2743         1.55E-02         2.45E-03         1.24E-03         3.60E-05           2263         1.65E-02         2.63E-03         1.33E-03         3.85E-05         2753         1.54E-02         2.45E-03         1.24E-03         3.60E-05           2263         1.65E-02         2.62E-03         1.32E-03         3.85E-05         2773         1.54E-02         2.44E-03         1.22E-03         3.59E-05           2283         1.65E-02         2.61E-03         1.32E-03         3.84E-05         2773         1.54E-02         2.44E-03         1.23E-03         3.59E-05           2303         1.64E-02         2.61E-03         1.32E-03         3.83E-05         2803         1.53E-02         2.44E-03         1.23E-03         3.59E-05           2313         1.64E-02         2.60E-03         1.31E-03         3.82E-05         2833         1.53E-02         2.43E-03         1.23E-03         3.57E-05           2333         1.64E-02         2.59E-03         1.31E-03         3.81E-05         2843         1.52E-02         2.42E-03         1.22E-03         3.55E-05           2363         1.63E-02         2.59E-03         1.31E-03         3.80E-05</td> <td>2233</td> <td>1.66E-02</td> <td>2.63E-03</td> <td>1.33E-03</td> <td>3.87E-05</td> <td>2733</td> <td>1.55E-02</td> <td>2.46E-03</td> <td>1.24E-03</td> <td>3.61E-05</td>	2243         1.66E-02         2.63E-03         1.33E-03         3.87E-05         2743         1.55E-02         2.45E-03         1.24E-03         3.60E-05           2263         1.65E-02         2.63E-03         1.33E-03         3.85E-05         2753         1.54E-02         2.45E-03         1.24E-03         3.60E-05           2263         1.65E-02         2.62E-03         1.32E-03         3.85E-05         2773         1.54E-02         2.44E-03         1.22E-03         3.59E-05           2283         1.65E-02         2.61E-03         1.32E-03         3.84E-05         2773         1.54E-02         2.44E-03         1.23E-03         3.59E-05           2303         1.64E-02         2.61E-03         1.32E-03         3.83E-05         2803         1.53E-02         2.44E-03         1.23E-03         3.59E-05           2313         1.64E-02         2.60E-03         1.31E-03         3.82E-05         2833         1.53E-02         2.43E-03         1.23E-03         3.57E-05           2333         1.64E-02         2.59E-03         1.31E-03         3.81E-05         2843         1.52E-02         2.42E-03         1.22E-03         3.55E-05           2363         1.63E-02         2.59E-03         1.31E-03         3.80E-05	2233	1.66E-02	2.63E-03	1.33E-03	3.87E-05	2733	1.55E-02	2.46E-03	1.24E-03	3.61E-05
2253         1.65E-02         2.63E-03         1.33E-03         3.86E-05           2263         1.65E-02         2.62E-03         1.33E-03         3.85E-05         2763         1.54E-02         2.45E-03         1.24E-03         3.60E-05           2273         1.65E-02         2.62E-03         1.32E-03         3.85E-05         2763         1.54E-02         2.45E-03         1.24E-03         3.60E-05           2273         1.65E-02         2.61E-03         1.32E-03         3.84E-05         2773         1.54E-02         2.44E-03         1.23E-03         3.59E-05           2203         1.64E-02         2.61E-03         1.32E-03         3.84E-05         2793         1.53E-02         2.44E-03         1.22E-03         3.59E-05           2303         1.64E-02         2.60E-03         1.31E-03         3.82E-05         2803         1.53E-02         2.43E-03         1.22E-03         3.57E-05           2313         1.64E-02         2.60E-03         1.31E-03         3.82E-05         2833         1.53E-02         2.43E-03         1.22E-03         3.56E-05           2333         1.64E-02         2.59E-03         1.31E-03         3.82E-05         2833         1.52E-02         2.42E-03         1.22E-03         3.56E-05	2253       1.65E-02       2.63E-03       1.33E-03       3.86E-05         2263       1.65E-02       2.62E-03       1.33E-03       3.85E-05       2763       1.54E-02       2.45E-03       1.24E-03       3.60E-05         2273       1.65E-02       2.62E-03       1.32E-03       3.85E-05       2773       1.54E-02       2.44E-03       1.22E-03       3.59E-05         2283       1.65E-02       2.61E-03       1.32E-03       3.84E-05       2.783       1.54E-02       2.44E-03       1.23E-03       3.59E-05         2293       1.65E-02       2.61E-03       1.32E-03       3.84E-05       2.783       1.53E-02       2.44E-03       1.23E-03       3.58E-05         2303       1.64E-02       2.60E-03       1.32E-03       3.83E-05       2813       1.53E-02       2.43E-03       1.23E-03       3.57E-05         2333       1.64E-02       2.60E-03       1.31E-03       3.82E-05       2833       1.53E-02       2.43E-03       1.22E-03       3.57E-05         2333       1.64E-02       2.60E-03       1.31E-03       3.81E-05       2843       1.52E-02       2.42E-03       1.22E-03       3.55E-05         2353       1.63E-02       2.59E-03       1.31E-03       3.80E-05       2843<	2243	1.66E-02	2.63E-03	1.33E-03	3.87E-05	2743	1.55E-02	2.45E-03	1.24E-03	3.61E-05
2263         1.65E-02         2.62E-03         1.33E-03         3.85E-05           2273         1.65E-02         2.62E-03         1.32E-03         3.85E-05           2283         1.65E-02         2.61E-03         1.32E-03         3.85E-05           2293         1.65E-02         2.61E-03         1.32E-03         3.84E-05           2203         1.64E-02         2.61E-03         1.32E-03         3.84E-05           2303         1.64E-02         2.61E-03         1.32E-03         3.84E-05           2313         1.64E-02         2.60E-03         1.32E-03         3.82E-05           2323         1.64E-02         2.60E-03         1.31E-03         3.82E-05           2333         1.64E-02         2.60E-03         1.31E-03         3.82E-05           2333         1.64E-02         2.60E-03         1.31E-03         3.81E-05           2333         1.63E-02         2.59E-03         1.31E-03         3.81E-05           2363         1.63E-02         2.59E-03         1.31E-03         3.80E-05           2363         1.63E-02         2.59E-03         1.31E-03         3.80E-05           2363         1.62E-02         2.59E-03         1.31E-03         3.80E-05	2263         1.65E-02         2.62E-03         1.33E-03         3.85E-05         2763         1.54E-02         2.45E-03         1.24E-03         3.60E-05           2273         1.65E-02         2.62E-03         1.32E-03         3.85E-05         2773         1.54E-02         2.44E-03         1.22E-03         3.59E-05           2283         1.65E-02         2.61E-03         1.32E-03         3.84E-05         2773         1.54E-02         2.44E-03         1.23E-03         3.59E-05           2203         1.64E-02         2.61E-03         1.32E-03         3.84E-05         2793         1.53E-02         2.44E-03         1.22E-03         3.58E-05           2313         1.64E-02         2.60E-03         1.32E-03         3.82E-05         2803         1.53E-02         2.43E-03         1.22E-03         3.57E-05           2323         1.64E-02         2.60E-03         1.31E-03         3.82E-05         2833         1.53E-02         2.43E-03         1.22E-03         3.57E-05           2333         1.64E-02         2.59E-03         1.31E-03         3.81E-05         2843         1.52E-02         2.43E-03         1.22E-03         3.55E-05           2363         1.63E-02         2.59E-03         1.31E-03         3.80E-05	2253	1.65E-02	2.63E-03	1.33E-03	3.86E-05	2753	1.54E-02	2.45E-03	1.24E-03	3.60E-05
2273       1.65E-02       2.62E-03       1.32E-03       3.85E-05         2283       1.65E-02       2.61E-03       1.32E-03       3.84E-05       2783       1.54E-02       2.44E-03       1.23E-03       3.59E-05         2293       1.65E-02       2.61E-03       1.32E-03       3.84E-05       2783       1.54E-02       2.44E-03       1.23E-03       3.59E-05         2303       1.64E-02       2.61E-03       1.32E-03       3.83E-05       2803       1.53E-02       2.44E-03       1.23E-03       3.58E-05         2313       1.64E-02       2.60E-03       1.32E-03       3.83E-05       2803       1.53E-02       2.43E-03       1.23E-03       3.58E-05         2323       1.64E-02       2.60E-03       1.31E-03       3.82E-05       2823       1.53E-02       2.43E-03       1.22E-03       3.57E-05         2333       1.64E-02       2.60E-03       1.31E-03       3.82E-05       2833       1.52E-02       2.42E-03       1.22E-03       3.56E-05         2343       1.63E-02       2.59E-03       1.31E-03       3.81E-05       2843       1.52E-02       2.42E-03       1.22E-03       3.55E-05         2373       1.63E-02       2.59E-03       1.31E-03       3.79E-05       2863 <td>2273         1.65E-02         2.62E-03         1.32E-03         3.85E-05         2773         1.54E-02         2.44E-03         1.23E-03         3.59E-05           2283         1.65E-02         2.61E-03         1.32E-03         3.84E-05         2783         1.54E-02         2.44E-03         1.23E-03         3.59E-05           2293         1.65E-02         2.61E-03         1.32E-03         3.84E-05         2793         1.53E-02         2.44E-03         1.23E-03         3.59E-05           2303         1.64E-02         2.60E-03         1.32E-03         3.83E-05         2803         1.53E-02         2.43E-03         1.23E-03         3.58E-05           2313         1.64E-02         2.60E-03         1.31E-03         3.82E-05         2833         1.53E-02         2.43E-03         1.22E-03         3.56E-05           2333         1.64E-02         2.60E-03         1.31E-03         3.82E-05         2833         1.52E-02         2.43E-03         1.22E-03         3.56E-05           2333         1.64E-02         2.59E-03         1.31E-03         3.81E-05         2863         1.52E-02         2.44E-03         1.22E-03         3.55E-05           2333         1.63E-02         2.59E-03         1.31E-03         3.80E-05</td> <td>2263</td> <td>1.65E-02</td> <td>2.62E-03</td> <td>1.33E-03</td> <td>3.85E-05</td> <td>2763</td> <td>1.54E-02</td> <td>2.45E-03</td> <td>1.24E-03</td> <td>3.60E-05</td>	2273         1.65E-02         2.62E-03         1.32E-03         3.85E-05         2773         1.54E-02         2.44E-03         1.23E-03         3.59E-05           2283         1.65E-02         2.61E-03         1.32E-03         3.84E-05         2783         1.54E-02         2.44E-03         1.23E-03         3.59E-05           2293         1.65E-02         2.61E-03         1.32E-03         3.84E-05         2793         1.53E-02         2.44E-03         1.23E-03         3.59E-05           2303         1.64E-02         2.60E-03         1.32E-03         3.83E-05         2803         1.53E-02         2.43E-03         1.23E-03         3.58E-05           2313         1.64E-02         2.60E-03         1.31E-03         3.82E-05         2833         1.53E-02         2.43E-03         1.22E-03         3.56E-05           2333         1.64E-02         2.60E-03         1.31E-03         3.82E-05         2833         1.52E-02         2.43E-03         1.22E-03         3.56E-05           2333         1.64E-02         2.59E-03         1.31E-03         3.81E-05         2863         1.52E-02         2.44E-03         1.22E-03         3.55E-05           2333         1.63E-02         2.59E-03         1.31E-03         3.80E-05	2263	1.65E-02	2.62E-03	1.33E-03	3.85E-05	2763	1.54E-02	2.45E-03	1.24E-03	3.60E-05
