

NOTICE

This scan only represents the application as filed. The information contained herein meets the requirements of K.A.R. 5-3-1 or K.A.R. 5-5-1, and has been found acceptable for filing in the office of the Chief Engineer. The application should not be considered to be a complete application as per K.A.R. 5-3-1b or K.A.R. 5-5-2a.

THE STATE  OF KANSAS

KANSAS DEPARTMENT OF AGRICULTURE
Mike Beam, Secretary of Agriculture

DIVISION OF WATER RESOURCES
Earl D. Lewis Jr., Chief Engineer

50717

File Number _____
This item to be completed by the Division of Water Resources.

APPLICATION FOR PERMIT TO APPROPRIATE WATER FOR BENEFICIAL USE

Filing Fee Must Accompany the Application
(Please refer to Fee Schedule attached to this application form.)

WATER RESOURCES RECEIVED

FEB 07 2022

1:32

KS DEPT OF AGRICULTURE

To the Chief Engineer of the Division of Water Resources, Kansas Department of Agriculture,
1320 Research Park Drive, Manhattan, Kansas 66502:

1. Name of Applicant (Please Print): 4D Zeus LLC
Address: Dale Miller, 9000 Choctaw St
City: Union City State OK Zip Code 73090-6644
Telephone Number: (405) 206-3444

2. The source of water is: surface water in _____ (stream)
OR groundwater in Medicine Lodge River (drainage basin)

Certain streams in Kansas have minimum target flows established by law or may be subject to administration when water is released from storage for use by water assurance district members. If your application is subject to these regulations on the date we receive your application, you will be sent the appropriate form to complete and return to the Division of Water Resources.

3. The maximum quantity of water desired is 186.2 acre-feet per calendar year, limited to 186.2 acre-feet when combined with File No. 47816, to be diverted at a maximum rate of 1,212 Total (562 Water Reel / 650 Center Pivot) gallons per minute.

Once your application has been assigned a priority, the requested maximum rate of diversion and maximum requested quantity of water under that priority number can **NOT** be increased. Please be certain your requested maximum rate of diversion and maximum quantity of water are appropriate and reasonable for your proposed project and are in agreement with the Division of Water Resources' requirements.

4. The water is intended to be appropriated for (Check use intended):
(a) Artificial Recharge (b) Irrigation (c) Recreational (d) Water Power
(e) Industrial (f) Municipal (g) Stockwatering (h) Sediment Control
(i) Domestic (j) Dewatering (k) Hydraulic Dredging (l) Fire Protection
(m) Thermal Exchange (n) Contamination Remediation

YOU **MUST** COMPLETE AND ATTACH ADDITIONAL DIVISION OF WATER RESOURCES FORM(S) PROVIDING INFORMATION TO SUBSTANTIATE YOUR REQUEST FOR THE AMOUNT OF WATER FOR THE INTENDED USE REFERENCED ABOVE.

For Office Use Only:														
F.O.	<u>2</u>	GMD	Meets K.A.R. 5-3-1	(YES / NO)	Use	<u>IRR</u>	Source	<u>G / S</u>	County	<u>BA</u>	By	<u>BMM</u>	Date	<u>2/7/22</u>
Code	<u>RE2</u>	Fee \$	<u>300</u>	TR #		Receipt Date	<u>2-7-22</u>	Check #	<u>100%</u>					

- 9. Will pesticide, fertilizer, or other foreign substance be injected into the water pumped from the diversion works?
 Yes No If "yes", a check valve shall be required.

All chemigation safety requirements must be met including a chemigation permit and reporting requirements.

- 10. If you are planning to impound water, please contact the Division of Water Resources for assistance, prior to submitting the application. Please attach a reservoir area capacity table and inform us of the total acres of surface drainage area above the reservoir.

Have you also made an application for a permit for construction of this dam and reservoir with the Division of Water Resources? Yes No

- If yes, show the Water Structures permit number here _____
- If no, explain here why a Water Structures permit is not required _____

- 11. The application must be supplemented by a U.S.G.S. topographic map, aerial photograph or a detailed plat showing the following information. On the topographic map, aerial photograph, or plat, identify the center of the section, the section lines or the section corners and show the appropriate section, township and range numbers. Also, please show the following information:

- (a) The location of the proposed point(s) of diversion (wells, stream-bank installations, dams, or other diversion works) should be plotted as described in Paragraph No. 5 of the application, showing the North-South distance and the East-West distance from a section line or southeast corner of section.
- (b) If the application is for groundwater, please show the location of any existing water wells of any kind within ½ mile of the proposed well or wells. Identify each existing well as to its use and furnish the name and mailing address of the property owner or owners. If there are no wells within ½ mile, please advise us.
- (c) If the application is for surface water, the names and addresses of the landowner(s) ½ mile downstream and ½ mile upstream from your property lines must be shown.
- (d) The location of the proposed place of use should be shown by crosshatching on the topographic map, aerial photograph or plat.
- (e) Show the location of the pipelines, canals, reservoirs or other facilities for conveying water from the point of diversion to the place of use.

A 7.5 minute U.S.G.S. topographic map may be obtained by providing the section, township and range numbers to: Kansas Geological Survey, 1930 Constant, Campus West, University of Kansas, Lawrence, Kansas 66047.

- 12. List any application, appropriation of water, water right, or vested right file number that covers the same diversion points or any of the same place of use described in this application. Also list any other recent modifications made to existing permits or water rights in conjunction with the filing of this application.

The proposed place of use is currently authorized in part by File No. 47816. However, a change in place of use has been filed for File No. 47816 that, if approved, will create a complete overlap.

WATER RESOURCES RECEIVED

FEB 07 2022

5. The location of the proposed wells, pump sites or other works for diversion of water is:

Note: For the application to be accepted, the point of diversion location must be described to at least a 10 acre tract, unless you specifically request a 60 day period of time in which to locate the site within a specifically described, minimal legal quarter section of land.

(A) One Geographic Center of a Horizontal Well located in the NE quarter of the SE quarter of the NW quarter of Section 22, more particularly described as being near a point 3,720 feet North and 3,075 feet West of the Southeast corner of said section, in Township 34 South, Range 11 West, Barber County, Kansas.

(B) One Pump End of a Horizontal Well located in the NW quarter of the SE quarter of the NW quarter of Section 22, more particularly described as being near a point 3,905 feet North and 3,310 feet West of the Southeast corner of said section, in Township 34 South, Range 11 West, Barber County, Kansas.

(C) One End of a Horizontal Well located in the NE quarter of the SE quarter of the NW quarter of Section 22, more particularly described as being near a point 3,535 feet North and 2,840 feet West of the Southeast corner of said section, in Township 34 South, Range 11 West, Barber County, Kansas.

(D) One in the _____ quarter of the _____ quarter of the _____ quarter of Section _____, more particularly described as being near a point _____ feet North and _____ feet West of the Southeast corner of said section, in Township _____ South, Range _____ East/West (circle one), _____ County, Kansas.

If the source of supply is groundwater, a separate application shall be filed for each proposed well or battery of wells, except that a single application may include up to four wells within a circle with a quarter (1/4) mile radius in the same local source of supply which do not exceed a maximum diversion rate of 20 gallons per minute per well.

A battery of wells is defined as two or more wells connected to a common pump by a manifold; or not more than four wells in the same local source of supply within a 300 foot radius circle which are being operated by pumps not to exceed a total maximum diversion rate of 800 gallons per minute and which supply water to a common distribution system.

6. The owner of the point of diversion, if other than the applicant is (please print):

Applicant

(name, address and telephone number)

(name, address and telephone number)

You must provide evidence of legal access to, or control of, the point of diversion from the landowner or the landowner's authorized representative. Provide a copy of a recorded deed, lease, easement or other document with this application. In lieu thereof, you may sign the following sworn statement:

I have legal access to, or control of, the point of diversion described in this application from the landowner or the landowner's authorized representative. I declare under penalty of perjury that the foregoing is true and correct.

