

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.

OCT 23 2023

1324

KS DEPT OF AGRICULTURE

Submit To: CHIEF ENGINEER
Division of Water Resources
Kansas Department of Agriculture
1320 Research Park Drive
Manhattan, Kansas 66502
http://agriculture.ks.gov/dwr

**APPLICATION FOR APPROVAL TO
CHANGE THE PLACE OF USE, THE
POINT OF DIVERSION OR THE USE
MADE OF THE WATER UNDER AN
EXISTING WATER RIGHT**



State of Kansas

Filing Fee Must Accompany the Application
(Please refer to Fee Schedule on signature page of application form.)

Paragraph Nos. 1, 2, 3, 4 & 8 must be completed. Complete all other applicable portions. A topographic map or detailed plat showing the authorized and proposed points(s) of diversion and /or place of use must accompany this application.

1. Application is hereby made for approval of the Chief Engineer to change the

- Place of Use
- (Check one or more) Point of Diversion
- Use Made of Water

File No. MP 18

2. Name of applicant: CHS McPherson Refinery, Inc.

Address: 2000 S. Main Street

City, State and Zip: McPherson, KS 67460

Phone Number: (620) 241-2340 E-mail address: Andrew.Vogelsberg@chsinc.com

What is your relationship to the water right; owner tenant agent other? If other, please explain. _____

Name of water use correspondent: CHS McPherson Refinery, Inc.

Address: 2000 S. Main Street

City, State and Zip: McPherson, KS 67460

Phone Number: (620) 241-9295 E-mail address: Andrew.Vogelsberg@chsinc.com

3. The change(s) proposed herein are desired for the following reasons (please be specific): CHS Refinery needs to drill a new well and abandoned and plug an old well (Well #8). Well #8 (Current Standby well) will be moved to Well #13 Location and Well #8 will be plugged. Well #13 (Primary Well) will be moved to proposed new well location and called Well #15 (Primary Well). Well #9 (Primary Well) will be changed to a Standby Well. Changes are needed due to water quality issues at Well #8 and Well #9.

The change(s) (was) (will be) completed by ASAP

(Date)

For Office Use Only:															
F.O. Code	<u>2</u>	GMD	<u>2</u>	Meets K.A.R. 5-5-1	<input checked="" type="checkbox"/> YES / <input type="checkbox"/> NO	Use	<u>IND</u>	Source	<input checked="" type="checkbox"/> G / <input type="checkbox"/> S	County	<u>MP</u>	By	<u>ALB</u>	Date	<u>10/23/23</u>
Fee \$	<u>260</u>	TR #		Receipt Date	<u>10/23/23</u>	Check #	<u>248217</u>								

10/24/2023
LMoody

OCT 23 2023

File No. MP 18

KS DEPT OF AGRICULTURE

4. The presently authorized place of use is:

Owner of Land — NAME: CHS McPherson Refinery, Inc.

ADDRESS: 2000 S. Main Street, McPherson, KS 67460

Sec.	Twp.	Range	NE¼				NW¼				SW¼				SE¼				TOTAL ACRES
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	
5	20S	3W	Industrial Use at the CHS McPherson Refinery, Inc.																
5	20S	3W	Industrial Use for Asphalt batch plant																

List any other water rights that cover this place of use. _____

Owner of Land — NAME: _____

ADDRESS: _____

Sec.	Twp.	Range	NE¼				NW¼				SW¼				SE¼				TOTAL ACRES
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	

List any other water rights that cover this place of use. _____

(If there are more than two landowners, attach additional sheets as necessary.)

5. It is proposed that the place of use be changed to:

Owner of Land — NAME: NO CHANGE

ADDRESS: _____

Sec.	Twp.	Range	NE¼				NW¼				SW¼				SE¼				TOTAL ACRES
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	

List any other water rights that cover this place of use. _____

Owner of Land — NAME: _____

ADDRESS: _____

Sec.	Twp.	Range	NE¼				NW¼				SW¼				SE¼				TOTAL ACRES
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	

List any other water rights that cover this place of use. _____

IF MORE SPACE IS NEEDED, ATTACH ADDITIONAL SHEETS AS NECESSARY

6. The presently authorized point(s) of diversion (is) (are) 6 wells: #8 (Standby), #9, #12, #13, #14, Shears Well
(Provide description and number of points)

7. The proposed point(s) of diversion (is) (are) 6 Wells: #9 (Standby), #12, #13, #14, #15, Shears Well
(Provide description and number of points)

List all presently authorized point(s) of diversion:

8. **Presently authorized point of diversion: Well # 8 (Currently Standby Well)**

One in the _____ Quarter of the _____ Quarter of the Lot 2-N2-NE Quarter
of Section 5, Township 20 South, Range 3W (E/W),
in McPherson County, Kansas, 4100 feet North 100 feet West of Southeast corner of section.
Authorized Rate 4040 GPM Authorized Quantity 5873.85 AF (combined rate and quantity)
(DWR use only: Computer ID No. _____ GPS _____ feet North _____ feet West)
 This point will not be changed This point will be changed as follows:

Proposed point of diversion: Well # 13 (Primary Well)

One in the _____ Quarter of the _____ Quarter of the Lot 1 S2 NE Quarter
of Section 5, Township 20 South, Range 3W (E/W),
in McPherson County, Kansas, 3360 feet North 1873 feet West of Southeast corner of section.
Proposed Rate 4040 GPM Proposed Quantity 5873.85 AF (combined rate and quantity)
This point is: Additional Well Geo Center List other water rights that will use this point _____

9. **Presently authorized point of diversion: Well # 9 (Primary Well to be changed to Standby Well)**

One in the _____ Quarter of the _____ Quarter of the Lot 1-S2-NE Quarter
of Section 5, Township 20 South, Range 3W (E/W),
in McPherson County, Kansas, 2900 feet North 100 feet West of Southeast corner of section.
Authorized Rate 4040 GPM Authorized Quantity 5873.85 AF (combined rate and quantity)
(DWR use only: Computer ID No. _____ GPS _____ feet North _____ feet West)
 This point will not be changed This point will be changed as follows:

Proposed point of diversion: (Complete only if change is requested)

One in the _____ Quarter of the _____ Quarter of the _____ Quarter
of Section _____, Township _____ South, Range _____ (E/W),
in _____ County, Kansas, _____ feet North _____ feet West of Southeast corner of section.
Proposed Rate _____ Proposed Quantity _____
This point is: Additional Well Geo Center List other water rights that will use this point _____

10. **Presently authorized point of diversion: Well # 12 (Primary Well)**

One in the _____ Quarter of the _____ Quarter of the Lot 2-N2-NW Quarter
of Section 5, Township 20 South, Range 3W (E/W),
in McPherson County, Kansas, 4316 feet North 3326 feet West of Southeast corner of section.
Authorized Rate 4040 GPM Authorized Quantity 5873.85 AF (combined rate and quantity)
(DWR use only: Computer ID No. _____ GPS _____ feet North _____ feet West)
 This point will not be changed This point will be changed as follows:

Proposed point of diversion: (Complete only if change is requested)

One in the _____ Quarter of the _____ Quarter of the _____ Quarter
of Section _____, Township _____ South, Range _____ (E/W),
in _____ County, Kansas, _____ feet North _____ feet West of Southeast corner of section.
Proposed Rate _____ Proposed Quantity _____
This point is: Additional Well Geo Center List other water rights that will use this point _____

11. Describe the current condition of and future plans for any point(s) of diversion which will no longer be used. _____
Well # 8 will be properly plugged and abandoned.

IF MORE SPACE IS NEEDED, ATTACH ADDITIONAL SHEETS AS NECESSARY

APPLICATION FOR APPROVAL TO CHANGE
THE PLACE OF USE AND/OR POINT OF DIVERSION
SUPPLEMENTAL SHEET
FILE NO. MP 18

WATER RESOURCES
RECEIVED

OCT 23 2023

KS DEPT OF AGRICULTURE

Presently authorized point of diversion: Well # 13 (Primary Well)
One in the _____ Quarter of the _____ Quarter of the Lot 1-S/2-NE Quarter
of Section 5, Township 20 South, Range 3W (E/W),
in McPherson County, Kansas, 3360 feet North 1873 feet West of Southeast corner of section.
Authorized Rate 4040 GPM Authorized Quantity 5873.85 AF (combined rate and quantity) Depth of well ~165 (feet)
(DWR use only: Computer ID No. _____ GPS _____ feet North _____ feet West)
 This point will not be changed This point will be changed as follows: No change, point better described with GPS as follows:
Proposed point of diversion: Well # 15 (Proposed New Primary Well)
One in the NW Quarter of the SE Quarter of the NW Quarter
of Section 5, Township 20 South, Range 3W (E/W),
in McPherson County, Kansas, 3805 feet North 3949 feet West of Southeast corner of section.
Proposed Rate 4040 GPM Proposed Quantity 5873.85 AF (combined rate and quantity) Proposed well depth (feet) ~163.
This point is: Additional Well Geo Center List other water rights that will use this point _____.