2283         1.65E-02         2.61E-03         1.32E-03         3.84E-05         2783         1.54E-02         2.44E-03         1.23E-03         3.59E-05           2293         1.65E-02         2.61E-03         1.32E-03         3.84E-05         2793         1.53E-02         2.44E-03         1.23E-03         3.58E-05           2303         1.64E-02         2.61E-03         1.32E-03         3.83E-05         2803         1.53E-02         2.44E-03         1.23E-03         3.58E-05           2313         1.64E-02         2.60E-03         1.31E-03         3.82E-05         2813         1.53E-02         2.43E-03         1.23E-03         3.57E-05           2323         1.64E-02         2.60E-03         1.31E-03         3.82E-05         2823         1.53E-02         2.43E-03         1.22E-03         3.57E-05           2333         1.64E-02         2.59E-03         1.31E-03         3.81E-05         2833         1.52E-02         2.42E-03         1.22E-03         3.56E-05           2333         1.63E-02         2.59E-03         1.31E-03         3.80E-05         2863         1.52E-02         2.41E-03         1.22E-03         3.55E-05           2333         1.62E-02         2.57E-03         1.30E-03         3.79E-05	2283       1.65E-02       2.61E-03       1.32E-03       3.84E-05       2783       1.54E-02       2.44E-03       1.22E-03       3.59E-05         2293       1.65E-02       2.61E-03       1.32E-03       3.84E-05       2793       1.53E-02       2.44E-03       1.22E-03       3.58E-05         2303       1.64E-02       2.60E-03       1.32E-03       3.83E-05       2803       1.53E-02       2.44E-03       1.22E-03       3.58E-05         2313       1.64E-02       2.60E-03       1.32E-03       3.83E-05       2813       1.53E-02       2.43E-03       1.22E-03       3.57E-05         2323       1.64E-02       2.60E-03       1.31E-03       3.82E-05       2823       1.53E-02       2.43E-03       1.22E-03       3.56E-05         2333       1.64E-02       2.60E-03       1.31E-03       3.82E-05       2833       1.52E-02       2.42E-03       1.22E-03       3.56E-05         2343       1.63E-02       2.59E-03       1.31E-03       3.81E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.56E-05         2363       1.63E-02       2.59E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2383 <td>2273</td> <td>1.65E-02</td> <td>2.62E-03</td> <td>1.32E-03</td> <td>3.85E-05</td> <td>2773</td> <td>1.54E-02</td> <td>2.44E-03</td> <td>1.23E-03</td> <td>3.59E-05</td>	2273	1.65E-02	2.62E-03	1.32E-03	3.85E-05	2773	1.54E-02	2.44E-03	1.23E-03	3.59E-05
2293       1.65E-02       2.61E-03       1.32E-03       3.84E-05         2303       1.64E-02       2.61E-03       1.32E-03       3.83E-05         2313       1.64E-02       2.60E-03       1.32E-03       3.83E-05         2323       1.64E-02       2.60E-03       1.32E-03       3.83E-05         2323       1.64E-02       2.60E-03       1.31E-03       3.82E-05         2333       1.64E-02       2.59E-03       1.31E-03       3.82E-05         2333       1.64E-02       2.59E-03       1.31E-03       3.81E-05         2353       1.63E-02       2.59E-03       1.31E-03       3.81E-05         2363       1.63E-02       2.59E-03       1.31E-03       3.80E-05         2373       1.63E-02       2.58E-03       1.30E-03       3.79E-05         2383       1.62E-02       2.57E-03       1.30E-03       3.79E-05         2403       1.62E-02       2.57E-03       1.30E-03       3.77E-05      2	2293       1.65E-02       2.61E-03       1.32E-03       3.84E-05         2303       1.64E-02       2.61E-03       1.32E-03       3.83E-05         2313       1.64E-02       2.60E-03       1.32E-03       3.83E-05         2323       1.64E-02       2.60E-03       1.32E-03       3.83E-05         2323       1.64E-02       2.60E-03       1.31E-03       3.82E-05         2333       1.63E-02       2.59E-03       1.31E-03       3.81E-05       2843       1.52E-02       2.42E-03       1.22E-03       3.56E-05         2333       1.63E-02       2.59E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2333       1.62E-02       2.58E-03       1.30E-03       3.79E-05       2883       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2333       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2893       1.51E-02       2.40E-03 <t< td=""><td>2283</td><td>1.65E-02</td><td>2.61E-03</td><td>1.32E-03</td><td>3.84E-05</td><td>2783</td><td>1.54E-02</td><td>2.44E-03</td><td>1.23E-03</td><td>3.59E-05</td></t<>	2283	1.65E-02	2.61E-03	1.32E-03	3.84E-05	2783	1.54E-02	2.44E-03	1.23E-03	3.59E-05
2303       1.64E-02       2.61E-03       1.32E-03       3.83E-05       2803       1.53E-02       2.43E-03       1.23E-03       3.58E-05         2313       1.64E-02       2.60E-03       1.31E-03       3.82E-05       2813       1.53E-02       2.43E-03       1.23E-03       3.57E-05         2323       1.64E-02       2.60E-03       1.31E-03       3.82E-05       2823       1.53E-02       2.43E-03       1.23E-03       3.57E-05         2333       1.64E-02       2.60E-03       1.31E-03       3.82E-05       2823       1.53E-02       2.43E-03       1.22E-03       3.56E-05         2333       1.64E-02       2.60E-03       1.31E-03       3.81E-05       2833       1.52E-02       2.42E-03       1.22E-03       3.56E-05         2353       1.63E-02       2.59E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.42E-03       1.22E-03       3.55E-05         2363       1.62E-02       2.58E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2383       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2883       1.52E-02       2.41E-03       1.21E-03       3.53E-05         2403 <td>2303       1.64E-02       2.61E-03       1.32E-03       3.83E-05         2313       1.64E-02       2.60E-03       1.32E-03       3.83E-05       2813       1.53E-02       2.43E-03       1.23E-03       3.57E-05         2323       1.64E-02       2.60E-03       1.31E-03       3.82E-05       2823       1.53E-02       2.43E-03       1.23E-03       3.57E-05         2333       1.64E-02       2.60E-03       1.31E-03       3.82E-05       2833       1.53E-02       2.43E-03       1.22E-03       3.57E-05         2333       1.64E-02       2.60E-03       1.31E-03       3.82E-05       2833       1.52E-02       2.42E-03       1.22E-03       3.56E-05         2353       1.63E-02       2.59E-03       1.31E-03       3.81E-05       2863       1.52E-02       2.42E-03       1.22E-03       3.55E-05         2363       1.63E-02       2.58E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2373       1.63E-02       2.58E-03       1.30E-03       3.79E-05       2883       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2393       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2993<td>2293</td><td>1.65E-02</td><td>2.61E-03</td><td>1.32E-03</td><td>3.84E-05</td><td>2793</td><td>1.53E-02</td><td>2.44E-03</td><td>1.23E-03</td><td>3.58E-05</td></td>	2303       1.64E-02       2.61E-03       1.32E-03       3.83E-05         2313       1.64E-02       2.60E-03       1.32E-03       3.83E-05       2813       1.53E-02       2.43E-03       1.23E-03       3.57E-05         2323       1.64E-02       2.60E-03       1.31E-03       3.82E-05       2823       1.53E-02       2.43E-03       1.23E-03       3.57E-05         2333       1.64E-02       2.60E-03       1.31E-03       3.82E-05       2833       1.53E-02       2.43E-03       1.22E-03       3.57E-05         2333       1.64E-02       2.60E-03       1.31E-03       3.82E-05       2833       1.52E-02       2.42E-03       1.22E-03       3.56E-05         2353       1.63E-02       2.59E-03       1.31E-03       3.81E-05       2863       1.52E-02       2.42E-03       1.22E-03       3.55E-05         2363       1.63E-02       2.58E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2373       1.63E-02       2.58E-03       1.30E-03       3.79E-05       2883       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2393       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2993 <td>2293</td> <td>1.65E-02</td> <td>2.61E-03</td> <td>1.32E-03</td> <td>3.84E-05</td> <td>2793</td> <td>1.53E-02</td> <td>2.44E-03</td> <td>1.23E-03</td> <td>3.58E-05</td>	2293	1.65E-02	2.61E-03	1.32E-03	3.84E-05	2793	1.53E-02	2.44E-03	1.23E-03	3.58E-05
2313         1.64E-02         2.60E-03         1.32E-03         3.83E-05           2323         1.64E-02         2.60E-03         1.31E-03         3.82E-05         2813         1.53E-02         2.43E-03         1.23E-03         3.57E-05           2333         1.64E-02         2.60E-03         1.31E-03         3.82E-05         2823         1.53E-02         2.43E-03         1.23E-03         3.57E-05           2333         1.64E-02         2.60E-03         1.31E-03         3.82E-05         2833         1.52E-02         2.42E-03         1.22E-03         3.56E-05           2343         1.63E-02         2.59E-03         1.31E-03         3.81E-05         2863         1.52E-02         2.42E-03         1.22E-03         3.55E-05           2353         1.63E-02         2.59E-03         1.31E-03         3.80E-05         2863         1.52E-02         2.41E-03         1.22E-03         3.55E-05           2373         1.63E-02         2.58E-03         1.30E-03         3.79E-05         2883         1.52E-02         2.41E-03         1.22E-03         3.54E-05           2393         1.62E-02         2.57E-03         1.30E-03         3.79E-05         2893         1.51E-02         2.40E-03         1.21E-03         3.52E-05	2313       1.64E-02       2.60E-03       1.32E-03       3.83E-05         2323       1.64E-02       2.60E-03       1.31E-03       3.82E-05       2813       1.53E-02       2.43E-03       1.23E-03       3.57E-05         2333       1.64E-02       2.60E-03       1.31E-03       3.82E-05       2823       1.53E-02       2.43E-03       1.23E-03       3.57E-05         2333       1.64E-02       2.60E-03       1.31E-03       3.82E-05       2833       1.53E-02       2.42E-03       1.22E-03       3.56E-05         2343       1.63E-02       2.59E-03       1.31E-03       3.81E-05       2843       1.52E-02       2.42E-03       1.22E-03       3.56E-05         2363       1.63E-02       2.59E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2373       1.63E-02       2.58E-03       1.30E-03       3.79E-05       2883       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2393       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2893       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2413       1.62E-02       2.56E-03       1.30E-03       3.77E-05       2913 <td>2303</td> <td>1.64E-02</td> <td>2.61E-03</td> <td>1.32E-03</td> <td>3.83E-05</td> <td>2803</td> <td>1.53E-02</td> <td>2.43E-03</td> <td>1.23F-03</td> <td>3.58E-05</td>	2303	1.64E-02	2.61E-03	1.32E-03	3.83E-05	2803	1.53E-02	2.43E-03	1.23F-03	3.58E-05
2323       1.64E-02       2.60E-03       1.31E-03       3.82E-05         2333       1.64E-02       2.60E-03       1.31E-03       3.82E-05         2333       1.64E-02       2.60E-03       1.31E-03       3.82E-05         2343       1.63E-02       2.59E-03       1.31E-03       3.82E-05         2353       1.63E-02       2.59E-03       1.31E-03       3.81E-05         2363       1.63E-02       2.59E-03       1.31E-03       3.80E-05         2373       1.63E-02       2.58E-03       1.31E-03       3.80E-05         2383       1.62E-02       2.58E-03       1.30E-03       3.79E-05         2393       1.62E-02       2.57E-03       1.30E-03       3.79E-05         2403       1.62E-02       2.57E-03       1.30E-03       3.77E-05         2413       1.62E-02       2.57E-03       1.30E-03       3.77E-05         2423       1.62E-02       2.57E-03       1.30E-03       3.77E-05         2433       1.61E-02       2.56E-03       1.29E-03       3.77E-05         2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05         2433       1.61E-02       2.55E-03       1.29E-03       3.76E-05      2	2323         1.64E-02         2.60E-03         1.31E-03         3.82E-05           2333         1.64E-02         2.60E-03         1.31E-03         3.82E-05         2833         1.53E-02         2.43E-03         1.22E-03         3.56E-05           2343         1.63E-02         2.59E-03         1.31E-03         3.81E-05         2843         1.52E-02         2.42E-03         1.22E-03         3.56E-05           2353         1.63E-02         2.59E-03         1.31E-03         3.81E-05         2863         1.52E-02         2.42E-03         1.22E-03         3.56E-05           2363         1.63E-02         2.59E-03         1.31E-03         3.80E-05         2863         1.52E-02         2.41E-03         1.22E-03         3.55E-05           2373         1.63E-02         2.58E-03         1.30E-03         3.79E-05         2883         1.52E-02         2.41E-03         1.22E-03         3.54E-05           2393         1.62E-02         2.57E-03         1.30E-03         3.79E-05         2893         1.51E-02         2.40E-03         1.21E-03         3.52E-05           2403         1.62E-02         2.57E-03         1.30E-03         3.77E-05         2903         1.51E-02         2.40E-03         1.21E-03         3.52E-05	2313	1.64E-02	2.60E-03	1.32E-03	3.83E-05	2813	1.53E-02	2.43E-03	1.23E-03	3.57E-05