Executed on February 4th, 2022. *John Miller*
Applicant's Signature

The applicant must provide the required information or signature irrespective of whether they are the landowner. Failure to complete this portion of the application will cause it to be unacceptable for filing and the application will be returned to the applicant.

7. The proposed project for diversion of water will consist of One 600' long horizontal well and diversion works
(number of wells, pumps or dams, etc.)
and Will be completed (by) Spring 2022
(Month/Day/Year - each was or will be completed)

8. The first actual application of water for the proposed beneficial use was or is estimated to be 2022
(Mo/Day/Year)

WATER RESOURCES
RECEIVED

FEB 07 2022

13. Furnish the following well information if the proposed appropriation is for the use of groundwater. If the well has not been completed, give information obtained from test holes, if available.

Information below is from: Test holes Well as completed Drillers log attached

Well location as shown in paragraph No.	(A)	(B)	(C)	(D)
Date Drilled	12/22/2022	_____	_____	_____
Total depth of well	35'	_____	_____	_____
Depth to water bearing formation	26'	_____	_____	_____
Depth to static water level	7'6"	_____	_____	_____
Depth to bottom of pump intake pipe	N/A	_____	_____	_____

14. The relationship of the applicant to the proposed place where the water will be used is that of Owner
(owner, tenant, agent or otherwise)

15. The owner(s) of the property where the water is used, if other than the applicant, is (please print):

Applicant
(name, address and telephone number)

(name, address and telephone number)

16. The undersigned states that the information set forth above is true to the best of his/her knowledge and that this application is submitted in good faith.

Dated at Union City, OK, ~~Kansas~~, this 3rd day of February, 2022.
(month) (year)


(Applicant Signature)

By Managing Member 4D Zeus LLC
(Agent or Officer Signature)

Dale Miller
(Agent or Officer - Please Print)

Assisted by EKF SFFO/ESII Date: 2/2/2022
(office/title)

WATER RESOURCES
RECEIVED
FEB 07 2022
KS DEPT OF AGRICULTURE

FEE SCHEDULE

1. The fee for an application for a permit to appropriate water for beneficial use, except for domestic use, shall be (see paragraph No. 2 below if requesting storage):

ACRE-FEET	FEE
0-100	\$200.00
101-320	\$300.00
More than 320	\$300.00 plus \$20.00 for each additional 100 acre-feet or any part thereof.

2. The fee for an application in which storage is requested, except for domestic use, shall be:

ACRE-FEET	FEE
0-250	\$200.00
More than 250	\$200.00 plus \$20.00 for each additional 250 acre-feet of storage or any part thereof.

Note: If an application requests both direct use *and* storage, the fee charged shall be as determined under No. 1 or No. 2 above, whichever is greater, but not both fees.

3. The fee for an application for a permit to appropriate water for water power or dewatering purposes shall be \$100.00 plus \$200.00 for each 100 cubic feet per second, or part thereof, of the diversion rate requested.

Note: The applicant shall notify the Chief Engineer and pay the statutorily required field inspection fee of \$400.00 when construction of the works for diversion has been completed, except that for applications filed on or after July 1, 2009, for works constructed for sediment control use and for evaporation from a groundwater pit for industrial use shall be accompanied by a field inspection fee of \$200.00.

MAKE CHECKS PAYABLE TO THE KANSAS DEPARTMENT OF AGRICULTURE

ATTENTION

A Water Conservation Plan may be required per K.S.A. 82a-733. A statement that your application for permit to appropriate water may be subject to the minimum desirable streamflow requirements per K.S.A. 82a-703a, b, and c may also be required from you. After the Division of Water Resources has had the opportunity to review your application, you will be notified whether or not you will need to submit a Water Conservation Plan. You also may be required to install a water flow meter or water stage measuring device on your diversion works prior to diverting water. There may be other special conditions or Groundwater Management District regulations that you will need to comply with if this application is approved.

CONVERSION FACTORS

1 acre-foot equals 325,851 gallons

1 million gallons equal 3.07 acre-feet

WATER RESOURCES
RECEIVED

FEB 07 2022

KS DEPT OF AGRICULTURE

IRRIGATION USE SUPPLEMENTAL SHEET

File No. _____

Name of Applicant (Please Print): 4D Zeus LLC, Dale Miller

1. Please supply the name and address of each landowner, the legal description of the lands to be irrigated, and designate the actual number of acres to be irrigated in each forty acre tract or fractional portion thereof:

Landowner of Record NAME: 4D Zeus LLC

ADDRESS: Dale Miller, 9000 Choctaw St, Union City OK 73090-6644

S	T	R	NE ¹ / ₄				NW ¹ / ₄				SW ¹ / ₄				SE ¹ / ₄				TOTAL	
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE		
21	34S	11W	20.5	1	0.5	22.5													44.5	
22	34S	11W					9.5	27	39	13									88.5	
																			Total	133

Landowner of Record NAME: _____

ADDRESS: _____

S	T	R	NE ¹ / ₄				NW ¹ / ₄				SW ¹ / ₄				SE ¹ / ₄				TOTAL	
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE		

Landowner of Record NAME: _____

ADDRESS: _____

S	T	R	NE ¹ / ₄				NW ¹ / ₄				SW ¹ / ₄				SE ¹ / ₄				TOTAL	
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE		

2. Please complete the following information for the description of the operation for the irrigation project. Attach supplemental sheets as needed.

a. Indicate the soils in the field(s) and their intake rates:

Soil Name	Percent of field (%)	Intake Rate (in/hr)	Irrigation Design Group
<u>Clairemont Silt Loam</u>	<u>~50</u>	<u> </u>	<u> </u>
<u>Yahola Sandy Loam</u>	<u>~45</u>	<u> </u>	<u> </u>
<u>Mangum Clay</u>	<u>~5</u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
Total:	100 %		

b. Estimate the average land slope in the field(s): 0-1 %

Estimate the maximum land slope in the field(s): 1 %

c. Type of irrigation system you propose to use (check one):

Center pivot Center pivot - LEPA "Big gun" sprinkler
 Gravity system (furrows) Gravity system (borders) Sideroll sprinkler

Other, please describe: _____

d. System design features:

i. Describe how you will control tailwater:

ii. For sprinkler systems:

(1) Estimate the operating pressure at the distribution system: 35 psi

(2) What is the sprinkler package design rate? 650 gpm

(3) What is the wetted diameter (twice the distance the sprinkler throws water) of a sprinkler on the outer 100 feet of the system? 176.2 feet

(4) Please include a copy of the sprinkler package design information.

e. Crop(s) you intend to irrigate. Please note any planned crop rotations:

Alfalfa, corn, soybeans, oats, sesame, sorghum and wheat. Crop rotation schedule to be determined at a later date.

f. Please describe how you will determine when to irrigate and how much water to apply (particularly important if you do not plan a full irrigation).

We plan to implement soil moisture content testing plan and water based on those results.

You may attach any additional information you believe will assist in informing the Division of the need for your request.

WATER RESOURCES
 RECEIVED
 Page 2 of 2

FEB 07 2022

KS DEPT OF AGRICULTURE

2/4/2022

(Date)

Kansas Department of Agriculture
Division of Water Resources
Earl D. Lewis, Jr, Chief Engineer
1320 Research Park Drive
Manhattan, Kansas 66502

Re: Application
File No. _____

Minimum Desirable Streamflow

Dear Sir:

I understand that a Minimum Desirable Streamflow requirement has been established by the legislature for the source of supply to which the above referenced application applies.

I understand that diversion of water pursuant to this application will be subject to regulation any time Minimum Desirable Streamflow requirements are not being met.

I also understand that if this application is approved, there could be times, as determined by the Division of Water Resources, when I would not be allowed to divert water. I realize that this could affect the economics of my decision to appropriate water.

I am aware of the above factors, and with the knowledge thereof, request that the Division of Water Resources proceed with processing and approval, if possible, of the above referenced application.