Presently authorized point of diversion: Well #14 (Primary Well)
One in the NE Quarter of the NE Quarter of the SW Quarter
of Section 5, Township 20 South, Range 3W (E/W),
in McPherson County, Kansas, 2330 feet North 2730 feet West of Southeast corner of section.
Authorized Rate 4040 GPM Authorized Quantity 5873.85 AF (combined rate and quantity) Depth of well 180 (feet)
(DWR use only: Computer ID No. _____ GPS _____ feet North _____ feet West)
 This point will not be changed This point will be changed as follows: No change, point better described with GPS as follows:
Proposed point of diversion: (Complete only if change is requested or if existing point is better described by GPS)
One in the _____ Quarter of the _____ Quarter of the _____ Quarter
of Section _____, Township _____ South, Range _____ (E/W),
in _____ County, Kansas, _____ feet North _____ feet West of Southeast corner of section.
Proposed Rate 4040 GPM Proposed Quantity _____ Proposed well depth (feet) _____.
This point is: Additional Well Geo Center List other water rights that will use this point _____.

Presently authorized point of diversion: Shears Well (Primary Well)
One in the SE Quarter of the SE Quarter of the SW Quarter
of Section 5, Township 20 South, Range 3W (E/W),
in McPherson County, Kansas, 100 feet North 3200 feet West of Southeast corner of section.
Authorized Rate 4040 GPM Authorized Quantity 5873.85 AF (combined rate and quantity) Depth of well _____ (feet)
(DWR use only: Computer ID No. _____ GPS _____ feet North _____ feet West)
 This point will not be changed This point will be changed as follows: No change, point better described with GPS as follows:
Proposed point of diversion: (Complete only if change is requested or if existing point is better described by GPS)
One in the _____ Quarter of the _____ Quarter of the _____ Quarter
of Section _____, Township _____ South, Range _____ (E/W),
in _____ County, Kansas, _____ feet North _____ feet West of Southeast corner of section.
Proposed Rate _____ Proposed Quantity _____ Proposed well depth (feet) _____.
This point is: Additional Well Geo Center List other water rights that will use this point _____.

Presently authorized point of diversion:
One in the _____ Quarter of the _____ Quarter of the _____ Quarter
of Section _____, Township _____ South, Range _____ (E/W),
in _____ County, Kansas, _____ feet North _____ feet West of Southeast corner of section.
Authorized Rate _____ Authorized Quantity _____ Depth of well _____ (feet)
(DWR use only: Computer ID No. _____ GPS _____ feet North _____ feet West)
 This point will not be changed This point will be changed as follows: No change, point better described with GPS as follows:
Proposed point of diversion: (Complete only if change is requested or if existing point is better described by GPS)
One in the _____ Quarter of the _____ Quarter of the _____ Quarter
of Section _____, Township _____ South, Range _____ (E/W),
in _____ County, Kansas, _____ feet North _____ feet West of Southeast corner of section.
Proposed Rate _____ Proposed Quantity _____ Proposed well depth (feet) _____.
This point is: Additional Well Geo Center List other water rights that will use this point _____.

12. The presently authorized use of water is for Industrial purposes.

It is proposed that the use be changed to NO CHANGE purposes.

13. If changing the place of use and/or use made of water, describe how the consumptive use will not be increased.

N/A

WATER RESOURCES
RECEIVED

OCT 23 2023

KS DEPT OF AGRICULTURE

(Please show any calculations here.)

14. It is requested that the maximum annual quantity of water be reduced to NO CHANGE (acre-feet or million gallons).

15. It is requested that the maximum rate of diversion of water be reduced to NO CHANGE gallons per minute (____ c.f.s.).

16. The application must include either a topographic map or detailed plat. A U.S. Geological Survey Topographic Map, scale 1:24,000, is available through the Kansas Geological Survey, 1930 Constant Avenue, University of Kansas, Lawrence, Kansas 66047-3726 (www.usgs.gov). The map should show the location of the presently authorized point(s) of diversion. Distances North and West of the Southeast corner of the section must be shown. The presently authorized place of use should also be shown. Identify the center of the section, the section lines and the section corners and show the appropriate section, township, and range numbers on the map. In addition the following information must also be shown on the map.

a. If a change in the location of the point(s) of diversion is proposed, show:

- 1) The location of the proposed point(s) of diversion. Distances North and West of the Southeast corner of the section must be shown. Please be certain that the information shown on the map agrees with the information shown in Paragraph Nos. 9, 10 and 11 of the application.
- 2) If the source of supply is groundwater, please show the location of existing water wells of any kind, including domestic wells, within 1/2 mile of the proposed well or wells. Identify each well as to its use and furnish name and mailing address of the property owner or owners. If there are no wells within 1/2 mile, please indicate so on the map.
- 3) If the source of supply is surface water, the names and mailing addresses of all landowner(s) 1/2 mile downstream and 1/2 mile upstream from your property lines must be shown.

b. If a change in the place of use is desired, show the proposed place of use by crosshatching on the map. Please be certain that the information shown on the map agrees with the information shown in Paragraph No. 5 of the application.

17. Attach documentation to show the change(s) proposed herein will not impair existing water rights and relates to the same local source of supply as to which the water right relates. This information may include statements, plats, geology reports, well logs, test hole logs, and other information as necessary information to show the above. Additional comments may be made below.

Change relates to the same local source of supply – Equus Beds Aquifer. See Attached test well log information.

18. If the proposed change(s) does not meet all applicable rules and regulations of the Kansas Water Appropriation Act, please identify the rules and regulations for which you request a waiver. State the reason why a waiver is needed and why the request should be granted. Attach documentation showing that granting the request will not impair existing water rights and will not prejudicially and unreasonably affect the public interest.

Well #9 to be changed to a standby well does not comply with the Standby Well Definition K.A.R. 5-22-1(qq), as it is not within 300 feet of a primary well. New Well #15 location does not comply with the Well Spacing Reg. K.A.R. 5-22-2(a)(1), as it is located within 1,320 feet of Well #12. CHS will request exceptions to the GMD2 Board, as has been previously done.

IF MORE SPACE IS NEEDED, ATTACH ADDITIONAL SHEETS AS NECESSARY

Any use of water that is not as authorized by the water right or permit to authorize water before the chief engineer approves this application is a violation of the Kansas Water Appropriation Act for which criminal or civil penalties may be assessed. Such violation is a class C misdemeanor, punishable by a fine not to exceed \$500 and/or a term of confinement not to exceed one month in the county jail. K.S.A. 82a-728(b). Civil penalties shall be not less than \$100 nor more than \$1,000 per violation. In the case of a continuing violation, each day such violation continues may be deemed a separate violation. In addition to these penalties the water right may be modified or suspended. K.S.A. 82a-737, as amended.

The application must be signed by all owners of the place of use authorized under the water right and his or her spouse, if married. Please indicate if there is no spouse. If land is being purchased under contract, the seller must sign as landowner until such time as the contract is completed.

In the event that all applicants cannot appear before one notary public, they may as necessary sign separate copies of the application before any notary public conveniently available to them. All copies signed in this manner shall be considered to be valid parts of the application.

If the request is signed on behalf of any Owner by someone with legal authority to do so (for example, an agent, one who has power of attorney, or an executor, executrix, conservator), it will be necessary to attach proper documents showing such authority.

I declare that I am an owner of the currently authorized place of use as identified herein, or that I represent all such owners and am authorized to make this application on their behalf, and declare further that the statements contained herein are true, correct, and complete. By filing this application I authorize the chief engineer to permanently reduce the quantity of water and/or rate of diversion as specified in sections 14 and 15 of this application.

Dated at McPherson, Kansas, this 16th day of October, 2023.

Rhett Heftlin for CHS MRI

 (Owner)
Rhett Heftlin

 (Please Print)

 (Owner)

 (Please Print)

 (Owner)

 (Please Print)

 (Spouse)

 (Please Print)

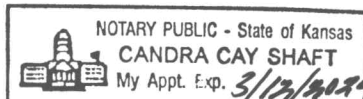
 (Spouse)

 (Please Print)

 (Spouse)

 (Please Print)

State of Kansas }
County of McPherson } SS



I hereby certify that the foregoing application was signed in my presence and sworn to before me this 16th day of October, 2023.