2333       1.64E-02       2.60E-03       1.31E-03       3.82E-05       2833       1.53E-02       2.42E-03       1.22E-03       3.56E-05         2343       1.63E-02       2.59E-03       1.31E-03       3.81E-05       2843       1.52E-02       2.42E-03       1.22E-03       3.56E-05         2353       1.63E-02       2.59E-03       1.31E-03       3.81E-05       2853       1.52E-02       2.42E-03       1.22E-03       3.55E-05         2363       1.63E-02       2.59E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2373       1.63E-02       2.58E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2383       1.62E-02       2.58E-03       1.30E-03       3.79E-05       2883       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2393       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2893       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2403       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2903       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2433 <td>2333       1.64E-02       2.60E-03       1.31E-03       3.82E-05       2833       1.53E-02       2.42E-03       1.22E-03       3.56E-05         2343       1.63E-02       2.59E-03       1.31E-03       3.81E-05       2833       1.52E-02       2.42E-03       1.22E-03       3.56E-05         2353       1.63E-02       2.59E-03       1.31E-03       3.81E-05       2853       1.52E-02       2.42E-03       1.22E-03       3.55E-05         2363       1.63E-02       2.59E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2373       1.63E-02       2.58E-03       1.31E-03       3.80E-05       2873       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2383       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2893       1.51E-02       2.41E-03       1.22E-03       3.54E-05         2403       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2993       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2413       1.62E-02       2.56E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.39E-03       1.21E-03       3.52E-05         2433<td>2323</td><td>1.64E-02</td><td>2.60E-03</td><td>1.31E-03</td><td>3.82E-05</td><td>2823</td><td>1.53E-02</td><td>2.43F-03</td><td>1.23F-03</td><td>3.57E-05</td></td>	2333       1.64E-02       2.60E-03       1.31E-03       3.82E-05       2833       1.53E-02       2.42E-03       1.22E-03       3.56E-05         2343       1.63E-02       2.59E-03       1.31E-03       3.81E-05       2833       1.52E-02       2.42E-03       1.22E-03       3.56E-05         2353       1.63E-02       2.59E-03       1.31E-03       3.81E-05       2853       1.52E-02       2.42E-03       1.22E-03       3.55E-05         2363       1.63E-02       2.59E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2373       1.63E-02       2.58E-03       1.31E-03       3.80E-05       2873       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2383       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2893       1.51E-02       2.41E-03       1.22E-03       3.54E-05         2403       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2993       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2413       1.62E-02       2.56E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.39E-03       1.21E-03       3.52E-05         2433 <td>2323</td> <td>1.64E-02</td> <td>2.60E-03</td> <td>1.31E-03</td> <td>3.82E-05</td> <td>2823</td> <td>1.53E-02</td> <td>2.43F-03</td> <td>1.23F-03</td> <td>3.57E-05</td>	2323	1.64E-02	2.60E-03	1.31E-03	3.82E-05	2823	1.53E-02	2.43F-03	1.23F-03	3.57E-05
2343       1.63E-02       2.59E-03       1.31E-03       3.81E-05       2843       1.52E-02       2.42E-03       1.22E-03       3.55E-05         2353       1.63E-02       2.59E-03       1.31E-03       3.81E-05       2853       1.52E-02       2.42E-03       1.22E-03       3.55E-05         2363       1.63E-02       2.59E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2373       1.63E-02       2.58E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2383       1.62E-02       2.58E-03       1.30E-03       3.79E-05       2883       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2393       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2893       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2403       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2903       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2413       1.61E-02       2.56E-03       1.29E-03       3.77E-05       2913       1.51E-02       2.39E-03       1.21E-03       3.51E-05         2443 <td>2343       1.63E-02       2.59E-03       1.31E-03       3.81E-05         2353       1.63E-02       2.59E-03       1.31E-03       3.81E-05       2853       1.52E-02       2.42E-03       1.22E-03       3.55E-05         2363       1.63E-02       2.59E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2373       1.63E-02       2.58E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2383       1.62E-02       2.58E-03       1.30E-03       3.79E-05       2883       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2393       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2893       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2403       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2903       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2423       1.62E-02       2.56E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933<td>2333</td><td>1.64E-02</td><td>2.60E-03</td><td>1.31E-03</td><td>3.82E-05</td><td>2833</td><td>1.53E-02</td><td>2.42E-03</td><td>1.22E-03</td><td>3.56E-05</td></td>	2343       1.63E-02       2.59E-03       1.31E-03       3.81E-05         2353       1.63E-02       2.59E-03       1.31E-03       3.81E-05       2853       1.52E-02       2.42E-03       1.22E-03       3.55E-05         2363       1.63E-02       2.59E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2373       1.63E-02       2.58E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2383       1.62E-02       2.58E-03       1.30E-03       3.79E-05       2883       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2393       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2893       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2403       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2903       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2423       1.62E-02       2.56E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933 <td>2333</td> <td>1.64E-02</td> <td>2.60E-03</td> <td>1.31E-03</td> <td>3.82E-05</td> <td>2833</td> <td>1.53E-02</td> <td>2.42E-03</td> <td>1.22E-03</td> <td>3.56E-05</td>	2333	1.64E-02	2.60E-03	1.31E-03	3.82E-05	2833	1.53E-02	2.42E-03	1.22E-03	3.56E-05
2353       1.63E-02       2.59E-03       1.31E-03       3.81E-05       2853       1.52E-02       2.42E-03       1.22E-03       3.55E-05         2363       1.63E-02       2.59E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2373       1.63E-02       2.58E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2383       1.62E-02       2.58E-03       1.30E-03       3.79E-05       2883       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2393       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2883       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2403       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2903       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2413       1.62E-02       2.56E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2913       1.51E-02       2.39E-03       1.21E-03       3.51E-05         2443 <td>2353       1.63E-02       2.59E-03       1.31E-03       3.81E-05       2853       1.52E-02       2.42E-03       1.22E-03       3.55E-05         2363       1.63E-02       2.59E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2373       1.63E-02       2.58E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2383       1.62E-02       2.58E-03       1.30E-03       3.79E-05       2883       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2393       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2893       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2403       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2903       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2413       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2423       1.62E-02       2.56E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.51E-05         2433<td>2343</td><td>1.63E-02</td><td>2,59E-03</td><td>1.31E-03</td><td>3.81F-05</td><td>2843</td><td>1.52F-02</td><td>2.42F-03</td><td>1.22F-03</td><td>3.56F-05</td></td>	2353       1.63E-02       2.59E-03       1.31E-03       3.81E-05       2853       1.52E-02       2.42E-03       1.22E-03       3.55E-05         2363       1.63E-02       2.59E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2373       1.63E-02       2.58E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2383       1.62E-02       2.58E-03       1.30E-03       3.79E-05       2883       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2393       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2893       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2403       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2903       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2413       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2423       1.62E-02       2.56E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.51E-05         2433 <td>2343</td> <td>1.63E-02</td> <td>2,59E-03</td> <td>1.31E-03</td> <td>3.81F-05</td> <td>2843</td> <td>1.52F-02</td> <td>2.42F-03</td> <td>1.22F-03</td> <td>3.56F-05</td>	2343	1.63E-02	2,59E-03	1.31E-03	3.81F-05	2843	1.52F-02	2.42F-03	1.22F-03	3.56F-05
2363       1.63E-02       2.59E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2373       1.63E-02       2.58E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2373       1.63E-02       2.58E-03       1.31E-03       3.80E-05       2873       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2383       1.62E-02       2.58E-03       1.30E-03       3.79E-05       2883       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2393       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2893       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2403       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2903       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2413       1.62E-02       2.56E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2443 <td>2363       1.63E-02       2.59E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2373       1.63E-02       2.58E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2383       1.62E-02       2.58E-03       1.30E-03       3.79E-05       2883       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2393       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2893       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2403       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2893       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2413       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2923       1.51E-02       2.39E-03       1.21E-03       3.51E-05         2443       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2463<td>2353</td><td>1.63F-02</td><td>2.59F-03</td><td>1.31F-03</td><td>3.81F-05</td><td>2853</td><td>1.52F-02</td><td>2.42F-03</td><td>1.22F-03</td><td>3.55F-05</td></td>	2363       1.63E-02       2.59E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2373       1.63E-02       2.58E-03       1.31E-03       3.80E-05       2863       1.52E-02       2.41E-03       1.22E-03       3.55E-05         2383       1.62E-02       2.58E-03       1.30E-03       3.79E-05       2883       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2393       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2893       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2403       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2893       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2413       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2923       1.51E-02       2.39E-03       1.21E-03       3.51E-05         2443       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2463 <td>2353</td> <td>1.63F-02</td> <td>2.59F-03</td> <td>1.31F-03</td> <td>3.81F-05</td> <td>2853</td> <td>1.52F-02</td> <td>2.42F-03</td> <td>1.22F-03</td> <td>3.55F-05</td>	2353	1.63F-02	2.59F-03	1.31F-03	3.81F-05	2853	1.52F-02	2.42F-03	1.22F-03	3.55F-05