Dale Miller

Signature of Applicant

Dale Miller

(Print Applicant's Name)

State of ~~Kansas~~ Oklahoma)
County of Canadian) ss

I hereby certify that the foregoing instrument was signed in my presence and sworn to before me this 4th day of February, 2022.

Lisa M. Stewart

Notary Public

My Commission Expires:



WATER RESOURCES
RECEIVED

FEB 07 2022

**MINIMUM DESIRABLE STREAMFLOW FORM TO BE USED WHEN
APPLICABLE WHEN FILING AN APPLICATION FOR PERMIT
TO APPROPRIATE WATER FOR BENEFICIAL USE**

The Kansas Legislature has established minimum desirable streamflows for the streams listed below. If your proposed diversion of water is going to be from one of these watercourses or adjacent alluvial aquifers, please complete the back side of this page and submit it along with your application for permit to appropriate water.

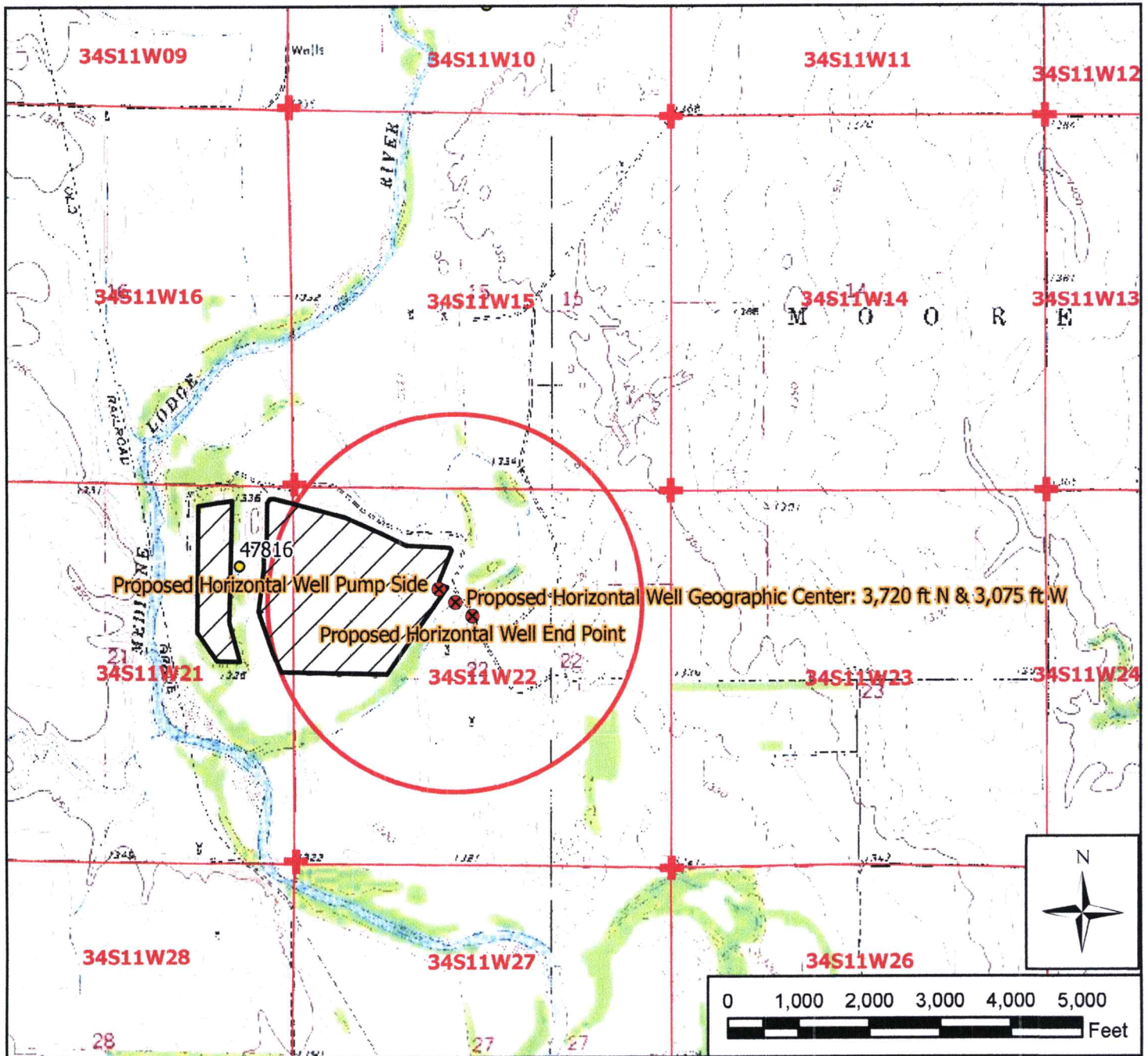
Arkansas River
Big Blue River
Chapman Creek
Chikaskia River
Cottonwood River
Delaware River
Little Arkansas River
Little Blue River
Marais des Cygnes River
Medicine Lodge River
Mill Creek (Wabaunsee Co. area)
Neosho River

Ninnescah River
North Fork Ninnescah River
Rattlesnake Creek
Republican River
Saline River
Smoky Hill River
Solomon River
South Fork Ninnescah
Spring River
Walnut River
Whitewater River

WATER RESOURCES
RECEIVED

FEB 07 2022

KS DEPT OF AGRICULTURE



Legend

- Water Appropriation
- ⊗ Proposed Point of Diversion
- ★ Domestic Well
- ⊕ Section Corner
- - - Section Line
- ▨ Proposed Place of Use

New Application, File No. _____

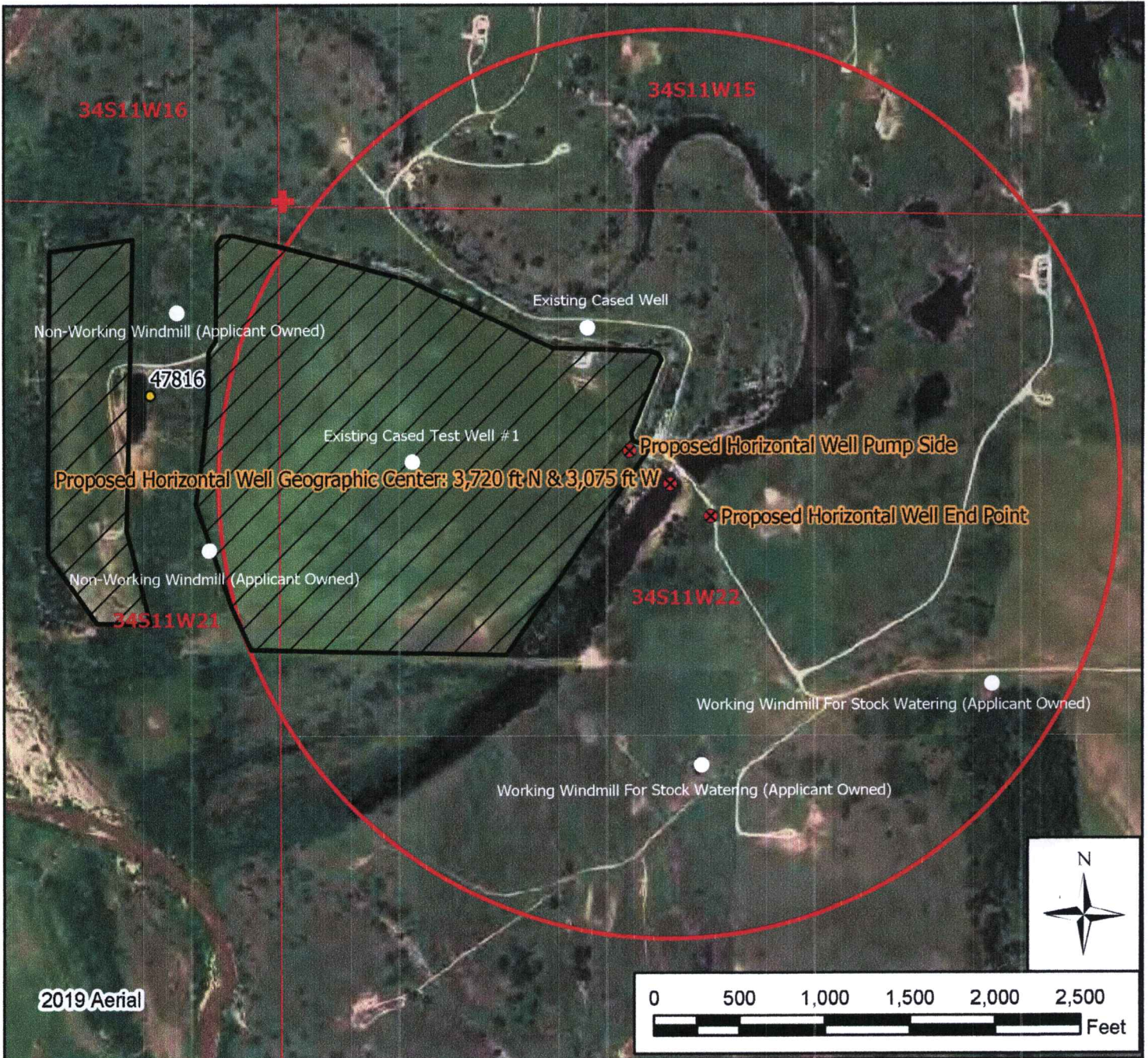
**Permit to Proceed Application Map
21 & 22-34S-11W // Barber County**