Candra Cay Shaft
Notary Public

My Commission Expires 3/13/2024

FEE SCHEDULE

Each application to change the place of use, the point of diversion or the use made of the water under this section shall be accompanied by the application fee set forth in the schedule below:

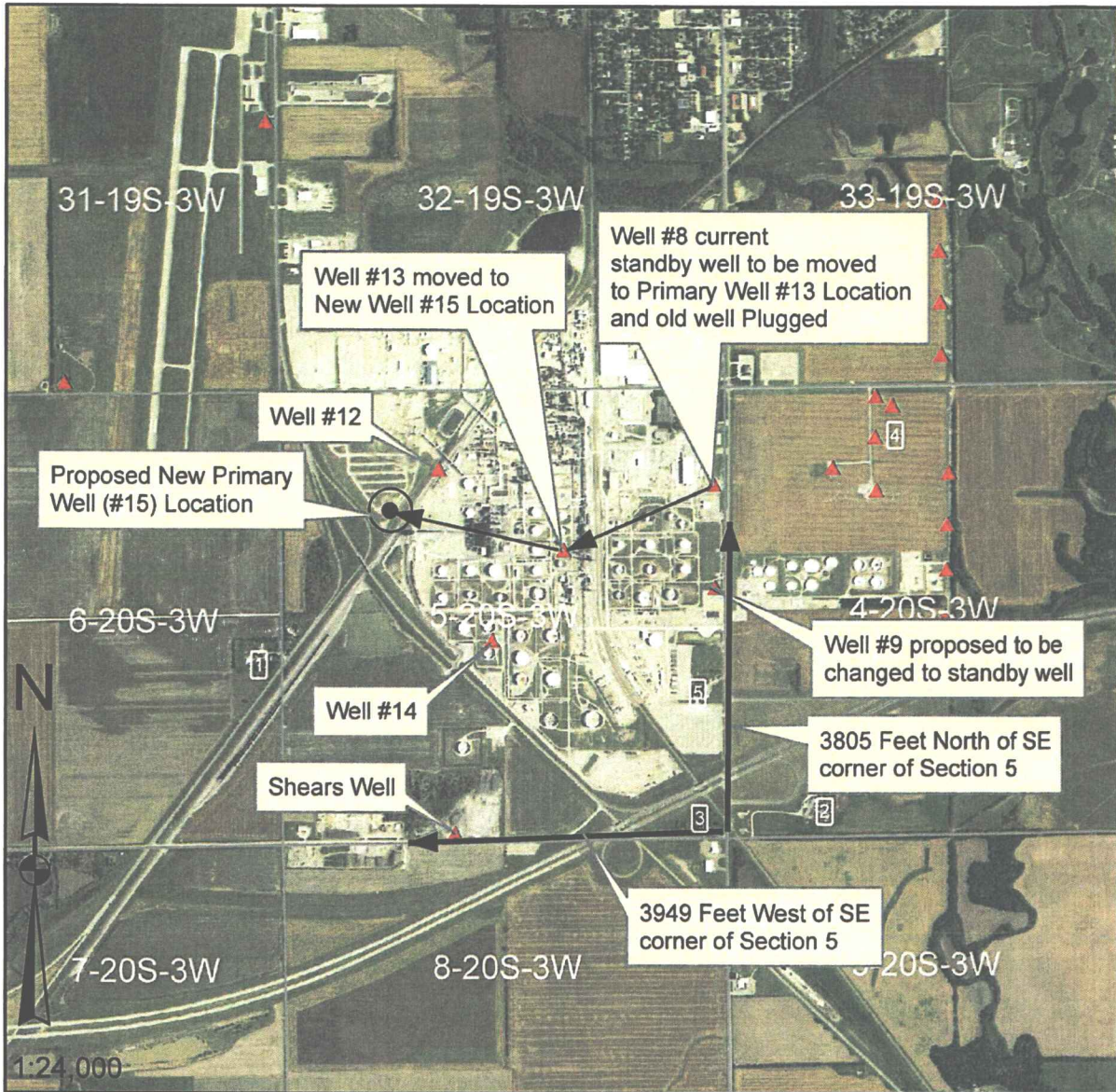
- (1) Application to change a point of diversion 300 feet or less \$100
- (2) Application to change a point of diversion more than 300 feet \$200
- (3) Application to change the place of use \$200
- (4) Application to change the use made of the water \$300

Make check payable to Kansas Department of Agriculture.

WATER RESOURCES RECEIVED

OCT 23 2023

Application Map - File No. MP 18-00



I declare that all water wells or diversion sites using the same source of supply and within 1/2 mile of the proposed point of diversion have been plotted on the application map.

[Signature]
Signature

10/16/23
Date

- New Application
- Application No. MP 18-00 To Change:

- Point of Diversion
- Place of Use
- Use Made of Water
- Proposed Point of Diversion
- Existing Points of Diversion
- Proposed Place of Use
- Authorized Place of Use

Water wells within 1/2 mile of proposed point of diversion include: (type use, owner, address)

1) See Attached sheet for details

WATER RESOURCES RECEIVED
OCT 23 2023
KS DEPT OF AGRICULTURE

Well owners within ½ mile

WATER RESOURCES
RECEIVED

OCT 23 2023

KS DEPT OF AGRICULTURE

- 1) Domestic Well
Mark D. Quastad
1143 13th Ave.
McPherson, KS 67460
- 2) Domestic Well
Derek & Katie Sawyer
929 11th Ave.
McPherson, KS 67460
- 3) Domestic Well
Jerry A. & Tonya R. Coy
1394 Frontier Rd.
McPherson, KS 67460
- 4) Applicant's Remediation Wells – Term Permit No. 20039082
CHS McPherson Refinery, Inc.
2000 S. Main St.
McPherson, KS 67460
- 5) Domestic Well
Radio Station Tower (KNGL)
P.O. Box 1069
McPherson, KS 67460

OCT 23 2023

KS DEPT OF AGRICULTURE

Equus Beds Groundwater Management District No. 2 Abandoned Well Plugging Agreement

I, CHS McPherson Refinery, Inc., the undersigned and owner of an abandoned water well understand that an abandoned water well is a groundwater contamination threat and a public health and safety hazard.

The abandoned water well is located Lot 2-N2-NE, Section 5, Township 20 South, Range 3W West, McPherson County which is approximately 4100 feet north and 100 feet west of the apparent Southeast section corner. Total well depth is 160 feet and the diameter of the well is 18 inches. Current depth to static water level in the well is 94 feet below land surface. The well was previously authorized by water permit no. MP 18.

I agree to properly plug the abandoned well pursuant to the Equus Beds Groundwater Management District rules and regulations K.A.R. 28-30-200 through K.A.R. 28-30-207 and the following agreement provisions:

1. Well plugging operations will be supervised by either (a) a water well contractor licensed with the Kansas Department of Health and Environment, (b) a profession engineer or geologist licensed to practice in the State of Kansas, or (c) the abandoned water well owner or land owner of the property on which the water well or borehole is located.
2. The above described well will be plugged: a) by _____, _____, or (b) within 30 days after the replacement point of diversion, approved by a change in point of diversion, becomes operational.
3. A completed WWC-5P form will be submitted to the Kansas Department of Health and Environment within 30 days after the abandoned well is plugged and a copy of the WWC-5P form will be furnished to the District within the same period of time.
4. The well owner or authorized agent will notify the District 48 hours before plugging operations occur.
5. Failure to comply with the provisions of this agreement shall constitute noncompliance of the groundwater management district rules and regulations K.A.R. 28-30-200 through K.A.R. 28-30-207.

Dated this 16th day of October, 2023 at 10:11 AM


Signature Ritt [Signature]

Address 2000 S. Main Street

City, State, Zip Code McPherson, KS 67460

Telephone 620-241-2340

State of Kansas	County of <u>McPherson</u>
Subscribed and affirmed to before me, this <u>16th</u> day of <u>October</u> , 20 <u>23</u> ,	
by <u>[Signature]</u>	
(Notary Public)	
My Commission Expires	<u>3-12-2024</u>

NOTARY PUBLIC - State of Kansas
 CANDRA CAY SHAFT
 My Appt. Exp. 3-12-24

WELL SCREEN FLOW CALCULATION

CHS McPherson, KS

Test Well 1-23

7/27/2023

WATER RESOURCES
RECEIVED

OCT 23 2023

KS DEPT OF AGRICULTURE

KNOWN PARAMETERS:

- | | |
|---|----------------------------|
| 1. Screen Diameter: | 16 inches |
| 2. Screen Length: | 35 feet |
| 3. Open Area of Alloy
0.060" Slot Wire Wrap Screen | 185.50 in ² /lf |
| 4. Maximum Allowable Entrance
Velocity of Water Entering
Well Screen: | 0.1 ft/sec |

ASSUMED PARAMETERS:

- | | |
|--|------|
| 1. Percent Blockage of Open
Area by Gravel Pack | 50 % |
|--|------|