2373       1.63E-02       2.58E-03       1.31E-03       3.80E-05       2873       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2383       1.62E-02       2.58E-03       1.30E-03       3.79E-05       2883       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2393       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2893       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2403       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2893       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2403       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2903       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2413       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2443       1.61E-02       2.55E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2453 <td>2373       1.63E-02       2.58E-03       1.31E-03       3.80E-05       2873       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2383       1.62E-02       2.58E-03       1.30E-03       3.79E-05       2883       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2393       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2893       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2403       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2903       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2413       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2423       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2443       1.61E-02       2.55E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2443<td>2363</td><td>1.63E-02</td><td>2,59E-03</td><td>1.31E-03</td><td>3.80E-05</td><td>2863</td><td>1.52F-02</td><td>2.41F-03</td><td>1.22F-03</td><td>3.55F-05</td></td>	2373       1.63E-02       2.58E-03       1.31E-03       3.80E-05       2873       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2383       1.62E-02       2.58E-03       1.30E-03       3.79E-05       2883       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2393       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2893       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2403       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2903       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2413       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2423       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2443       1.61E-02       2.55E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2443 <td>2363</td> <td>1.63E-02</td> <td>2,59E-03</td> <td>1.31E-03</td> <td>3.80E-05</td> <td>2863</td> <td>1.52F-02</td> <td>2.41F-03</td> <td>1.22F-03</td> <td>3.55F-05</td>	2363	1.63E-02	2,59E-03	1.31E-03	3.80E-05	2863	1.52F-02	2.41F-03	1.22F-03	3.55F-05
2383       1.62E-02       2.58E-03       1.30E-03       3.79E-05       2883       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2393       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2893       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2403       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2903       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2413       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2903       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2423       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.30E-03       3.77E-05       2923       1.51E-02       2.39E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2443       1.61E-02       2.55E-03       1.29E-03       3.76E-05       2943       1.50E-02       2.39E-03       1.21E-03       3.50E-05         2453 <td>2383       1.62E-02       2.58E-03       1.30E-03       3.79E-05       2883       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2393       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2893       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2403       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2903       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2413       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2423       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.30E-03       3.77E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2443       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2943       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2443       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2943       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2463<td>2373</td><td>1.63E-02</td><td>2.58E-03</td><td>1.31E-03</td><td>3.80E-05</td><td>2873</td><td>1.52F-02</td><td>2.41F-03</td><td>1.22F-03</td><td>3.54E-05</td></td>	2383       1.62E-02       2.58E-03       1.30E-03       3.79E-05       2883       1.52E-02       2.41E-03       1.22E-03       3.54E-05         2393       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2893       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2403       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2903       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2413       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2423       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.30E-03       3.77E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2443       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2943       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2443       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2943       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2463 <td>2373</td> <td>1.63E-02</td> <td>2.58E-03</td> <td>1.31E-03</td> <td>3.80E-05</td> <td>2873</td> <td>1.52F-02</td> <td>2.41F-03</td> <td>1.22F-03</td> <td>3.54E-05</td>	2373	1.63E-02	2.58E-03	1.31E-03	3.80E-05	2873	1.52F-02	2.41F-03	1.22F-03	3.54E-05
2393       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2893       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2403       1.62E-02       2.57E-03       1.30E-03       3.78E-05       2903       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2413       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2423       1.62E-02       2.56E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.30E-03       3.77E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2453       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2953       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2463       1.61E-02       2.55E-03       1.29E-03       3.74E-05       2973       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2473 <td>2393       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2893       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2403       1.62E-02       2.57E-03       1.30E-03       3.78E-05       2903       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2413       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2903       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2423       1.62E-02       2.56E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2423       1.62E-02       2.56E-03       1.30E-03       3.77E-05       2923       1.51E-02       2.39E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2453       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2953       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2463       1.61E-02       2.55E-03       1.29E-03       3.74E-05       2973       1.50E-02       2.38E-03       1.20E-03       3.49E-05         2483<td>2383</td><td>1.62E-02</td><td>2.58E-03</td><td>1.30E-03</td><td>3.79E-05</td><td>2883</td><td>1.52E-02</td><td>2.41E-03</td><td>1.22E-03</td><td>3.54E-05</td></td>	2393       1.62E-02       2.57E-03       1.30E-03       3.79E-05       2893       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2403       1.62E-02       2.57E-03       1.30E-03       3.78E-05       2903       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2413       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2903       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2423       1.62E-02       2.56E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2423       1.62E-02       2.56E-03       1.30E-03       3.77E-05       2923       1.51E-02       2.39E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2453       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2953       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2463       1.61E-02       2.55E-03       1.29E-03       3.74E-05       2973       1.50E-02       2.38E-03       1.20E-03       3.49E-05         2483 <td>2383</td> <td>1.62E-02</td> <td>2.58E-03</td> <td>1.30E-03</td> <td>3.79E-05</td> <td>2883</td> <td>1.52E-02</td> <td>2.41E-03</td> <td>1.22E-03</td> <td>3.54E-05</td>	2383	1.62E-02	2.58E-03	1.30E-03	3.79E-05	2883	1.52E-02	2.41E-03	1.22E-03	3.54E-05
2403       1.62E-02       2.57E-03       1.30E-03       3.78E-05       2903       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2413       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2423       1.62E-02       2.56E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.52E-05         2443       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2453       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2943       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2463       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2963       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2473       1.60E-02       2.55E-03       1.29E-03       3.74E-05       2973       1.50E-02       2.38E-03       1.20E-03       3.49E-05         2483 <td>2403       1.62E-02       2.57E-03       1.30E-03       3.78E-05       2903       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2413       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2423       1.62E-02       2.56E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2443       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2453       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2953       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2463       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2963       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2473       1.60E-02       2.55E-03       1.29E-03       3.74E-05       2973       1.50E-02       2.38E-03       1.20E-03       3.49E-05         2483<td>2393</td><td>1.62E-02</td><td>2.57E-03</td><td>1.30E-03</td><td>3.79E-05</td><td>2893</td><td>1.51E-02</td><td>2.40E-03</td><td>1.21E-03</td><td>3.53E-05</td></td>	2403       1.62E-02       2.57E-03       1.30E-03       3.78E-05       2903       1.51E-02       2.40E-03       1.21E-03       3.53E-05         2413       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2423       1.62E-02       2.56E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2443       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2453       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2953       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2463       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2963       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2473       1.60E-02       2.55E-03       1.29E-03       3.74E-05       2973       1.50E-02       2.38E-03       1.20E-03       3.49E-05         2483 <td>2393</td> <td>1.62E-02</td> <td>2.57E-03</td> <td>1.30E-03</td> <td>3.79E-05</td> <td>2893</td> <td>1.51E-02</td> <td>2.40E-03</td> <td>1.21E-03</td> <td>3.53E-05</td>	2393	1.62E-02	2.57E-03	1.30E-03	3.79E-05	2893	1.51E-02	2.40E-03	1.21E-03	3.53E-05