To the best of my knowledge, all wells within one-half mile of the proposed point of diversion have been shown.

[Signature] *[Date]* **2-4-22**
 Signature / Date 2/2/2022 EKF/SFFO 1:24,000 scale

WATER RESOURCES RECEIVED
 FEB 07 2022

KS DEPT OF AGRICULTURE



Legend

- Water Appropriation
- ⊗ Proposed Point of Diversion
- ★ Domestic Well
- ⊕ Section Corner
- Section Line
- ▨ Proposed Place of Use

New Application, File No. _____

**Permit to Proceed Application Zoomed Map
21 & 22-34S-11W // Barber County**

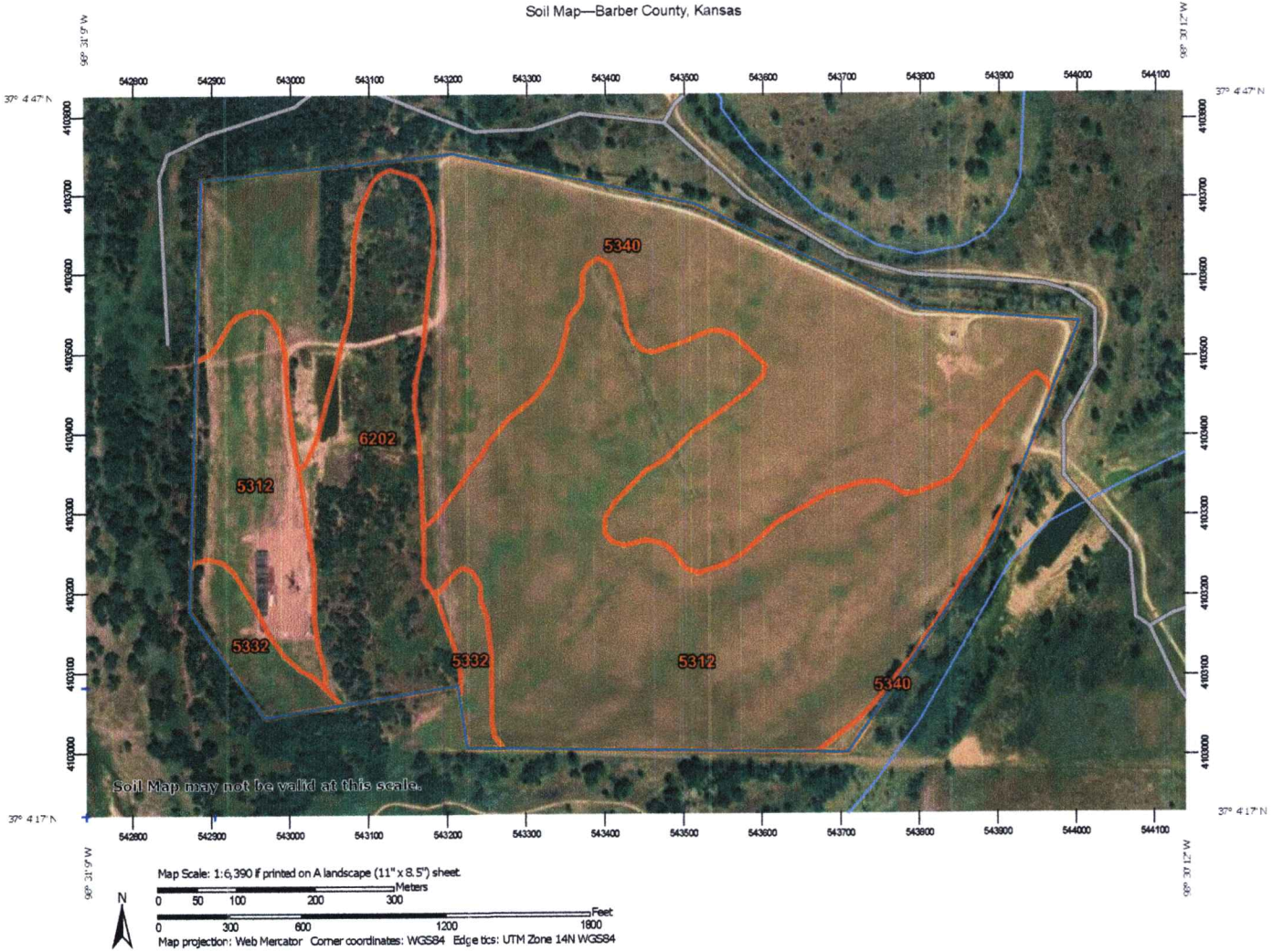
To the best of my knowledge, all wells within one-half mile of the proposed point of diversion have been shown.

WATER RESOURCES RECEIVED
FEB 07 2022

[Signature]
Signature / Date














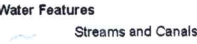

























2-4-22
KS DEPT OF AGRICULTURE
2/2/2022 EKF/SFFO 1:10,000 scale

Soil Map—Barber County, Kansas



WATER RESOURCES RECEIVED
FEB 07 2022
KS DEPT OF AGRICULTURE

Soil Map—Barber County, Kansas

MAP LEGEND		MAP INFORMATION	
	Area of Interest (AOI)		Spoil Area
	Soil Map Unit Polygons		Stony Spot
	Soil Map Unit Lines		Very Stony Spot
	Soil Map Unit Points		Wet Spot
	Blowout		Other
	Borrow Pit		Special Line Features
	Clay Spot		Water Features
	Closed Depression		Streams and Canals
	Gravel Pit		Transportation
	Gravelly Spot		Rails
	Landfill		Interstate Highways
	Lava Flow		US Routes
	Marsh or swamp		Major Roads
	Mine or Quarry		Local Roads
	Miscellaneous Water		Background
	Perennial Water		Aerial Photography
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Barber County, Kansas
 Survey Area Data: Version 17, Sep 13, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 16, 2014—Oct 23, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

WATER RESOURCES RECEIVED

FEB 07 2022

KS DEPT OF AGRICULTURE

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
5312	Clairemont silt loam, 0 to 1 percent slopes, occasionally flooded, cool	70.3	43.2%
5332	Mangum clay, 0 to 1 percent slopes, occasionally flooded	6.3	3.9%
5340	Yahola sandy loam, occasionally flooded	65.6	40.3%
6202	Goodnight fine sand, 1 to 30 percent slopes	20.6	12.6%
Totals for Area of Interest		162.8	100.0%

WATER RESOURCES
RECEIVED

FEB 07 2022

KS DEPT OF AGRICULTURE
2/2/2022



Parent Order No.