STANDARD FLOW CALCULATION FORMULA: $Q = VA$

WHERE: Q = FLOW RATE PER FOOT OF SCREEN, GPM

Q_{MAX} = MAXIMUM TOTAL ALLOWABLE FLOW RATE, GPM

V = VELOCITY OF WATER ENTERING THE SCREEN, FT/SEC

A = OPEN AREA OF THE SCREEN, FT²

$$Q = VA$$

$$Q = [0.1 \text{ ft/sec}] [185.5 \text{ in}^2/\text{lf}] [0.5 \text{ for blockage}]$$

$$Q = [0.1 \text{ ft/sec}] [92.8 \text{ in}^2/\text{lf}]$$

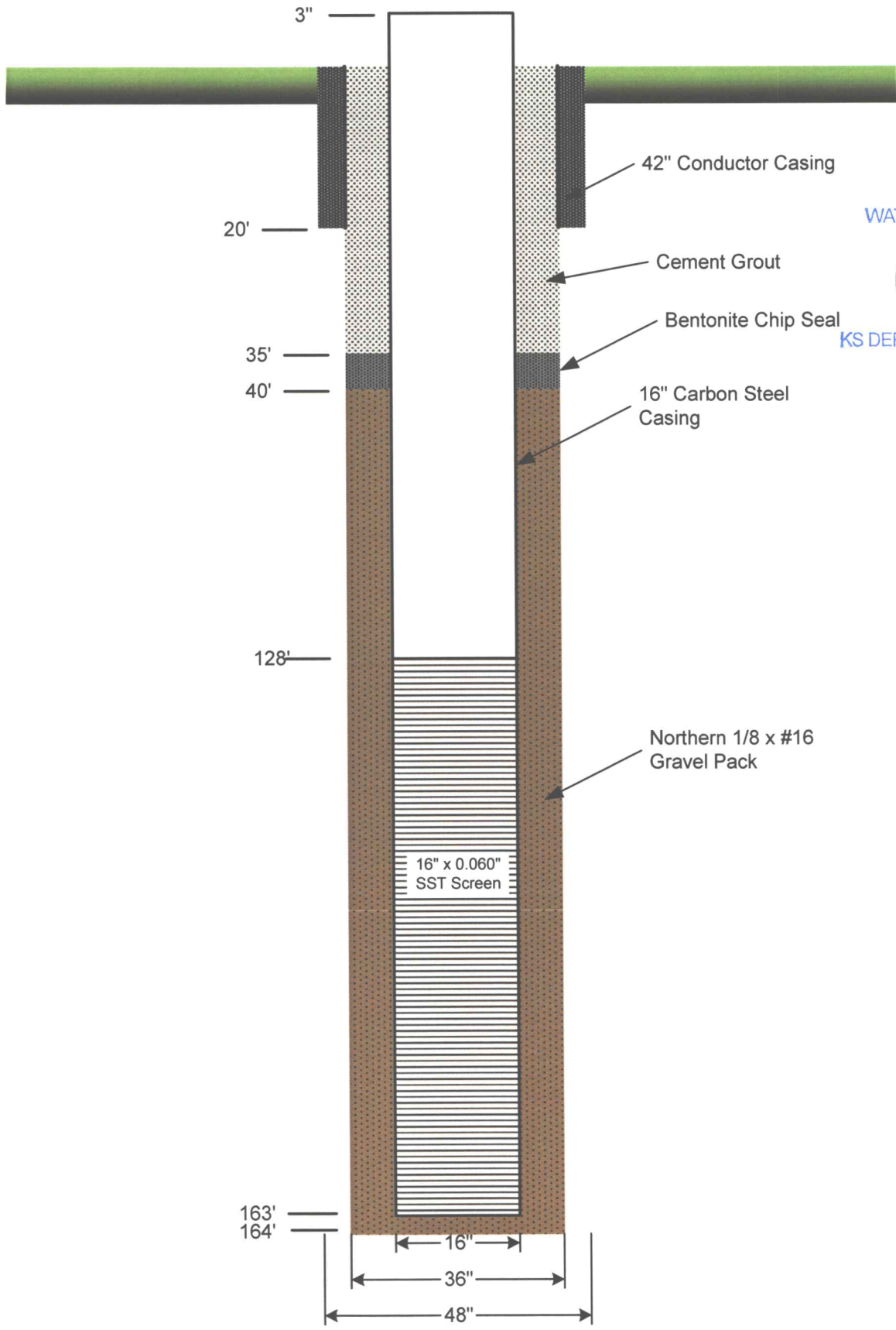
$$Q = [0.1 \text{ ft/sec}] [60 \text{ sec/min}] [92.8 \text{ in}^2/\text{lf}] [1 \text{ ft}^2 / 144 \text{ in}^2] [7.48 \text{ gal/ft}^3]$$

$$Q = 28.9 \text{ gpm/lf of screen}$$

$$Q_{MAX} = [28.9 \text{ gpm/lf of screen}] [35 \text{ lf of screen}]$$

$$Q_{MAX} = 1011.7 \text{ GPM}$$

CHS McPherson, KS
Proposed New Well 2023
08/23/2023



WATER RESOURCES
RECEIVED
OCT 23 2023
KS DEPT OF AGRICULTURE

Layne Christensen Company
 1011 West Harry Street
 Wichita, KS 67213
 (316) 264-5365

CONSTANT TEST REPORT



PROJECT: CHS McPherson KS
LOCATION: McPherson KS
WELL NO: T-15
WELL DIAMETER: inches I.D.
WELL DEPTH: feet - from top of casing
TOP OF SCREEN: feet - from top of casing
STATIC LEVEL: 96.28 feet

DATE TESTED: 8/2/2023
TESTED BY: G Sjogren
ORIFICE SIZE: WATER RESOURCES RECEIVED
COLUMN AND SHAFT:
BOWL SIZE & MAKE: OCT 23 2023
MANUFACTURER:
SERIAL NUMBER: KS DEPT OF AGRICULTURE

TIME	PIEZ. READ. (IN)	FLOW RATE (GPM)	AIRLINE READING (FEET)	WATER LEVEL (FEET)	DRAW DOWN (FEET)	DISCHARGE PRESSURE		SPEC. CAPACITY (GPM/FT)	SAND CONCENTRATION (MG/L) OR (PPM)
						(LBS.)	(FEET)		
9:30									
9:31		390		Sounder Stuck					
9:32		390		112.84	16.56			23.55	
9:33		390		113.14	16.86			23.13	
9:34		390		113.25	16.97			22.98	
9:35		390		113.32	17.04			22.89	
9:37		390		113.47	17.19			22.69	
9:39		390		113.63	17.35			22.48	
9:41		390		113.75	17.47			22.32	
9:45		390		113.86	17.58			22.18	
9:50		390		113.98	17.70			22.03	
9:55		390		114.10	17.82			21.89	
10:00		390		114.13	17.85			21.85	
10:05		390		114.10	17.82			21.89	
10:10		390		114.08	17.80			21.91	
10:15		390		114.05	17.77			21.95	
10:20		390		114.06	17.78			21.93	
10:30		390		114.13	17.85			21.85	
10:40		390		114.38	18.10			21.55	
10:50		390		114.55	18.27			21.35	
11:00		390		114.62	18.34			21.26	
11:10		390		114.58	18.30			21.31	
11:30		390		114.45	18.17			21.46	
12:00		390		114.40	18.12			21.52	
12:30		390		114.65	18.37			21.23	
1:00		390		114.33	18.05			21.61	
1:30		390		114.35	18.07			21.58	
					-96.28			0.00	

ASW ALPHA™

Rod-based, wire-wrapped sand screens for water well, environmental and industrial applications

The Alpha rod-based, wedge-wire wrapped, all-welded sand screen provides more open area than any other well-screen design and allows better access to the entire formation. This screen is very versatile and is easily adapted to many types of industrial and water well applications.

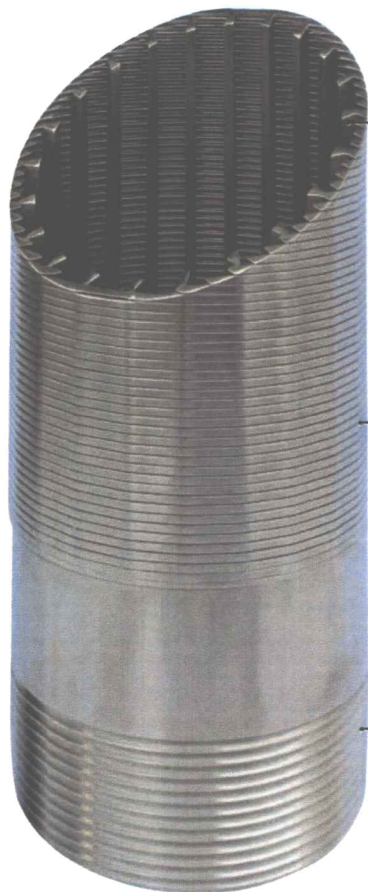
The mass of the wrap wire and support rods combined with efficient welding techniques during the manufacturing process dictate the strength and durability of this screen. Our Alpha screens feature an all-welded V-shaped wire that produces a self-

cleaning action for greater flow. The manufacturing process includes a sophisticated, electronically controlled fusion-welding process. These screens are custom-built to exact specifications and expected well conditions using a wide range of alloys. They provide maximum flow area, high well efficiencies and superior tensile strength for dependability and long well life.