2413       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2423       1.62E-02       2.56E-03       1.30E-03       3.77E-05       2923       1.51E-02       2.39E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2443       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2943       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2453       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2953       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2463       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2963       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2473       1.60E-02       2.55E-03       1.29E-03       3.74E-05       2973       1.50E-02       2.38E-03       1.20E-03       3.49E-05         2483       1.60E-02       2.55E-03       1.29E-03       3.74E-05       2973       1.50E-02       2.38E-03       1.20E-03       3.49E-05         2483 <td>2413       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2423       1.62E-02       2.56E-03       1.30E-03       3.77E-05       2923       1.51E-02       2.39E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.52E-05         2443       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2943       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2443       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2943       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2463       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2963       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2473       1.60E-02       2.55E-03       1.29E-03       3.74E-05       2973       1.50E-02       2.38E-03       1.20E-03       3.49E-05         2483       1.60E-02       2.54E-03       1.29E-03       3.74E-05       2983       1.49E-02       2.37E-03       1.20E-03       3.49E-05         2493<td>2403</td><td>1.62E-02</td><td>2.57E-03</td><td>1.30E-03</td><td>3.78E-05</td><td>2903</td><td>1.51E-02</td><td>2.40E-03</td><td>1.21E-03</td><td>3.53E-05</td></td>	2413       1.62E-02       2.57E-03       1.30E-03       3.77E-05       2913       1.51E-02       2.40E-03       1.21E-03       3.52E-05         2423       1.62E-02       2.56E-03       1.30E-03       3.77E-05       2923       1.51E-02       2.39E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.52E-05         2443       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2943       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2443       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2943       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2463       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2963       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2473       1.60E-02       2.55E-03       1.29E-03       3.74E-05       2973       1.50E-02       2.38E-03       1.20E-03       3.49E-05         2483       1.60E-02       2.54E-03       1.29E-03       3.74E-05       2983       1.49E-02       2.37E-03       1.20E-03       3.49E-05         2493 <td>2403</td> <td>1.62E-02</td> <td>2.57E-03</td> <td>1.30E-03</td> <td>3.78E-05</td> <td>2903</td> <td>1.51E-02</td> <td>2.40E-03</td> <td>1.21E-03</td> <td>3.53E-05</td>	2403	1.62E-02	2.57E-03	1.30E-03	3.78E-05	2903	1.51E-02	2.40E-03	1.21E-03	3.53E-05
2423       1.62E-02       2.56E-03       1.30E-03       3.77E-05       2923       1.51E-02       2.39E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.52E-05         2443       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2943       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2453       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2953       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2463       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2963       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2473       1.60E-02       2.55E-03       1.29E-03       3.74E-05       2973       1.50E-02       2.38E-03       1.20E-03       3.49E-05         2483       1.60E-02       2.55E-03       1.29E-03       3.74E-05       2973       1.50E-02       2.38E-03       1.20E-03       3.49E-05	2423       1.62E-02       2.56E-03       1.30E-03       3.77E-05       2923       1.51E-02       2.39E-03       1.21E-03       3.52E-05         2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2443       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2943       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2453       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2953       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2463       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2963       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2473       1.60E-02       2.55E-03       1.29E-03       3.74E-05       2973       1.50E-02       2.38E-03       1.20E-03       3.49E-05         2483       1.60E-02       2.54E-03       1.29E-03       3.74E-05       2983       1.49E-02       2.37E-03       1.20E-03       3.49E-05         2493       1.60E-02       2.54E-03       1.28E-03       3.73E-05       2903       1.49E-02       2.37E-03       1.20E-03       3.49E-05         2493 <td>2413</td> <td>1.62E-02</td> <td>2.57E-03</td> <td>1.30E-03</td> <td>3.77E-05</td> <td>2913</td> <td>1.51E-02</td> <td>2.40E-03</td> <td>1.21E-03</td> <td>3.52E-05</td>	2413	1.62E-02	2.57E-03	1.30E-03	3.77E-05	2913	1.51E-02	2.40E-03	1.21E-03	3.52E-05
2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2443       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2943       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2453       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2953       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2463       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2963       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2473       1.60E-02       2.55E-03       1.29E-03       3.74E-05       2973       1.50E-02       2.38E-03       1.20E-03       3.49E-05         2483       1.60E-02       2.55E-03       1.29E-03       3.74E-05       2973       1.50E-02       2.38E-03       1.20E-03       3.49E-05 <td>2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2443       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2943       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2453       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2953       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2463       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2963       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2473       1.60E-02       2.55E-03       1.29E-03       3.74E-05       2973       1.50E-02       2.38E-03       1.20E-03       3.49E-05         2483       1.60E-02       2.54E-03       1.29E-03       3.74E-05       2983       1.49E-02       2.37E-03       1.20E-03       3.49E-05         2493       1.60E-02       2.54E-03       1.28E-03       3.73E-05       2903       1.49E-02       2.37E-03       1.20E-03       3.49E-05</td> <td>2423</td> <td>1.62E-02</td> <td>2.56E-03</td> <td>1.30E-03</td> <td>3.77E-05</td> <td>2923</td> <td>1.51E-02</td> <td>2.39E-03</td> <td>1.21E-03</td> <td>3.52E-05</td>	2433       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2933       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2443       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2943       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2453       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2953       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2463       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2963       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2473       1.60E-02       2.55E-03       1.29E-03       3.74E-05       2973       1.50E-02       2.38E-03       1.20E-03       3.49E-05         2483       1.60E-02       2.54E-03       1.29E-03       3.74E-05       2983       1.49E-02       2.37E-03       1.20E-03       3.49E-05         2493       1.60E-02       2.54E-03       1.28E-03       3.73E-05       2903       1.49E-02       2.37E-03       1.20E-03       3.49E-05	2423	1.62E-02	2.56E-03	1.30E-03	3.77E-05	2923	1.51E-02	2.39E-03	1.21E-03	3.52E-05
2443       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2943       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2453       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2953       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2463       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2963       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2473       1.60E-02       2.55E-03       1.29E-03       3.74E-05       2973       1.50E-02       2.38E-03       1.20E-03       3.49E-05         2483       1.60E-02       2.54E-03       1.29E-03       3.74E-05       2993       1.49E-02       2.37E-03       1.20E-03       3.49E-05	2443       1.61E-02       2.56E-03       1.29E-03       3.76E-05       2943       1.50E-02       2.39E-03       1.21E-03       3.51E-05         2453       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2953       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2463       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2963       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2473       1.60E-02       2.55E-03       1.29E-03       3.74E-05       2973       1.50E-02       2.38E-03       1.20E-03       3.49E-05         2483       1.60E-02       2.54E-03       1.29E-03       3.74E-05       2983       1.49E-02       2.37E-03       1.20E-03       3.49E-05         2493       1.60E-02       2.54E-03       1.28E-03       3.73E-05       2993       1.49E-02       2.37E-03       1.20E-03       3.49E-05 <td>2433</td> <td>1.61E-02</td> <td>2.56E-03</td> <td>1.29E-03</td> <td>3.76E-05</td> <td>2933</td> <td>1.50E-02</td> <td>2.39E-03</td> <td>1.21E-03</td> <td>3.51E-05</td>	2433	1.61E-02	2.56E-03	1.29E-03	3.76E-05	2933	1.50E-02	2.39E-03	1.21E-03	3.51E-05
2453       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2953       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2463       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2963       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2473       1.60E-02       2.55E-03       1.29E-03       3.74E-05       2973       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2483       1.60E-02       2.55E-03       1.29E-03       3.74E-05       2973       1.50E-02       2.38E-03       1.20E-03       3.49E-05	2453       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2953       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2463       1.61E-02       2.55E-03       1.29E-03       3.75E-05       2963       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2473       1.60E-02       2.55E-03       1.29E-03       3.74E-05       2973       1.50E-02       2.38E-03       1.20E-03       3.50E-05         2483       1.60E-02       2.54E-03       1.29E-03       3.74E-05       2983       1.49E-02       2.37E-03       1.20E-03       3.49E-05         2493       1.60E-02       2.54E-03       1.28E-03       3.73E-05       2993       1.49E-02       2.37E-03       1.20E-03       3.49E-05	2443	1.61E-02	2.56E-03	1.29E-03	3.76E-05	2943	1.50E-02	2.39E-03	1.21E-03	3.51E-05
2463         1.61E-02         2.55E-03         1.29E-03         3.75E-05         2963         1.50E-02         2.38E-03         1.20E-03         3.50E-05           2473         1.60E-02         2.55E-03         1.29E-03         3.74E-05         2973         1.50E-02         2.38E-03         1.20E-03         3.49E-05           2483         1.60E-02         2.54E-03         1.29E-03         3.74E-05         2993         1.49E-02         2.37E-03         1.20E-03         3.49E-05	2463         1.61E-02         2.55E-03         1.29E-03         3.75E-05         2963         1.50E-02         2.38E-03         1.20E-03         3.50E-05           2473         1.60E-02         2.55E-03         1.29E-03         3.74E-05         2973         1.50E-02         2.38E-03         1.20E-03         3.49E-05           2483         1.60E-02         2.54E-03         1.29E-03         3.74E-05         2983         1.49E-02         2.37E-03         1.20E-03         3.49E-05           2493         1.60E-02         2.54E-03         1.28E-03         3.73E-05         2993         1.49E-02         2.37E-03         1.20E-03         3.49E-05	2453	1.61E-02	2.55E-03	1.29E-03	3.75E-05	2953	1.50E-02	2.38E-03	1.20E-03	3.50E-05
2473 1.60E-02 2.55E-03 1.29E-03 3.74E-05 2973 1.50E-02 2.38E-03 1.20E-03 3.49E-05 2483 1.60E-02 2.54E-03 1.20E-03 3.74E-05 2993 1.49E-02 2.37E-03 1.20E-03 3.49E-05 2483 1.60E-02 2.37E-03 1.20E-03 2.49E-05 2483 1.40E-02 2.37E-03 1.20E-03 2.49E-05 2483 1.40E-02 2.37E-03 1.20E-03 2.49E-05 2483 1.40E-02 2.37E-03 1.40E-03 2.49E-05 2483 1.40E-03 2.49E-05 2483 1.40E-03 2.49E-03 2.49E-05 2483 1.40E-03 2.49E-03 2.49E	2473       1.60E-02       2.55E-03       1.29E-03       3.74E-05       2973       1.50E-02       2.38E-03       1.20E-03       3.49E-05         2483       1.60E-02       2.54E-03       1.29E-03       3.74E-05       2983       1.49E-02       2.37E-03       1.20E-03       3.49E-05         2493       1.60E-02       2.54E-03       1.28E-03       3.73E-05       2993       1.49E-02       2.37E-03       1.20E-03       3.49E-05	2463	1.61E-02	2.55E-03	1.29E-03	3.75E-05	2963	1.50E-02	2.38E-03	1.20E-03	3.50E-05
2483 1 605-02 2 545-03 1 205-03 3 745-05 2093 1 405-02 2 375-03 1 205-03 3 405-05	2483         1.60E-02         2.54E-03         1.29E-03         3.74E-05         2983         1.49E-02         2.37E-03         1.20E-03         3.49E-05           2493         1.60E-02         2.54E-03         1.28E-03         3.73E-05         2983         1.49E-02         2.37E-03         1.20E-03         3.49E-05	2473	1.60E-02	2.55E-03	1.29E-03	3.74E-05	2973	1.50E-02	2.38E-03	1.20E-03	3.49E-05
	2493 1 605-02 2 545-03 1 285-03 3 735-05 2993 1 405-02 2 375-03 1 205-03 2 495-05	2483	1.60E-02	2.54E-03	1.29E-03	3.74E-05	2983	1.49E-02	2.37E-03	1.20E-03	3.49E-05
2403 1 605 02 2 545 03 1 295 03 3 735 05 2002 1 405 02 2 375 02 1 305 02 2 495 05		2493	1.60E-02	2.54E-03	1.28E-03	3.73E-05	2993	1.49E-02	2.37E-03	1.20E-03	3.48E-05