Dealer **KNUTSON IRRIGATION DESIGN**

Sprinkler Order No **Dominion Farms Prr 6000 spk**

Customer

Field Name

Valley Standard Pivot PRR 6000 Percent Timer Data

Setup Information - Valley Computer Control Panel Water Application Constants: Minimum Application = 0.195 (in) Hours Per Revolution = 24.8

Based on Inches			Based on % Timer		
Inches Per 360 Degrees	Pivot % Timer	Hours Per 360 Degrees	Pivot % Timer	Inches Per 360 Degrees	Hours Per 360 Degrees
0.195	100.0	24.8	100.0	0.195	24.8
0.20	97.3	25.5	90.0	0.22	27.6
0.30	64.8	38.3	80.0	0.24	31.0
0.40	48.6	51.0	70.0	0.28	35.4
0.50	38.9	63.8	60.0	0.32	41.3
0.60	32.4	76.8	50.0	0.39	49.6
0.70	27.8	89.2	45.0	0.43	55.1
0.80	24.3	102.1	40.0	0.49	62.0
0.90	21.6	114.8	35.0	0.56	70.9
1.00	19.5	127.2	30.0	0.65	82.7
1.25	15.6	159.0	25.0	0.78	99.2
1.50	13.0	190.8	20.0	0.97	124.0
1.75	11.1	223.4	17.5	1.11	141.7
2.00	9.7	255.7	15.0	1.30	165.3
2.50	7.8	317.9	12.5	1.56	196.4
3.00	6.5	381.9	10.0	1.95	248.0
3.50	5.6	442.9	7.5	2.59	330.7
			5.0	3.89	496.0

Field Area	Flow	Pressure	LRDU Drive Train
183.1 Acres Total	650 (GPM)	35 (PSI) Pivot Pressure	30 RPM Center Drive @ 60 Hr. Clock
163.4 (Ac) Pivot 360°	3.55 (GPM per Acre)	Calculated Pressure	11 x 24.5 Recap Time
19.7 Ac SP on 100s	0.19 (in per Day) App Rate	35 (PSI) Highest Elevation	52:1 Wheel GB Ratio, LRDU Inst 1497.3ft.
1505.3 (ft) Machine Length	0.195 (in) App Depth @ 100s	15 (PSI) Lowest Elevation	24.8 Hrs/360 @ 100s (6.33) (FT/Min)
688.1 (ft) End Gun Radius	70.2 (GPM) End Gun		

Disclaimer:
 The information presented in the attached Percent Timer report is based on variables which cannot be totally controlled by Valmont including, but not limited to: pivot pressure, inside pipeline surface, and gun chain, and gun arc setting, tire slippage, tire pressure, field slopes, soil variations, sprinkler package installation, soil capacity, motor drive motor voltage, center drive motor frequency, climate conditions and other elements and circumstances beyond Valmont's reasonable control. Valmont recommends monitoring the machine for at least one pass through field to obtain an accurate rotation time.

Percent Timer - 07/02/2014

WATER RESOURCES RECEIVED

FEB 07 2022

KS DEPT OF AGRICULTURE

Rosencrantz-Bemis Drilling Co.
 A Division of Rosencrantz-Bemis Ent. Inc.
 P.O. Box 713
 Great Bend, KS 67530
 620-793-5512
 r-bwater@hotmail.com

Invoice

Date	Invoice #
4/15/2021	53585

Bill To	Location
Dale Miller 9000 Choctaw St. Union City, OK 73090	NW 1/4 22-34-11 SE 1/4 22-34-11

Date	Qty	Description	Amount
12/22/2020		Drilled (1) Test Well	
	60	Drilled Test Well (drill 35 ft. - 60 ft. min)	630.00
	35	PVC Casing 5" 160#	142.10T
	1	PVC cap 5"	12.75T
	3	Hole Plug Small Bag	31.50T
	4	Supervisor labor	340.00
	101	Pickup Truck Mileage	151.50
		SE 1/4 22-34-11	
		Drilled (2) Test Wells	
	60	Drilled #1 Test Well - (drill 35 ft. -60 ft min.)	630.00
	35	PVC Casing 5" 160#	142.10T
	1	PVC cap 5"	12.75T
	60	Drilled # 2 Test Well (drill 10 ft. - 60 ft. min) Plugged	630.00
	3	Hole Plug Small Bag	31.50T
	101	Drill Rig Mileage Charge	505.00
12/23/2020	7	Labor - Flow test wells	980.00
		#1 Test NW 1/4 - 112 GPM w/ 19 ft. 7" DD 47,816 Test at Center of Pivot	
		Existing well 115 GPM w/19 ft. DD Existing Water Well Drilled for N-10 / North-East Side of 47,816 Pivot	
		# 1 Test SE 1/4 115 GPM w/ 16 ft. DD Deer Blind - New East Pivot Application	
	101	Service Truck Mileage Charge	252.50
	5	Hole Plug Small Bag	52.50T
	3	Water Sample	144.00
	1	Postage	8.70
	4	Supervisor labor	340.00

Subtotal	
Sales Tax (7.5%)	Kiowa - NCE
Total	

WATER RESOURCES RECEIVED

FEB 07 2022



1000 Corey Road
 P.O. Box 886
 Hutchinson, KS 67504-0886
 620-665-5661
 FAX: 620-665-0559
 TOLL FREE: 877-464-0623
 www.sdklabs.com

Sample # 5342.20
 Sample: Water
 Other ID: Well Sampled by Luis Luna D.Miller NW 22-34-11 Test 1

Date Received: 12/30/2020
 Date/Time Sampled: 12/26/2020 7:10:00
 Date Reported: 01/06/2021
 Total Fee: \$48.00

ROSENCRANTZ-BEMIS DRILLING
 1105 281 BYPASS
 P.O. BOX 713
 GREAT BEND, KS 67530

ANALYSIS

	Result	Units	Date/Time Analyzed	Analyst
--pH - SM 4500-H+ B	7.50	s. u.	12/29/2020 14:53	NB
--Chloride - SM 4500-Cl B	135.00	mg/L	12/31/2020 13:30	SE
--Total Hardness - SM 2340B	563	mg/L		
--Nitrate-Nitrogen - SM 4500-NO3 D	Less than 1.0		12/29/2020 15:00	SE
--Calcium - SM 3111B	164.00	mg/L	1/6/2021 10:15	JC
--Magnesium - SM 3111B	37.20	mg/L	1/6/2021 10:15	JC
--Sodium - SM 3111B	110.00	mg/L	1/6/2021 10:15	JC
--Sulfate - SM 4500 SO4 E	425.00	mg/L	12/30/2020 07:10	SE
% Sodium	35.30	%		
SAR-Sodium Absorption Ratio	2.012	s. u.		
--Electrical Conductivity - SM 2510B	1550	umhos/cm	12/29/2020 16:00	SE
TDS-Total Dissolved Solids - Calculated	1099	mg/L		
Irrigation Quality Rating	AS FOLLOWS			
Light Soil -Salinity Hazard	Medium			
Light Soil - Sodium Hazard	Low			
Medium Soil -Salinity Hazard	Medium			
Medium Soil -Sodium Hazard	Medium			
Heavy Soil -Salinity Hazard	Medium			
Heavy Soil -Sodium Hazard	Medium			
General Comment:	Good to Permissible			

**Sample receipt temperature = 14.8 degrees C.

**Sample beyond hold time for pH.

* Denotes analysis was subcontracted to another laboratory for state compliance - see attached.

Methods of analysis per EPA-800 or EPA 8W-846, 3rd Ed., 1986 or Standard Methods for the Examination of Water and Wastewater, 19th Edition, 1992.