The Alpha's continuous slot design allows lower entrance velocity of the water, which reduces encrustation rates. It also helps the screen to resist plugging and prevents sand from damaging pumps.

When considering screens of equal length, diameter and slot size, the Alpha's wire-wrapped design produces flow rates almost three times higher than bridge-slot screens and almost ten times higher than slotted pipe. This greatly enhances well life and filtration capacity. Alpha screens come in a full range of sizes with ODs from 0.75 in. to 24.0 in.

Alloy Screen Works manufactures all products in accordance with the requirements of the ISO 9001:2008 International Standard.



A. Support rods:

the unique structure and number of support rods provide tensile and collapse strength. These rods are of the same material as the wrap wire to prevent electrolytic corrosion when abnormal environmental conditions are present down hole.

B. Screen wrap wire:

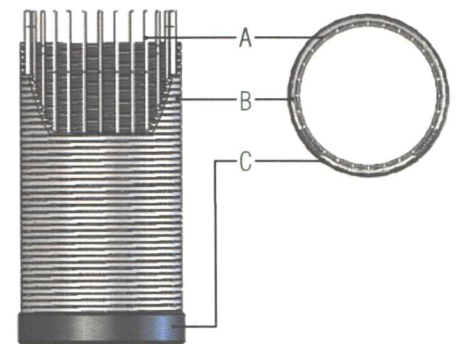
V-shaped wire, welded at each junction with a support rod, provides a self-cleaning action for greater flow and less chance of plugging (alloy and dimensions per customer specs). In-plant design and manufacturing of wire shapes ensures that tolerances are within rigid specifications.

C. End fittings:

All standard and custom-made fittings are rigidly secured to the screen body.

Materials of Construction

- Stainless-steel types 304 and 316
- Low carbon steel
- Galvanized steel
- Special alloys.



ALLOY SCREEN WORKS

▲▲▲ A division of Alloy Machine Works, Inc.

ASW ALPHA™

Rod-based, wire-wrapped sand screen

Flow Characteristics

Pipe Size Nominal (in.)	Telescope Size (in.)	Actual OD (in.)	Clear ID (in.)	Screen Weight* (lb/ft)	Open Area (sq in./ft - screen) Flow Capacity (gal/min/ft @ 0.1 ft/sec entrance velocity) Percent Open Area (%/ft)															
					Screen Slot Size (0.000 in.)															
					8	10	12	20	25	30	35	40	45	50	60	70	80	90	100	
0.75	-	1.05	0.75	0.94	4.57 12.12	5.54 14.71	6.46 17.14	9.66 25.64	11.35 30.12	12.84 34.09	14.18 37.63	15.38 40.82	16.46 43.69	17.44 46.30	19.16 50.85	20.61 54.69	21.84 57.97	22.91 60.81	23.85 63.29	
1.00	-	1.32	1.05	1.12	6.01 1.86 12	7.29 2.26 15	8.49 2.63 17	12.71 3.94 26	14.92 4.63 30	16.89 5.24 34	18.65 5.78 38	20.22 6.27 41	21.65 6.71 44	22.94 7.11 46	25.20 7.81 51	27.10 8.40 55	28.72 8.90 58	30.13 9.34 61	31.36 9.72 63	
1.25	-	1.66	1.38	2.00	7.40 2.30 12	8.99 2.79 14	10.49 3.25 17	15.73 4.88 25	18.51 5.74 29	20.98 6.50 33	23.18 7.19 37	25.17 7.80 40	26.97 8.36 43	28.60 8.87 45	34.46 9.75 54	33.88 10.50 54	35.96 11.15 57	37.76 11.70 60	39.33 12.19 63	
2.00	3.00	2.38	2.07	2.21	12.56 3.89 12	15.24 4.72 15	17.76 5.51 17	26.57 8.24 26	31.21 9.68 30	35.33 10.95 33	39.00 12.09 37	42.29 13.11 40	45.27 14.03 43	37.62 11.66 46	43.89 13.61 50	47.27 14.65 54	50.16 15.52 57	52.67 16.33 60	54.87 17.00 63	
3.00	4.00	3.50	3.07	2.87 (PS) 3.01 (TS)	17.13 5.31 12	20.78 6.44 15	24.22 7.51 17	36.23 11.23 26	42.56 13.19 30	48.17 14.93 34	53.18 16.49 38	57.67 17.88 41	61.73 19.14 44	65.42 20.28 46	71.85 22.27 51	77.27 23.96 55	81.91 25.39 58	85.93 26.64 61	89.43 27.72 63	
4.00	5.00	4.75	4.00	3.84 (PS) 3.84 (TS)	21.07 6.53 12	25.59 7.93 14	29.84 9.25 16	44.77 13.88 25	52.67 16.33 29	59.69 18.50 33	65.97 20.45 37	71.63 22.20 40	76.74 23.79 43	81.39 25.23 45	89.53 27.75 50	96.42 29.89 54	102.32 31.72 57	107.44 33.31 60	111.92 34.69 62	
5.00	6.00	5.63	5.00	5.09 (PS) 5.09 (TS)	24.48 7.90 12	30.95 9.59 15	36.11 11.19 17	54.16 16.79 25	63.72 19.75 29	72.20 22.38 33	79.82 24.75 37	86.66 26.86 40	92.12 29.11 43	98.48 30.52 45	108.33 33.58 50	116.63 36.16 54	123.80 38.38 57	129.96 40.29 60	135.41 41.98 63	
6.00	-	6.63	6.00	6.14	20.39 6.32 8	24.97 7.74 10	29.38 9.11 12	45.41 14.08 18	54.29 16.83 22	62.44 19.35 25	69.93 21.68 28	76.85 23.82 31	83.25 25.81 33	89.20 27.65 36	99.90 30.97 40	109.27 33.87 44	117.53 36.43 47	124.88 38.71 50	131.45 40.75 52	
-	8.00	7.50	6.75	6.73	23.08 7.15 8	28.27 8.76 10	30.26 10.31 12	51.41 15.94 18	61.46 19.05 22	70.68 21.92 25	79.16 24.54 28	87.00 26.97 31	94.25 29.22 33	100.98 31.30 36	113.10 35.06 40	123.70 38.35 44	133.05 41.24 47	141.37 43.82 50	148.81 46.13 52	
8.00	-	8.63	8.00	10.15	26.54 8.22 8	32.51 10.08 10	38.25 11.86 12	59.12 18.82 18	70.68 21.91 22	81.29 25.20 25	91.04 28.22 28	100.05 31.01 31	108.38 33.60 33	116.13 36.00 36	130.06 40.32 40	142.25 44.10 44	153.01 47.53 47	162.58 50.40 50	171.13 53.05 52	
-	10.00	9.50	8.75	10.80	29.23 9.06 8	35.81 11.10 10	42.13 13.06 12	65.11 20.18 18	77.86 24.13 22	89.53 27.75 25	100.28 31.08 28	110.20 34.16 31	119.38 37.01 33	127.91 39.65 36	139.38 43.01 37	151.95 46.41 40	163.45 49.44 43	173.45 54.46 46	182.79 58.46 49	
10.00	-	10.75	10.00	15.69	33.06 10.25 8	40.50 12.55 10	47.65 14.77 12	73.64 22.83 18	88.05 27.29 22	101.26 31.39 25	113.41 35.15 28	124.63 38.63 31	135.05 41.50 33	144.66 44.86 36	162.02 50.22 40	177.21 54.93 44	190.61 59.09 47	202.53 62.78 50	213.89 66.08 53	
-	12.00	11.25	10.50	16.83	30.01 9.30 7	36.86 11.42 9	43.47 13.47 10	67.82 21.02 16	81.51 25.27 19	94.20 29.20 22	105.97 32.85 25	116.93 36.25 28	127.17 39.42 30	136.74 42.39 32	154.14 47.78 36	169.56 52.56 40	183.30 56.82 43	195.64 60.65 46	206.78 64.10 49	
12.00	14.00	12.75	12.00	18.71 (PS) 21.91 (TS)	34.01 10.54 7	41.77 12.95 9	49.27 15.27 10	76.86 23.82 16	92.38 28.64 19	106.76 33.09 22	120.10 37.23 25	132.53 41.08 28	144.02 44.69 30	154.97 48.04 32	174.69 54.15 36	192.16 59.57 40	207.74 64.40 43	221.73 68.73 46	234.35 72.64 49	
14.00	16.00	14.00	13.25	29.06 (PS)	30.59 9.48 6	37.70 11.69 7	44.60 13.82 8	70.37 21.81 13	85.13 26.39 16	98.96 30.68 19	111.95 34.70 21	124.18 38.49 23	135.72 42.07 26	146.61 45.45 28	166.67 51.67 31	184.72 57.26 35	201.06 62.33 38	215.91 66.93 41	229.47 71.13 43	
16.00	18.00	16.00	15.00	32.51 (PS)	33.72 10.45 6	41.57 12.89 7	49.21 15.25 8	77.79 24.15 13	94.20 29.20 16	109.61 33.98 18	124.12 38.47 21	137.08 42.71 25	150.72 46.72 25	162.94 50.51 27	185.5 57.50 34	205.86 63.81 37	224.32 69.54 41	242.52 74.75 45	256.54 79.52 49	
18.00	20.00	18.00	17.00	49.00	32.29 10.01 5	39.89 12.36 6	47.31 14.66 7	75.36 23.36 11	91.65 28.41 14	107.09 33.19 16	121.73 37.73 18	135.64 42.05 20	148.88 46.15 22	161.48 50.61 24	184.97 57.34 27	206.42 63.99 30	226.08 70.85 33	244.16 75.69 36	260.86 80.86 38	
20.00	22.00	20.00	18.81	51.00	35.86 11.12 5	44.32 13.74 6	52.57 16.29 7	83.73 25.97 11	101.83 31.50 14	118.98 36.88 16	135.26 41.93 18	150.72 46.72 20	165.42 51.28 22	179.42 55.62 24	205.52 63.71 27	229.35 71.10 30	251.20 77.82 33	271.29 84.10 36	289.84 89.85 38	
22.00	24.00	22.00	20.80	55.00	46.38 14.38 5.59	57.17 17.72 6.9	67.67 20.98 8.16	106.96 33.16 12.9	129.53 40.15 15.63	150.72 46.72 18.18	170.67 52.91 20.59	189.48 58.74 22.86	207.24 64.24 25.0	224.04 69.45 27.03	255.07 79.07 30.77	283.06 87.75 34.15	308.45 95.62 37.21	331.58 102.79 40.0	352.75 109.35 42.55	
24.00	-	24.00	22.64	61.00	43.06 13.49 5	53.19 16.49 6	63.09 19.55 7	100.48 31.14 11	122.05 37.88 14	142.78 44.26 16	162.16 50.31 18	180.86 56.06 20	198.50 61.53 22	215.34 66.74 24	246.63 76.45 27	275.28 85.32 30	301.44 93.46 33	325.55 100.92 36	347.81 107.83 38	