#### VADSAT Data Table (Benzene without a clay barrier)

#### VADSAT Risk Assessment Criteria and Data (Benzene)

+ + + + VADSAT Version 3.0 + + + A Monte Carlo Model for Assessing the Effects of Soil + + + Contamination on Groundwater Quality + + + + + Developed by: + + Environmental Systems and Technologies Inc. + + Blacksburg, Virginia + + Tel: 703-552-0685, Fax: 703-951-5307 + + + + + + For + + + The American Petroleum Institute + 1995 + + + + + + + + + + + PROJECT TITLE: DEFS A9 8inch 042403 SOURCE AND CHEMICAL DATA \*\*\*\* DEPTHM, MEAN THICKNESS OF WASTE ZONE (m) = 12.19200 DEPSTD, STD.DEV. OF THICKNESS OF WASTE ZONE = 0.00000 AREAM, MEAN WASTE ZONE AREA (m^2) = 185.81000 STDA, STD.DEV. OF WASTE ZONE AREA = 0.00000 RLWM, MEAN L/W RATIO (-) 1.00000 STDRLW, STD.DEV. OF L/W RATIO 0.00000 = CVRTHM, MEAN VALUE OF COVER THICKNESS (m) = 0.00000 CVRTHS, STD.DEV. OF COVER THICKNESS = 0.00000 KOCM, MEAN ORG. CARBON PARTITION COEF (cm^3/g)= 83.20000 STDKOC, STD.DEV. OF ORG.CARBON PARTITION COEF= 0.00000 FMOLM, MEAN INIT.VOL.FRAC. OF CONTAMINANT(-) = 0.00019

FMOLSTD, STD.DEV. OF VOL.FRAC. OF CONTAMINANT= 0.00000

CMFM, MASS OF CONTAMINANT PER MASS OF WASTE(mg/kg) =6.00000CMFSD, STD.DEV. OF MASS CONTAMINANT PER MASS WASTE =0.00000

HCCONM, HYDCARBON MASS FRAC. IN WASTE (mg/kg)= 32000.00000 HCCONS, STD OF HYDCARBON MASS FRAC. IN WASTE = 0.00000

CHEMICAL SPECIESbenzeneMOLW, MOLECULAR WT. OF CONTAMINANT (g/mole) =78.10000AVERMW, AVG. MOL. WT. OF OILY WASTE (g/mole) =100.00000RHO, DENSITY OF CONTAMINANT (g/cm^3) =0.87600RHOG, AVERAGE DENSITY OF HYDROCARBON (g/cm^3)=0.90000SOL, AQUEOUS SOLUB. OF CONTAMINANT (g/m^3) =1790.00000HENRYC, HENRY'S CONSTANT (-) =0.23000