--Denotes NELAP/KDHE Accredited Method. Lab Certificate #E-10152. Results meet all requirements of NELAC unless noted.

Approved By:

Matt Hogan
 Quality Assurance Officer

Copies

The results reported pertain only to the samples as received by the laboratory





1000 Corey Road
 P.O. Box 886
 Hutchinson, KS 67504-0886
 620-665-5661
 FAX: 620-665-0559
 TOLL FREE: 877-464-0623
 www.sdklabs.com

Existing Water Well
 Drilled for N-10 /
 North-East Side of
 47,816 Pivot

Page 1 of 1

Sample # 5344.20
 Sample: Water
 Other ID: Well Sampled by Luis Luna D.Miller NW 22-34-11 Existing

Date Received: 12/30/2020
 Date/Time Sampled: 12/28/2020 7:00:00
 Date Reported: 01/06/2021
 Total Fee: \$48.00

ROSECRANTZ-BEMIS DRILLING
 1105 281 BYPASS
 P.O. BOX 713
 GREAT BEND, KS 67530

ANALYSIS

Result	Units	Date/Time Analyzed	Analyst
++pH - SM 4500-H+ B	7.45	s. u.	12/29/2020 14:50 NB
++Chloride - SM 4500-Cl B	200.00	mg/L	12/31/2020 13:30 SE
++Total Hardness - SM 2340B	472	mg/L	
++Nitrate-Nitrogen - SM 4500-NO3 D	Less than 1.0		12/29/2020 15:00 SE
++Calcium - SM 3111B	134.00	mg/L	1/6/2021 10:15 JC
++Magnesium - SM 3111B	33.30	mg/L	1/6/2021 10:15 JC
++Sodium - SM 3111B	108.00	mg/L	1/6/2021 10:15 JC
++Sulfate - SM 4500 SO4 E	100.00	mg/L	12/30/2020 07:10 SE
% Sodium	39.20	%	
SAR-Sodium Absorption Ratio	2.157	s. u.	
++Electrical Conductivity - SM 2510B	1440	umhos/cm	12/29/2020 16:00 SE
TDS-Total Dissolved Solids - Calculated	1021	mg/L	
Irrigation Quality Rating	AS FOLLOWS		
Light Soil -Salinity Hazard	Medium		
Light Soil -Sodium Hazard	Low		
Medium Soil -Salinity Hazard	Medium		
Medium Soil -Sodium Hazard	Medium		
Heavy Soil -Salinity Hazard	Medium		
Heavy Soil -Sodium Hazard	High		
General Comment:	Good to Permissible		

***Sample receipt temperature = 14.8 degrees C.
 ***Sample beyond hold time for pH.

* Denotes analysis was subcontracted to another laboratory for state compliance - see attached.
 Methods of analysis per EPA-800 or EPA SW-846, 3rd Ed., 1986 or Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992.
 ++Denotes NELAP/KDHE Accredited Method. Lab Certificate #E-10192. Results meet all requirements of NELAC unless noted.

Approved By:

Matt Hogan
 Quality Assurance Officer

Copies

The results reported pertain only to the samples as received by the laboratory

WATER RESOURCES
 RECEIVED

FEB 07 2022

KS DEPT. OF AGRICULTURE



STRENGTH
SIMPLICITY
DEPENDABILITY



WATER RESOURCES
RECEIVED

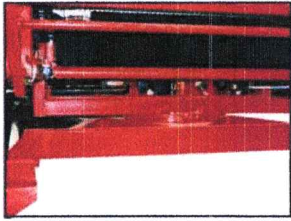
FEB 07 2022

KS DEPT OF AGRICULTURE

3750XL WIDE BODY ■ **4000S** WIDE BODY ■ **4500S** WIDE BODY

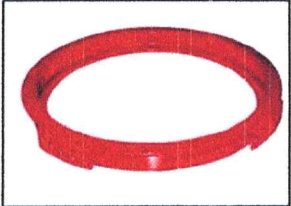
Cadman





RUGGED FRAME

The lower frame is constructed of heavy wall 3 x 6 inch tubing. The upper frame is constructed of mainly 3 x 5 inch tubing. The use of steel tubing gives all Cadman Travellers higher torsional strength than typical I-beam constructions.



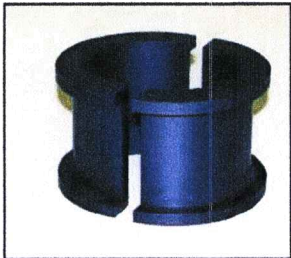
TURNTABLE

All Cadman Travellers are equipped with ball-bearing turntables. With multiple locking positions and a centrally located lock pin, positioning of the Traveller is made simple and easy.



HEAVY-DUTY DRUM

The one-piece drum core is made from 3/16" steel plate for continuous support. Cadman oversizes its core diameter to prevent stress on the hose, promoting longer life and easier wrapping of the hose. With reinforcing ribs and welded construction, the Cadman drum is, by far, the strongest in the industry.



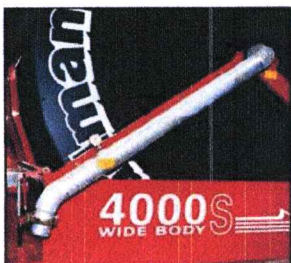
LONG-LASTING DRUM BEARINGS

The drum bearings are constructed of high strength lubricated nylon. Virtually maintenance free, these bearings will provide years of trouble-free service. The real advantage, however, is the ability to maintain oversized plumbing on the inlet side of the drum, giving you maximum efficiency. Competitors usually bottleneck the inlet so they can keep the cost of the ball bearing they use down.



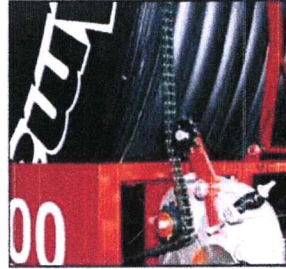
HIGH QUALITY HOSE

Cadman Travellers use only the best quality hose available. Our polyethylene hose is manufactured to ASTM and CSA standards for rough field use and long life.



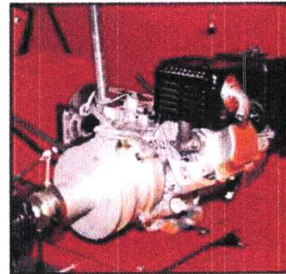
LARGE PLUMBING

Large 5" diameter plumbing is used on the reel to reduce pressure loss. Each elbow uses 2 pounds per square inch. The Cadman Traveller has far fewer elbows than used by others. We have no bottlenecks of smaller pipes and hoses. Our Traveller is not a pipefitter's nightmare! It is designed to utilize pressure to its fullest advantage in order to operate the reel easily and maintain an energy-efficient irrigation system.



POSITIVE TRACTION CHAIN DRIVE

All Cadman Travellers are driven by a single No. 80 chain, running over the large diameter of the drum on traction pins. This gives Cadman the advantage of maximum torque amplification vs. smaller laser-cut sprockets used by others. By putting less strain on the drive system, less power is needed to rotate the drum, therefore giving you maximum efficiency.



ENGINE DRIVE

The Cadman engine drive system loses "0" P.S.I. because it is self-contained and separate from the fluid irrigated, whereas pistons, bellows or turbines lose 5 to 20 P.S.I. This loss has to be overcome by a pump running harder. These other systems usually result in using less mainline or a smaller gun nozzle in order to keep the pump pressure within operating maximums.



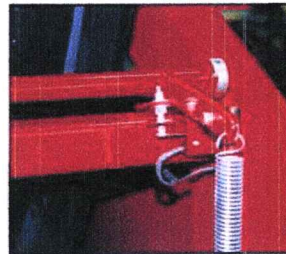
TRANSMISSION

A wide speed range is achieved in Cadman's engine drive system by using a combination of drive and driven variable speed pulleys and a clutch reduction transmission. Simply turn the knob to adjust the drive pulley to the desired speed and engage the transmission lever. There is no need to change gears to achieve a specific speed. As well, an alternate PTO wind-in is incorporated into the transmission. Very clean and easy to operate!