*Weight based on 10-slot construction (no fittings). (PS) = Pipe Size. (TS) = Telescope Size. NOTE: Flow data will vary based on strength requirements.

Screen Gauge Sizes used with Filter Material Sizes

Screen Gauge	Screen Opening (in.) (mm)	Filter Material Size (US Mesh)	Filter Material Size (in.)	Filter Material Size (mm)
100	0.100 .254	3/4	0.250 - 0.187	6.350 - 4.750
30	0.032 .762	8/12	0.093 - 0.066	2.362 - 1.676
24	0.024 .609	10/20	0.079 - 0.0331	2.007 - 0.841
20	0.020 .508	12/20	0.066 - 0.0331	1.676 - 0.841
16	0.016 .406	16/30	0.047 - 0.023	1.194 - 0.585
12	0.012 .304	20/40	0.0331 - 0.0165	0.841 - 0.419
8	0.008 .203	40/60	0.0165 - 0.0098	0.419 - 0.249

NOTE: commonly used filter pack materials include gravel, sand, glass beads, ceramic beads, etc.

ALLOY SCREEN WORKS

▲▲▲ A division of Alloy Machine Works, Inc.

WATER RESOURCES
RECEIVED
OCT 2 9
KS DEPT OF
WATER RESOURCES
RECEIVED
OCT 23 2023
KS DEPT OF AGRICULTURE

18102 East Hardy Road
Houston, Texas 77073 USA
Phone: 281.233.0214
Toll-free: 800.577.5068
Fax: 281.233.0487
Email: info@alloyscreenworks.com
www.alloyscreenworks.com

ISO 9001:2008 Registered QMS

OCT 23 2023

Located At 350 South Washington
Mailing Address 303 South Topeka
Wichita, KS 67202
(316) 262-6457 www.pec1.com



KS DEPT OF AGRICULTURE

Material Test Report

Project No.: 230837-000.01
Report No.: MAT:PEC-W40380-S1-1

Client : Layne Christensen Company
Project : Layne Lab Testing
Materials Testing

CC:
Gail Ball

Accreditation is granted by AAP and this accreditation is limited to the laboratory and the standards for which the laboratory is accredited. (#) indicates tests for which the lab is not accredited.

Project Manager : Patrick A Younkin

Date Issued: 8/15/2023
Reviewed By: Patrick Younkin

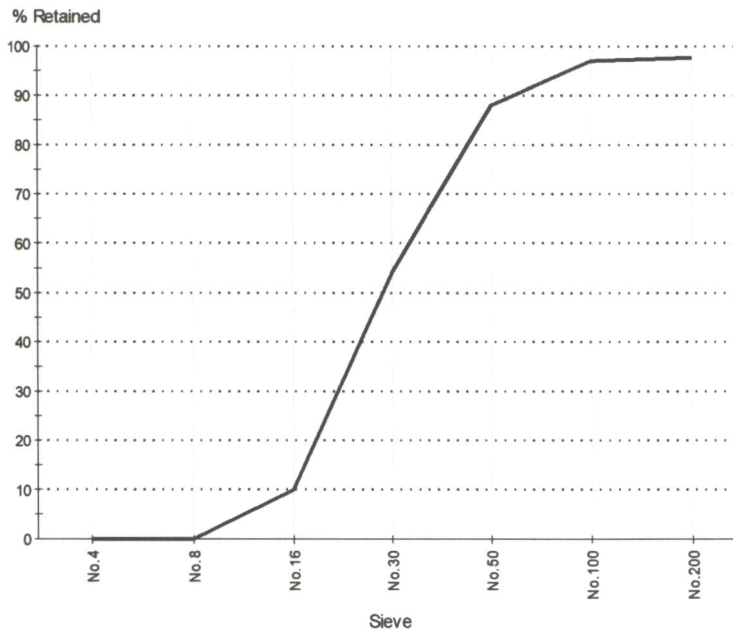
Sample Details

Sample ID PEC-W40380-S1
Date Sampled 8/11/2023
Material Sand
Specification General Sieve Set
General Location CHS
Location 110-115
Tested By Roberto Martinez

Other Test Results

Description	Method	Result	Limits
-------------	--------	--------	--------

Particle Size Distribution



Method: ASTM C 136, ASTM C 117

Date Tested: 8/15/2023
Tested By: Roberto Martinez

Sieve Size	% Retained	Limits
No.4	0	
No.8	0	
No.16	10	
No.30	54	
No.50	88	
No.100	97	
No.200	97.7	
Finer No.200 (75µm)	2.2	

Comments

N/A



Located At 350 South Washington
 Mailing Address 303 South Topeka
 Wichita, KS 67202
 (316) 262-6457 www.pec1.com

Material Test Report

Project No.: 230837-000.01
Report No.: MAT:PEC-W40380-S2-1

Client : Layne Christensen Company
Project : Layne Lab Testing
 Materials Testing

CC:
 Gail Ball

Accreditation is granted by AAP and this accreditation is limited to the laboratory and the standards for which the laboratory is accredited. (#) indicates tests for which the lab is not accredited.

Project Manager : Patrick A Younkin

Date Issued: 8/15/2023

Reviewed By: Patrick Younkin

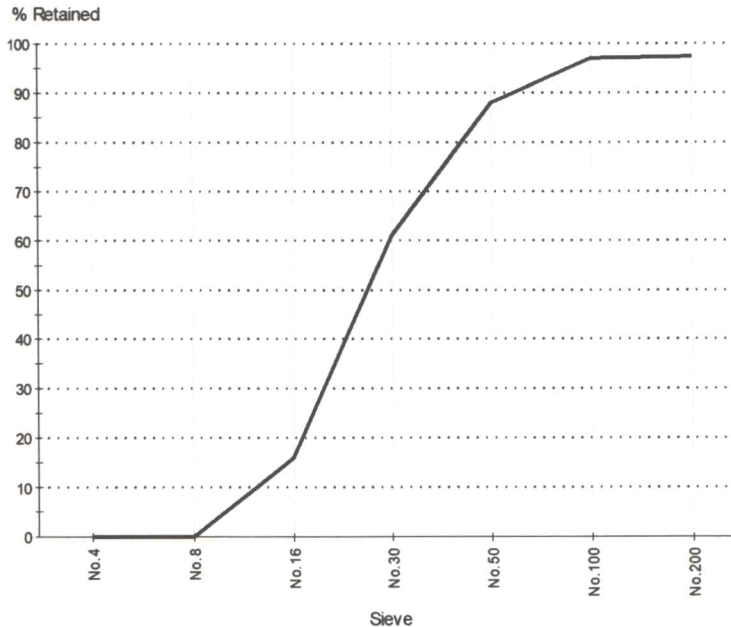
Sample Details

Sample ID PEC-W40380-S2
Date Sampled 8/11/2023
Material Sand
Specification General Sieve Set
General Location CHS
Location 115-120
Tested By Roberto Martinez