DIFFA, DIFFUSION COEF. IN FREE AIR (m^2/day) = 0.77000 HYDROGEOLOGICAL PROPERTIES **\*\* UNSATURATED ZONE INPUT PARAMETERS \*\*** GAMMAM, MEAN UNSAT ZONE DECAY COEF (1/day) = 0.00010 STDGAM, STD.DEV. OF UNSAT ZONE DECAY COEF = 0.00000 UNFOCM, MEAN UNSAT ZONE ORGANIC CARBON FRACTION (-) = 0.00000 UNFOCS, STD.DEV. OF UNSAT ZONE ORGANIC CARBON FRAC. = 0.00000 FKSW, MEAN SAT. CONDUCTIVITY (m/day) = 0.02900 STDFKS, STD.DEV. OF SAT. CONDUCTIVITY 0.000 = DISTM, MEAN DEPTH TO GROUNDWATER (m) = 15.24000 STDDST, STD.DEV. OF DEPTH TO GROUNDWATER = 0.00000 UNPORM, MEAN VADOSE ZONE POROSITY (-) **= 0.3800**0 SUNPOR, STD.DEV. OF VADOSE ZONE POROSITY = 0.00000 PARNM, MEAN VALUE OF VG PARAMETER N (-) = 1.23000 SDPARN, STD.DEV. OF VG PARAMETER N = 0.00000 RESWCM, MEAN RESIDUAL WATER CONTENT (-) = 0.01110 RESWCS, STD.DEV. OF RESIDUAL WATER CONTENT = 0.00000 ALFINM = 0, UNSAT DISPERSIVITY CALCULATED INTERNALLY \*\* SATURATED ZONE INPUT PARAMETERS \*\* LAMBW, MEAN SAT. ZONE DECAY COEFF. (1/day) = 0.00010 SLAMB, STD.DEV. OF SAT. ZONE DECAY COEFF. = 0.00000 PORM, MEAN SAT. ZONE POROSITY (-) = 0.20000 STDPOR, STD.DEV. OF SAT. ZONE POROSITY = 0.00000 FOCM, MEAN SAT. ZONE ORG. CARBON FRAC. (-) = 0.00000 STDFOC, STD.DEV. SAT. ZONE ORG. CARBON FRAC.= 0.00000 ALRLTM, MEAN DISPERS, RATIO LONG/TRANSV. (-) = 3.00000 SALRLT, STD.DEV. OF DISP. RATIO LONG/TRANSV. = 0.00000 ALRTVM, MEAN DISPERS. RATIO TRANSV/VERT. (-) = 87.00000 SALRTV, STD.DEV. OF DISP. RATIO TRANSV/VERT. = 0.00000 CONDS, SAT. HYDRAULIC COND. (m/day) = 1.03000 SCONDS, STD. DEV. OF SAT HYDRAULIC COND. = 0.00000 GRADS, HYDRAULIC GRADIENT (m/m) = 0.02700 SGRADS, STD.DEV. OF HYDRAULIC GRADIENT = 0.00000 HMEAN, MEAN AQUIFER THICKNESS (m) = 15.24000 STDH, STD.DEV. OF AQUIFER THICKNESS = 0.00000 QINM, MEAN INFILTRATION RATE (m/day) 0.00011 = QINSTD, STD.DEV. OF INFILTRATION RATE = 0.00000

#### LOCATION OF RECEPTORS:

X (M)		Y (M)	Z (M)
RECEPTOR(1)	1.0	0.0	0.0
RECEPTOR(2)	10.0	0.0	0.0
RECEPTOR(3)	100.0	0.0	0.0

![](_page_62_Figure_1.jpeg)

#### Plate 7 - VADSAT Chlorides Risk Assessment Charts

#### VADSAT Data (Chlorides without a clay barrier)

		1 Meter	10 Meter	100 Meter			1 Meter	10 Meter	100 Meter
	Water	Down	Down	Down		Water	Down	Down	Down
Year	Table	Gradient	Gradient	Gradient	Year	Table	Gradient	Gradient	Gradient
2003	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2503	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2013	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2513	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2023	4.83E-05	6.63E-06	2.70E-06	1.51E-08	2523	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2033	2.00E-01	2.96E-02	1.33E-02	1.54E-04	2533	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2043	1.94E+01	2.97E+00	1.40E+00	2.39E-02	2543	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2053	2.92E+02	4.58E+01	2.21E+01	4.70E-01	2553	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2063	1.54E+03	2.45E+02	1.20E+02	2.94E+00	2563	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2073	4.33E+03	6.93E+02	3.43E+02	9.15E+00	2573	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2083	8.15E+03	1.31E+03	6.51E+02	1.84E+01	2583	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2093	1.19E+04	1.91E+03	9.54E+02	2.80E+01	2593	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2103	1.47E+04	2.37E+03	1.19E+03	3.57E+01	2603	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2113	1.65E+04	2.66E+03	1.33E+03	4.07E+01	2613	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2123	1.75E+04	2.82E+03	1.42E+03	4.36E+01	2623	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2133	1.80E+04	2.90E+03	1.46E+03	4.50E+01	2633	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2143	1.82E+04	2.94E+03	1.48E+03	4.57E+01	2643	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2153	1.83E+04	2.96E+03	1.48E+03	4.60E+01	2653	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2163	1.83E+04	2.96E+03	1.49E+03	4.61E+01	2663	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2173	1.80E+04	2.91E+03	1.46E+03	4.55E+01	2673	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2183	1.66E+04	2.69E+03	1.35E+03	4.28E+01	2683	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2193	1.36E+04	2.22E+03	1.12E+03	3.62E+01	2693	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2203	9.78E+03	1.59E+03	8.06E+02	2.67E+01	2703	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2213	6.14E+03	1.00E+03	5.08E+02	1.72E+01	2713	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2223	3.43E+03	5.60E+02	2.84E+02	9.85E+00	2723	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2233	1.73E+03	2.83E+02	1.44E+02	5.08E+00	2733	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2243	8.05E+02	1.32E+02	6.72E+01	2.40E+00	2743	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2253	3.50E+02	5.74E+01	2.93E+01	1.06E+00	2753	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2263	1.44E+02	2.36E+01	1.20E+01	4.40E-01	2763	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2273	5.63E+01	9.24E+00	4.73E+00	1.74E-01	2773	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2283	2.12E+01	3.48E+00	1.78E+00	6.61E-02	2783	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2293	7.72E+00	1.27E+00	6.50E-01	2.43E-02	2793	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2303	2.73E+00	4.50E-01	2.31E-01	8.64E-03	2803	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2313	9.45E-01	1.56E-01	7.98E-02	3.01E-03	2813	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2323	3.20E-01	5.28E-02	2.71E-02	1.02E-03	2823	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2333	1.06E-01	1.74E-02	8.95E-03	3.41E-04	2833	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2343	3.32E-02	5.50E-03	2.84E-03	1.11E-04	2843	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2353	1.17E-02	1.90E-03	9.52E-04	3.43E-05	2853	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2363	3.91E-03	6.32E-04	3.17E-04	1.06E-05	2863	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2373	1.95E-03	3.16E-04	1.59E-04	4.93E-06	2873	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2383	1.95E-03	0.00E+00	0.00E+00	6.40E-09	2883	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2393	0,00E+00	0.00E+00	0.00E+00	2.02E-14	2893	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2403	0.00E+00	0.00E+00	0.00E+00	2.40E-19	2903	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2413	0.00E+00	0.00E+00	0.00E+00	2.54E-24	2913	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2423	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2923	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2433	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2933	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2443	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2943	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2453	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2953	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2463	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2963	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2473	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2973	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2483	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2983	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2493	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2993	0.00E+00	0.00E+00	0.00E+00	0.00E+00

#### VADSAT Risk Assessment Criteria and Data (Chlorides)

+ + VADSAT Version 3.0 + + + + + A Monte Carlo Model for Assessing the Effects of Soil + + Contamination on Groundwater Quality + + + ≁ + Developed by: + + Environmental Systems and Technologies Inc. + + Blacksburg, Virginia + + Tel: 703-552-0685, Fax: 703-951-5307 + + + + + + + For + + The American Petroleum Institute + + 1995 + + PROJECT TITLE: DEFS A9 8inch 042403 SOURCE AND CHEMICAL DATA \*\*\*\* DEPTHM, MEAN THICKNESS OF WASTE ZONE (m) = 12.19200 DEPSTD, STD.DEV. OF THICKNESS OF WASTE ZONE = 0.00000 AREAM, MEAN WASTE ZONE AREA (m^2) = 185.81000 STDA, STD.DEV. OF WASTE ZONE AREA 0.00000 = RLWM, MEAN L/W RATIO (-) = 1.00000 STDRLW, STD.DEV. OF L/W RATIO = 0.00000 CVRTHM, MEAN VALUE OF COVER THICKNESS (m) = 0.00000 CVRTHS, STD.DEV. OF COVER THICKNESS = 0.00000 MEAN MASS FRACTION OF SALT IN WASTE (mg/kg) = 4239.90234 STD OF MASS FRACTION OF SALT IN WASTE = 0.00000 CZEROM, MEAN AQU. PHASE CONC OF SALT  $(q/m^3) = 18332.00000$ CZEROS, STD.DEV. OF AQU. PHASE CONC. OF SALT = 0.00000 CHEMICAL SPECIES Sodium Chloride HYDROGEOLOGICAL PROPERTIES \_\_\_\_\_ \*\* UNSATURATED ZONE INPUT PARAMETERS \*\* GAMMAM, MEAN UNSAT ZONE DECAY COEF (1/day) = 0.00010 STDGAM, STD.DEV. OF UNSAT ZONE DECAY COEF 0.00000 = UNFOCM, MEAN UNSAT ZONE ORGANIC CARBON FRACTION (-) = 0.00000 UNFOCS, STD.DEV. OF UNSAT ZONE ORGANIC CARBON FRAC. = 0.00000 FKSW, MEAN SAT. CONDUCTIVITY (m/day) 0.02900 == STDFKS, STD.DEV. OF SAT. CONDUCTIVITY = 0.000