AUTO STOP

When the gun cart reaches the reel, a simple device activates two safety switches. If one switch fails, the second takes over, ensuring maximum safety for you and the machine.



HOSE BUILD-UP SAFETY

If the hose guide malfunctions for any reason, a safety switch is activated by the speed compensator to shut off the engine. This prevents the hose from miswrapping and crushing itself.

WATER RESOURCES RECEIVED

FEB 07 2022

KS DEPT OF AGRICULTURE



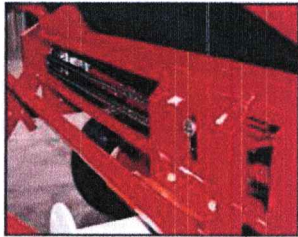
BRAKE

A disc brake ensures that proper tension is applied to the drum when unwinding the hose. This prevents recoil when the tractor comes to a stop at the end of the pull. When fully applied, the Traveller can then be moved safely from field to field without concern of recoil.

3750XL WIDE BODY

4000S WIDE BODY

4500S WIDE BODY



ACCURATE HOSE INDEXING
Cadman's hose guide system keeps the polyethylene hose in its place accurately and efficiently. With its rugged design, maintenance is kept to a minimum.



EASY-TO-READ SPEEDOMETER
All Cadman Travellers are equipped with an easy-to-read speedometer, displaying the hose retrieval rate.



HEAVY-DUTY CRANK DOWN STABILIZERS
As standard equipment, the Cadman 4000 Series Travellers come with crank down stabilizer legs. The easy-to-use telescopic jacks are built to Cadman's specifications for rigid, trouble-free operation. As an option, hydraulic stabilizers can be installed.



TANDEM AXLE/HIGH FLOATATION TIRES
The 3750XL and 4000S Wide Body Travellers come standard with tandem axles. The tandem axle feature provides excellent maneuverability and stability. When operating in adverse conditions, weight can be transferred to the back of the tractor by using an 11-hole drawbar, while maintaining the best floatation.



FEEDER HOSE
A standard 4" x 25' hose is supplied to connect the Traveller to your mainline. As with everything else, Cadman uses the best quality high pressure hose and clamps.

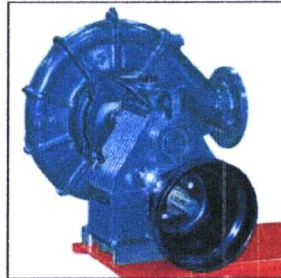


GUN AND CART
An appropriate sized quality gun is standard. Cadman offers a choice of three different carts for the 4000 Series Travellers. For low crops or manure application, a 28" clearance cart is available. For medium height crops we have a 46" clearance cart and for high crops a 62" clearance cart is available.

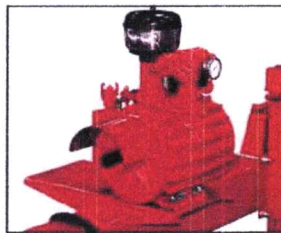
These rugged carts are made of steel tube construction. Based on three wheels (no skids), the carts have variable width adjustment to fit the plant rows. Riser extensions are also available as an option for orchard applications.



OPTIONAL CLOSE-IN SPRINKLER KIT
All Cadman Travellers are available with a sprinkler kit which allows irrigation of the area closest to the Traveller that might be missed by the primary gun on the cart.

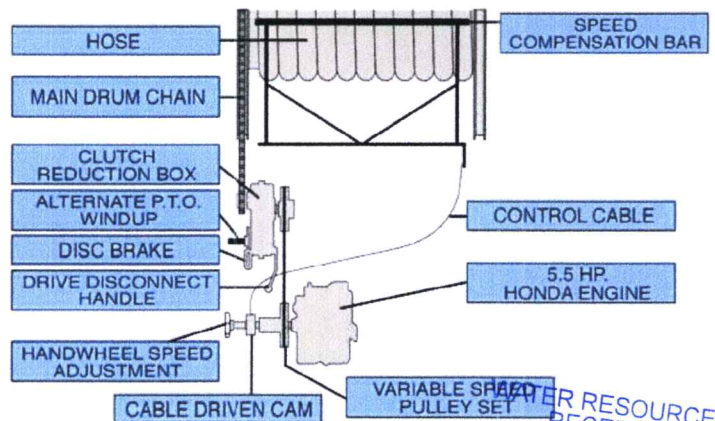


OPTIONAL BOOSTER PUMP
Cadman offers an appropriate-sized P.T.O. booster pump that is tongue-mounted for your convenience. This allows you to maintain a lower mainline pressure, yet still maximize the efficiency of the Traveller.



OPTIONAL AIR COMPRESSOR
Blowing the water out of the Traveller with air means up to 10,000 lbs less weight. This allows you to use smaller tractors to maneuver the machine and to pull out the polyethylene hose. Tongue-mounted for your convenience, the compressor can blow out a Traveller in less than five minutes.

TOP VIEW OF CADMAN MECHANICAL CAM DRIVE SPEED COMPENSATION



RESOURCES RECEIVED

FEB 07 2022

KS DEPT OF AGRICULTURE

HOSE SPEED COMPENSATION

The Cadman MECHANICAL CAM DRIVE HOSE SPEED COMPENSATION SYSTEM has simplified the task of very accurately compensating the hose retrieve speed for the increase in drum diameter as hose is rewound onto the drum. Here's how it works. A sensor bar, riding against the hose as it winds onto the drum, operates a cam on the variable speed drive pulley by way of a cable. As the cam rotates, the pulley pitch is adjusted just enough to accurately compensate for changes in hose speed over the entire retrieve cycle. The result is an even application from beginning to end!

3750XL WIDE BODY

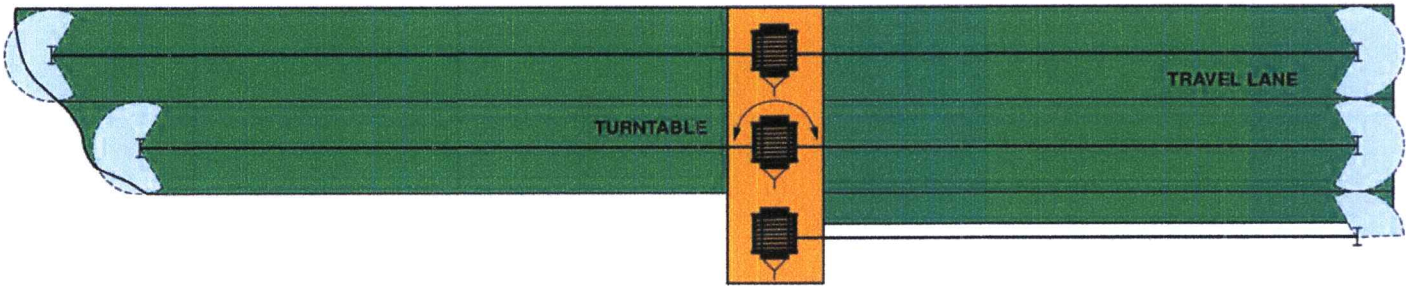
We purchased the 4000S

4000S WIDE BODY

4500S WIDE BODY

Model	Hose I.D.	Hose Length	Input P.S.I. At Traveller	Gun P.S.I.	Flow Rate G.P.M.	Lane Spacing	Acres Per Pull	Time to Apply 1 Inch /Acre	Time Per Pull
3750XL Wide Body	3.75"	1320'	130	90	321	316'	9.6	1.4 hr	13.6 hr
			150	80	362	295'	9.3	1.5 hr	12.3 hr
			150	90	400	317'	10.2	1.1 hr	11.1 hr
			150	80	384	343'	10.4	1.1 hr	10.9 hr
4000S Wide Body	4.09"	1250'	130	90	416	343'	9.8	1.1 hr	10.7 hr
			130	80	469	350'	10.0	1.0 hr	9.7 hr
			150	90	518	355'	10.2	.9 hr	8.9 hr
			150	80	562	362'	10.4	.8 hr	8.4 hr
4500S Wide Body	4.5"	1175'	130	90	555	366'	9.9	.8 hr	8.1 hr
			130	80	627	379'	10.0	.7 hr	7.2 hr
			150	90	691	376'	10.2	.7 hr	6.7 hr
			150	80	752	381'	10.3	.6 hr	6.2 hr

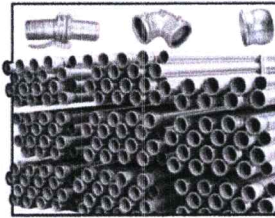
Performance is shown with appropriate Komet Twin Volume Gun. Lane spacing was obtained by taking 20% off of the published diameter of the gun. Performance data has been obtained under ideal test conditions and may be adversely affected by wind, trajectory of the gun or other factors. No representation regarding droplet condition, uniformity, or suitability for a particular application is made herein.