Other Test Results

Description	Method	Result	Limits
		WATER RESOURCES RECEIVED	
		OCT 23 2023	
		KS DEPT OF AGRICULTURE	

Particle Size Distribution



Method: ASTM C 136, ASTM C 117

Date Tested: 8/15/2023

Tested By: Roberto Martinez

Sieve Size	% Retained	Limits
No.4	0	
No.8	0	
No.16	16	
No.30	61	
No.50	88	
No.100	97	
No.200	97.5	
Finer No.200 (75µm)	2.4	

Comments

N/A

Material Test Report


Project No.: 230837-000.01
Report No.: MAT:PEC-W40380-S3-1

Client : Layne Christensen Company
Project : Layne Lab Testing
 Materials Testing

CC:
 Gail Ball

Project Manager : Patrick A Younkin

Accreditation is granted by AAP and this accreditation is limited to the laboratory and the standards for which the laboratory is accredited. (#) indicates tests for which the lab is not accredited.



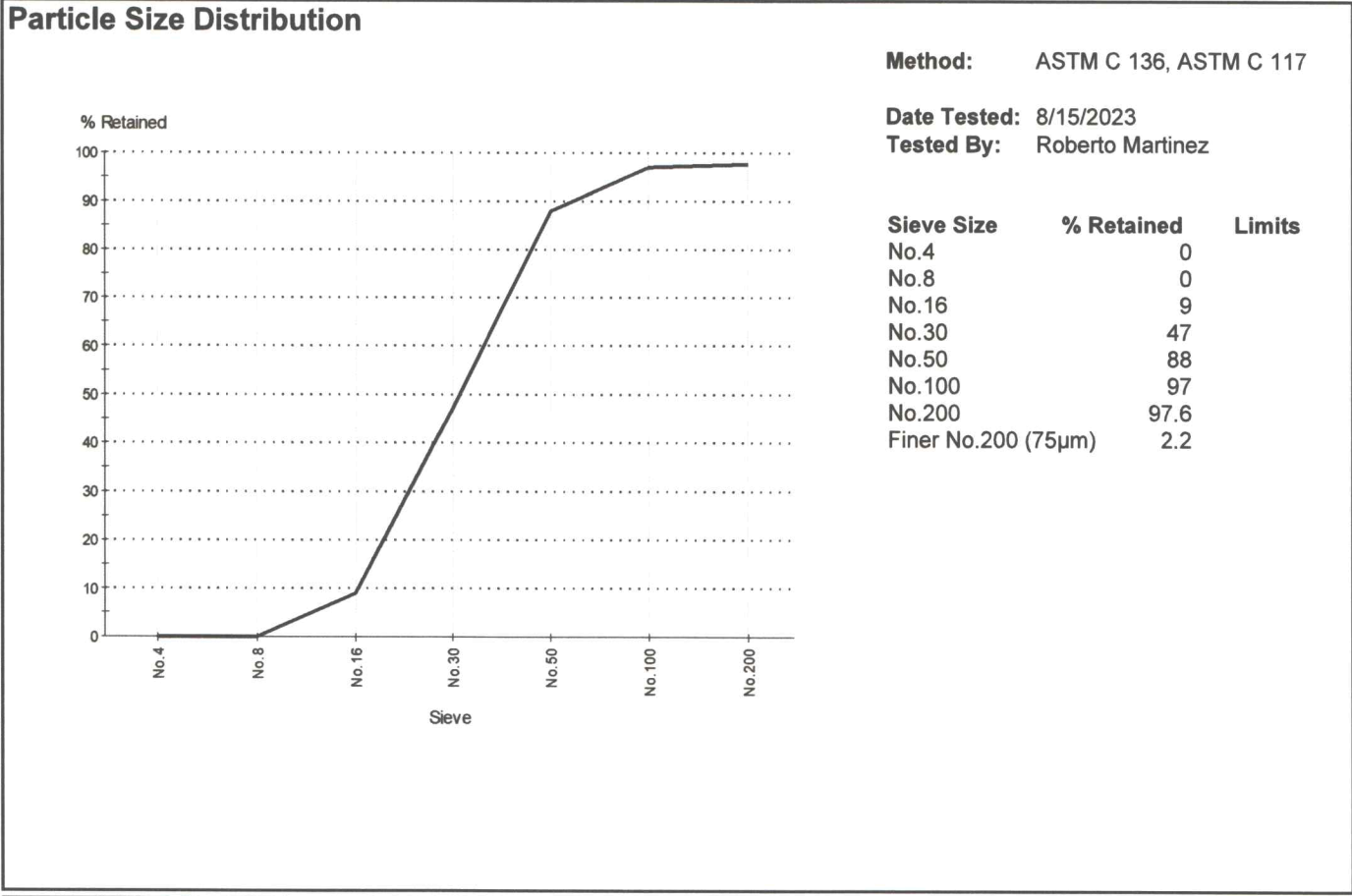
Date Issued: 8/15/2023
Reviewed By: Patrick Younkin

Sample Details		Other Test Results			
Sample ID	Date Sampled	Description	Method	Result	Limits
PEC-W40380-S3	8/11/2023				
Sand					
General Sieve Set					
CHS					
120-125					
Roberto Martinez					

WATER RESOURCES
 RECEIVED

OCT 23 2023

KS DEPT OF AGRICULTURE



Comments
 N/A

Material Test Report


Project No.: 230837-000.01
Report No.: MAT:PEC-W40380-S4-1

Client : Layne Christensen Company
Project : Layne Lab Testing
 Materials Testing

Project Manager : Patrick A Younkin

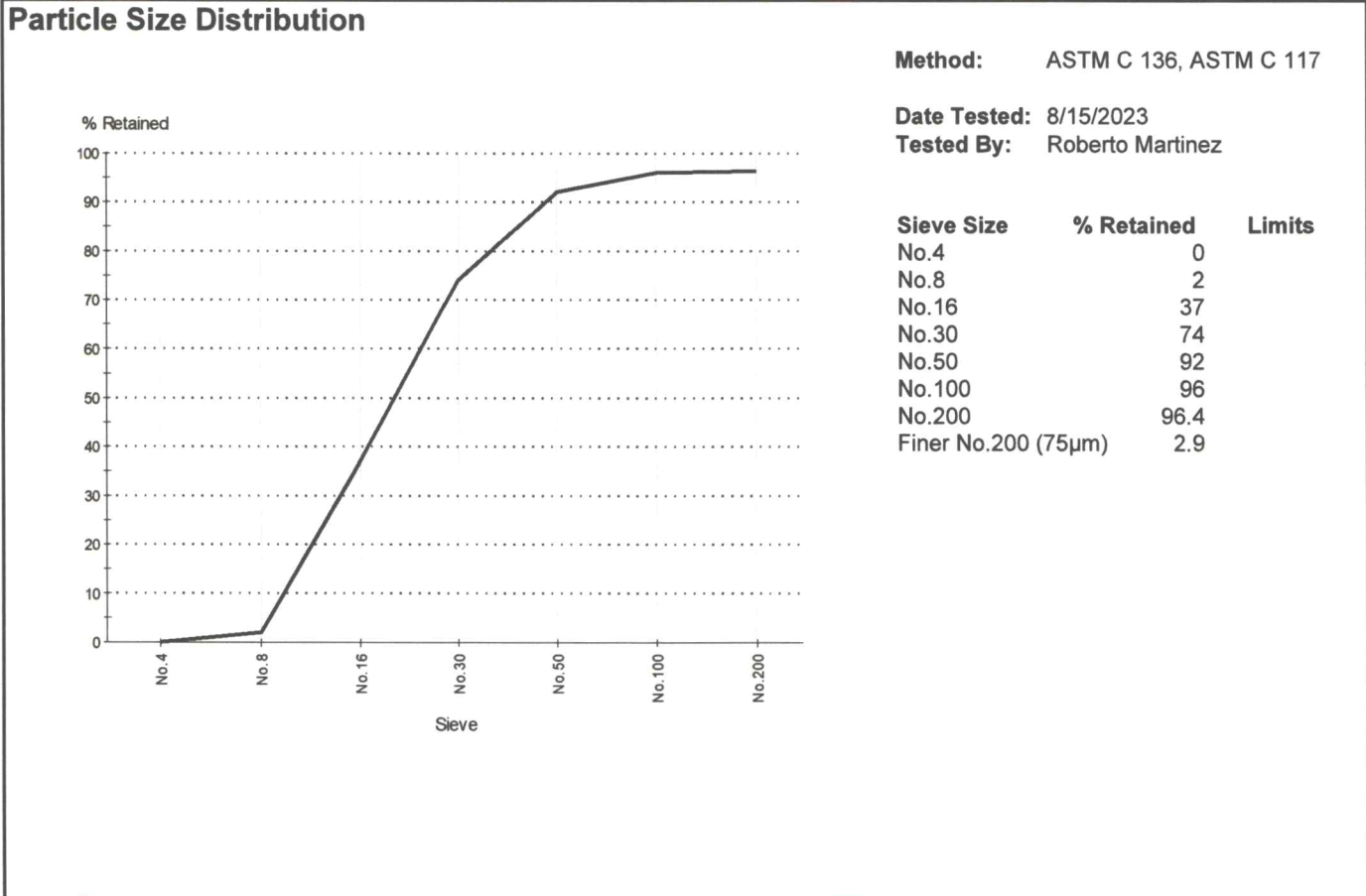
CC:
 Gail Ball

Accreditation is granted by AAP and this accreditation is limited to the laboratory and the standards for which the laboratory is accredited. (#) indicates tests for which the lab is not accredited.