DISTM, MEAN DEPTH TO GROUNDWATER (m) STDDST, STD.DEV. OF DEPTH TO GROUNDWATER	#	15.24000 0.00000
UNPORM, MEAN VADOSE ZONE POROSITY (-) SUNPOR, STD.DEV. OF VADOSE ZONE POROSITY	=	0.38000 0.00000
PARNM, MEAN VALUE OF VG PARAMETER N (-) SDPARN, STD.DEV. OF VG PARAMETER N	= =	1.23000 0.00000
RESWCM, MEAN RESIDUAL WATER CONTENT (-) RESWCS, STD.DEV. OF RESIDUAL WATER CONTENT	=	0.01110 0.00000
ALFINM = 0, UNSAT DISPERSIVITY CALCULATED INTERN ** SATURATED ZONE INPUT PARAMETERS **	ALLY	
LAMBW, MEAN SAT. ZONE DECAY COEFF. (1/day) SLAMB, STD.DEV. OF SAT. ZONE DECAY COEFF.	=	0.00010 0.00000
PORM, MEAN SAT. ZONE POROSITY (-) STDPOR, STD.DEV. OF SAT. ZONE POROSITY	= =	0.20000 0.00000
FOCM, MEAN SAT. ZONE ORG. CARBON FRAC. (-) STDFOC, STD.DEV. SAT. ZONE ORG. CARBON FRAC	= .=	0.00000 0.00000
ALRLTM, MEAN DISPERS, RATIO LONG/TRANSV. (~ SALRLT, STD.DEV. OF DISP. RATIO LONG/TRANSV	) =	3.00000 0.00000
ALRTVM, MEAN DISPERS. RATIO TRANSV/VERT. (~ SALRTV, STD.DEV. OF DISP. RATIO TRANSV/VERT	) = . =	87.00000 0.00000
CONDS, SAT. HYDRAULIC COND. (m/day) SCONDS, STD.DEV. OF SAT HYDRAULIC COND.	=	1.03000 0.00000
GRADS, HYDRAULIC GRADIENT (m/m) SGRADS, STD.DEV. OF HYDRAULIC GRADIENT	=	0.02700 0.00000
HMEAN, MEAN AQUIFER THICKNESS (m) STDH, STD.DEV. OF AQUIFER THICKNESS	=	15.24000 0.00000
QINM, MEAN INFILTRATION RATE (m/day) QINSTD, STD.DEV. OF INFILTRATION RATE	=	0.00011 0.00000

LOCATION OF RECEPTORS:

		X (M)	Y (M)	Z (M)
RECEPTOR (	1)	1.0	0.0	0.0
RECEPTOR (	2)	10.0	0.0	0.0
RECEPTOR (	3)	100.0	0.0	0.0

District I State					New Mex	ico		Form C-141		
1625 N. French	Dr., Hobbs, N	M 88240	Energy	Minerals	and Natur	al Resources	Revised N	March 17, 1999		
District II 1301 W. Grand	Avenue, Artesi	ia, NM 88210								
District III				Oil Conse	rvation Div	rision	Submit 2 Copies to appropriate			
1000 Rio Brazo	s Road, Aztec,	NM 87410		1220 Sout	h St. Franci	is Dr.	District Office	e in accordance		
District IV				Santa I	Fe, NM 875	05	with Ru	le 116 on baok		
1220 S. St. Fran	icis Dr., Santa	Fc, NM 87505						side of form		
		Rel	ease Noti	ification	and Corr	ective Action				
	C	<b>PERATO</b>	R			Initial Report	Final Report			
Name of Con	ipany				Contact					
DUKE ENE	RGY FIELD	<b>SERVICES</b>			Paul Mulkey	7				
Address			*		Telephone N	0.	· · · · · · · · · · · · · · · · · · ·			
11525 W. Ca	risbad Hwy	•	Hobbs, N	NM 88240	505-397-571	6				
Facility Name	>	····			Facility Type	;				
A-9 8-Inch					Natural Gas	Gathering Pipeline	e			
					<b>1</b>					
Surface Owne	er			Mineral Own	ner		Lease No.			
BLM				NA			NA			
			L	CATION	OF RELEA	SE				
Unit Letter	Section	Township	Range	Feet from	Feet from	Longitude	Latitude	County:		
	10	216	261	South Line	West Line	W1020 101 27 000	N/220 201 0 707	<b>T</b>		
	10	215	JOE	5243	1500	W103° 18' 27.80"	IN32° 29' 9.70"	Lea		
			N	NATURE O	<b>FRELEAS</b>	SE				
Type of Relea	ase				Volume of R	elease	Volume Recovered			
Natural Gas	release and	associated lie	uid compon	ents	30	bbi	15 bbl			
Source of Rel	lease				Date and Hour of Occurrence		Date and Hour of Discovery			
8" Steel Pipe	line		<u> </u>		4/24/2003		4/24/03	<u></u>		
Was Immedia	ite Notice Gr	ven?		· •	If YES, To V	Vhom?				
Dr. Where?	V Yes			equired	Larry Johns	ion (NMOCD-Hobl	<u>)</u>			
Ston Showar	(T) F FS)				1/24/02 2.00	DM				
Was a Waten	course Reach	ned?			If YES Volume Impacting the Watercourse					
		D Yes	🗹 No		NA					
If a Watercou	rse was Imp	acted, Describ	e Fully.*		4			······		
NA	-	-	-							
Describe Cau	se of Probler	n and Remedi	al Action Tal	ken.*						
Internally C	orroded pip	eline, repaire	d by clampi	ng leak						
		·····								
Describe Are	a Affected ar	nd Cleanup Ac	tion Taken.*							
~1568-ft <sup>-</sup> sur soil above re	rface area af medial goak	ffected. 15-bb s will be reme	l of NGL re- diated on-si	covered from te or excavat	a ~30-bbl rele ed and dispo	ase. RCRA Exemp sed of by EPI.	t Non-hazardous co	ntaminated		
						······································				
I hereby certify	that the inform	mation given ab	ove is true and	complete to the	he best of my k	nowledge and understa	nd that pursuant to NM	OCD rules and		
regulations all o	perators are re	equired to report	and/or file cert	tain release noti but the NMOCI	fications and per	form corrective actions	for releases which may	endanger public		
operations have	e failed to ade	quately investig	ate and remed	iate contaminat	ion that pose a	threat to ground wate	er, surface water, huma	n health or the		
environment. I	n addition, NM	OCD acceptanc	e of a C-141 re	port does not r	elieve the operat	or of responsibility for o	compliance with any oth	er føderal, state,		
or local laws an	or local laws and/or regulations.									
Signature:	Signature: OIL CONSERVATION DIVISION									
Printed Name		John Good			Approved by District Supervisor					
Title:	EPI - Envir	onmental Co	nsultant		Approval De	te.	Expiration Date			
Date:	4/28/03	Phone:	505-39	97-5716	Conditions o	f Approval:	<u></u>	Attached .		

Duke Energy, Incident Date and NMOCD Notified?						
G Field	Services	4/24/03 4/24/03 3:00 PM				
SITE: A-9 8-Inch	-9 8-Inch Assigned Site Reference # 042403					
Company:	ompany: DUKE ENERGY FIELD SERVICES					
Street Address: 5805 East Highway 80						
Mailing Address: 11525 W. Carlsbad Hwy.						
City, State, Zip: Hobbs, NM 88240						
Representative: Paul Mulkey						
Representative Telephone: 505-397-5716						
Telephone:						
Fluid volume released	(bbis): 30	Recovere	ed (bbls): 15			
>25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days.						
5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)						
Leak, Spill, or Pit (LSP) Name: #042403						
Source of contamination	on:	8" Steel Pi	peline			
Land Owner, i.e., BLM	, ST, Fee, Other:	BLM	620 E. Green	St, Carlsba	d, NM 88220	
LSP Dimensions: 30' x 60' (GPS Site Diagram attached)						
LSP Area:		1,568	-ft <sup>2</sup>			
Location of Reference Point (RP):						
Location distance and direction from RP:						
Latitude: N32° 29' 9.70"						
Longitude: W103° 18' 27.80"						
Elevation above mean	sea level:	3625	-ft amsi			
Feet from South Secti	on Line:	5243	****			
Feet from West Section	on Line:	1500				
Location - Unit and 1/4 1/4: UL- C NE 1/4 of NW 1/4						
Location - Section:		18				
Location - Township:	· · · · · · · · · · · · · · · · · · ·	21S				
Location - Range: 36E						
Surface water body within 1000' radius of Site: 0						
Surface water body within 1000' radius of Site: 0						
Domestic water wells within 1000' radius of Site: 0						
Domestic water wells within 1000' radius of Site: 0						
Agricultural water wells within 1000' radius of Site: 0						
Agricultural water wells within 1000' radius of Site: 0						
Public water supply wells within 1000' radius of Site: 0						
Public water supply wells within 1000' radius of Site: 0						
Depth (ft) from land surface to ground water (DG): 106						
Depth (ft) of contamination (DC): 10						
Depth (ft) to ground water (DG - DC = DtGW); 96						
1. Grou	nd Water	2. Well	head Protection Area	3.	Distance to Surface Water Body	
If Depth to GW <50 feet; 20 points		If <1000' from water source, or,		200 hairantal facts 20 saista		
		<200' from	private domestic water	<200 nonz		
IT Depth to GVV 50 to 99 feet. 10 points		source: 20 points		200-100 horizontal feet: 10 points		
If Depth to GW >100 feet: 0 points		If >1000' from water source, or,		>1000 basissantal facts 0 sainta		
		source: 0 points		>1000 nonzontal feet: 0 points		
Ground water Score: 10		Wellhead Protection Area Scor 0 S		Surface Water Score: 0		
Site Rank (1+2+3) = 10					<u></u>	
Total Site Ranking Score and Acceptable Concentrations						
Parameter 20 or >			10		Λ	
Benzene <sup>1</sup>	10 ppm		10 ppm		10 ppm	
BTEX <sup>1</sup>	50 nnm		60 ppm		50 ppm	
TPH 100 ppm			1000 ppm		5000 ppm	
1100 ppm field VOC headspace measurement may be substituted for lab analysis						

I