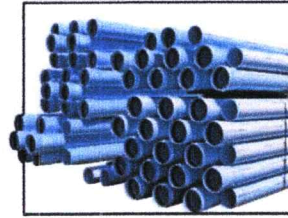
Power Units



Caprari Water Pumps



Aluminum Pipe and Fittings



PVC Pipe and Fittings



Manure Pumps

Cadman Power Equipment Limited, whose policy is one of continuous improvement, reserves the right to change specifications, design or prices without incurring obligation.

WATER RESOURCES RECEIVED

FEB 07 2022



Cadman Power Equipment's 40 years of leadership and experience in design and manufacturing stands behind every Cadman Traveller produced.

Cadman

POWER EQUIPMENT LIMITED

AGRICULTURAL MACHINERY AND IRRIGATION EQUIPMENT

Box 100, 38 Main St., Courtland, Ont., Canada

1-866-422-3626 Local: (519) 688-2222 Fax: (519) 688-2100

E-Mail: inquiries@cadmanpower.com www.cadmanpower.com





Stafford Field Office
300 S. Main Street
Stafford, KS 67578-1521

Mike Beam, Secretary

Phone: 620-234-5311
Fax: 620-234-6900
www.agriculture.ks.gov

Laura Kelly, Governor

February 2, 2022

WATER RESOURCES
RECEIVED

FEB 07 2022

KS DEPT OF AGRICULTURE

4D Zeus LLC
Dale Miller
9000 Choctaw St
Union City OK 73090-6644
millerexcavation@gmail.com

RE: Application Assistance—Change & New Application
File Nos. 47808 & 47816 and New Applications

Dear Mr. Miller,

You will find enclosed with this letter four (4) different applications or forms for the referenced file numbers, which are or are proposed to be in Sections 21-23, Township 34 South, Range 11 West, Barber County Kansas. Each document is outlined below along with what needs done to complete the form. The enclosed applications propose to accomplish the following:

- Close or dismiss File No. 47808
- Modify and expand the authorized acres under File No. 47816 in association with a new application that proposes a horizontal well
- Authorize a second horizontal well to the east of File No. 47816 that will provide water to a second center pivot system.

All forms and associated maps, if applicable, will need to be carefully reviewed and any corrections made as needed. Each document will need at least one signature from an authorized representative of the landowner, 4D Zeus LLC, and some signatures will need to be notarized. In addition, all of the maps will need to be reviewed in order to ensure all known domestic wells are shown. If any wells are added to the map, please provide the landowner's name and mailing address. The maps will also need to be signed.

1. File No. 47808: The Voluntary Dismissal of a Water Right or Permit & Waiver of Hearing form will close File No. 47808. A notarized signature from is required and there is no fee for this form.
2. File No. 47816: This application is a request to change the water appropriation to add a 23-acre strip of land west of the groundwater pit to the authorized place of use. In addition, the proposed change will create a complete place of use overlap with one of the proposed new applications referenced below. The change application is complete except for a notarized signature from an authorized representative of the water right owner on page 5. There is a \$200 fee for this application.

File No. 47808 & 47816 and
New Applications for Irrigation Use
February 2, 2022
Page 2

WATER RESOURCES
RECEIVED

FEB 07 2022

3. Application for Permit to Appropriate Water (West): This application is for a permit to proceed that proposes to authorize a horizontal well in the Northwest Quarter of Section 22-34S-11W. The place of use is proposed to overlap completely with File No. 47816. The application is complete except for item numbers 9 and 13 of the main application. The back page of the supplemental form will also need completed. A signature from the applicant is needed on item number 6 AND number 16. A notary is not required but be sure to sign both places. This application also requires an MDS acknowledgement form that has been included. A notarized signature is required on this form and there is a \$300 fee for this application.
4. Application for Permit to Appropriate Water (East): This application is for a permit to proceed that proposes to authorize a horizontal well in the Southeast Quarter of Section 22-34S-11W. The application is complete except for item numbers 9 and 13 of the main application. The back page of the supplemental form will also need completed. A signature from the applicant is needed on item number 6 AND number 16. A notary is not required but be sure to sign both places. This application also requires an MDS acknowledgement form that has been included. A notarized signature is required on this form and there is a \$300 fee for this application.

The total fee for filing the enclosed applications is \$800. Please include a check made payable to the Kansas Department of Agriculture for the total amount with the signed applications when they are submitted to Manhattan for processing. If I can be of any further assistance, or if there are any questions regarding the enclosed applications, please give me a call at 620.234.5311.

Sincerely,



Elizabeth K. Fitch
Environmental Scientist
elizabeth.fitch@ks.gov

Enclosures

Dale & Deah Miller

9000 Choctaw Street

Union City, OK 73090

Dale 405-206-3444

Deah 405-684-3101

dale@millerexcavationinc.com

WATER RESOURCES
RECEIVED

FEB 07 2022

KS DEPT OF AGRICULTURE

February 4, 2022

Ms. Elizabeth Fitch
KS Division of Water Resources
KS Dept of Agriculture
1320 Research Park Drive
Manhattan, KS 66502

Re: 47,816 – Change Form
47,808 – Voluntary Dismissal
West – New Application
East – New Application
East – Domestic Well Spacing Consent Form

Dear Ms. Fitch:

Per our discussions, attached please find the above referenced documents, and three checks for the required fees.

Thank you for all of your help with these changes. Please feel free to contact us if you have any questions or if you need any additional information.

Sincerely,



Dale Miller

1320 Research Park Drive
Manhattan, KS 66502
785-564-6700
www. agriculture.ks.gov



900 SW Jackson, Room 456
Topeka, KS 66612
785-296-3556

Mike Beam, Secretary

Laura Kelly, Governor

February 7, 2022

DALE MILLER
4D ZEUS LLC
9000 CHOCTAW ST
UNION CITY OK 73090

RE: Application, File No(s). **50717**

Dear Sir or Madam:

The Division of Water Resources (Division) has received your application(s) for a permit to appropriate water for beneficial use. Your application(s) has been assigned the file number(s) referenced above. Please be aware that the Division may have a large number of pending applications on hand at times and makes every attempt to process them in the order in which they are received. You will be contacted if additional information is required.

Please note, this letter only acknowledges receipt of your application(s) and does not guarantee approval. In accordance with the provisions of the Kansas Water Appropriation Act, the use of water as proposed prior to approval of the application(s) is unlawful.

Additional information about the process may be found on our website at agriculture.ks.gov/divisions-programs/dwr. If you have any other questions, please contact our office at 785-564-6640 or your local Stafford Field Office at 620-234-5311. *Stafford Field Office at 620-234-5311*. If you call, please reference the file number so we can help you more efficiently.

Sincerely,

A handwritten signature in black ink that reads "Kris Neuhauser". The signature is written in a cursive style.

Kris Neuhauser
New Applications Lead
Water Appropriation Program