Date Issued: 8/15/2023
Reviewed By: Patrick Younkin

Sample Details		Other Test Results			
Sample ID	Date Sampled	Description	Method	Result	Limits
PEC-W40380-S4	8/11/2023				
Material	Sand				
Specification	General Sieve Set				
General Location	CHS				
Location	125-130				
Tested By	Roberto Martinez				
				WATER RESOURCES RECEIVED	
				OCT 23 2023	
				KS DEPT OF AGRICULTURE	



Comments
 N/A

Material Test Report


Project No.: 230837-000.01
Report No.: MAT:PEC-W40380-S5-1

Client : Layne Christensen Company
Project : Layne Lab Testing
 Materials Testing

Project Manager : Patrick A Younkin

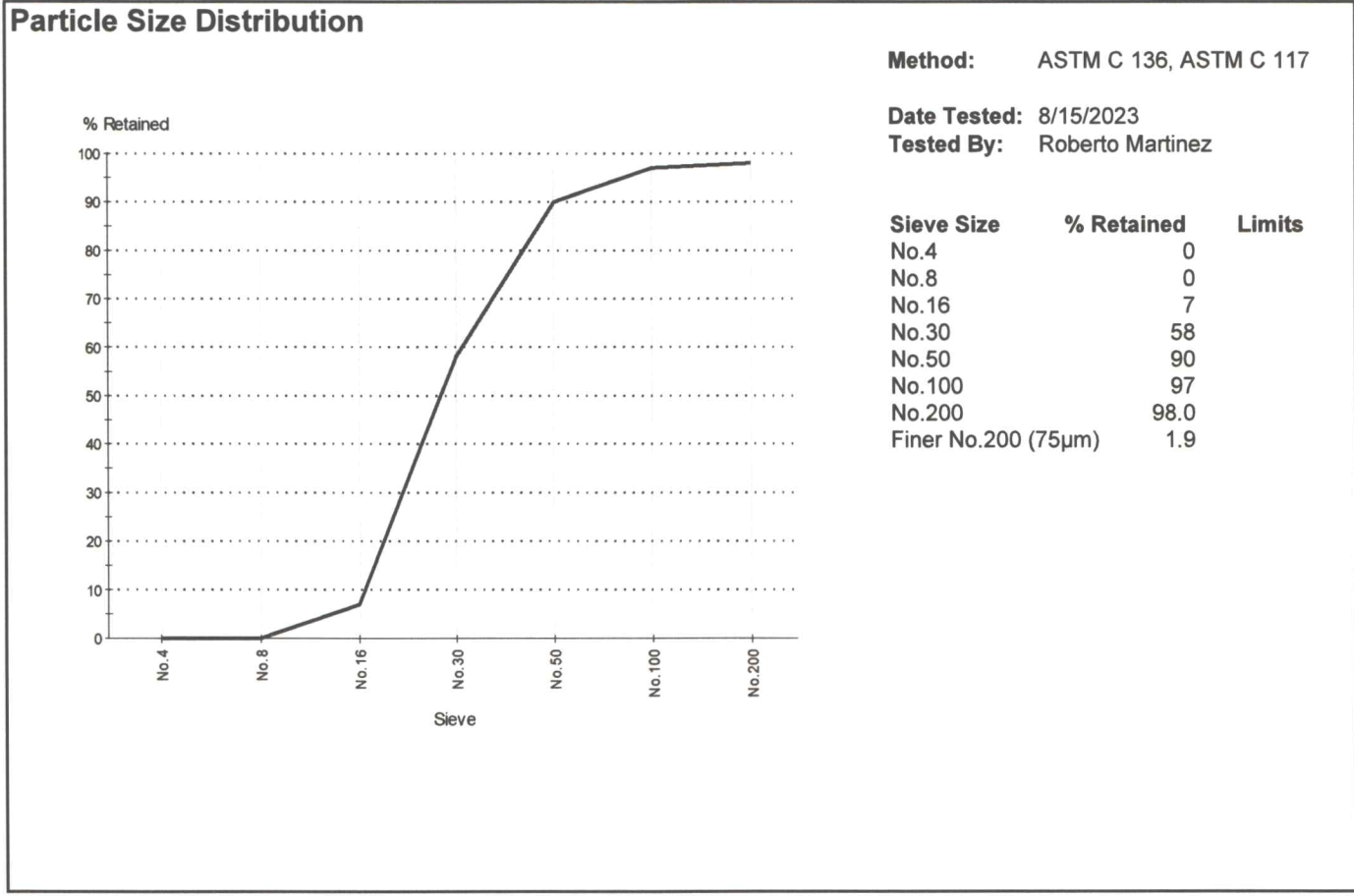
CC:
 Gail Ball

Accreditation is granted by AAP and this accreditation is limited to the laboratory and the standards for which the laboratory is accredited. (#) indicates tests for which the lab is not accredited.



Date Issued: 8/15/2023
Reviewed By: Patrick Younkin

Sample Details		Other Test Results			
Sample ID	Date Sampled	Description	Method	Result	Limits
PEC-W40380-S5	8/11/2023				
Material	Sand				
Specification	General Sieve Set				
General Location	CHS				
Location	130-135				
Tested By	Roberto Martinez				
				WATER RESOURCES RECEIVED	
				OCT 23 2023	
				KS DEPT OF AGRICULTURE	



Comments
 N/A

Material Test Report

Project No.: 230837-000.01
Report No.: MAT:PEC-W40380-S6-1

Client : Layne Christensen Company
Project : Layne Lab Testing
 Materials Testing

CC:
 Gail Ball

Project Manager : Patrick A Younkin

Accreditation is granted by AAP and this accreditation is limited to the laboratory and the standards for which the laboratory is accredited. (#) indicates tests for which the lab is not accredited.



Date Issued: 8/15/2023
Reviewed By: Patrick Younkin

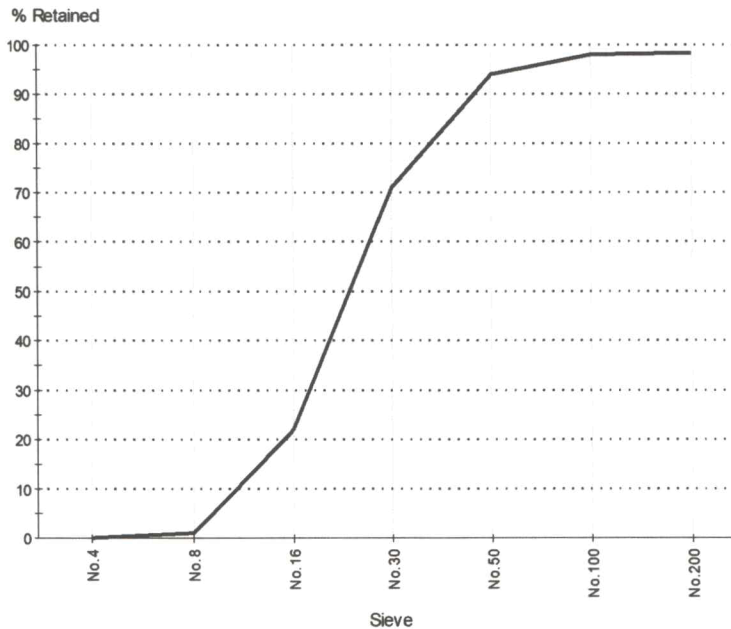
Sample Details

Sample ID PEC-W40380-S6
Date Sampled 8/11/2023
Material Sand
Specification General Sieve Set
General Location CHS
Location 135-140
Tested By Roberto Martinez

Other Test Results

Description	Method	Result	Limits
		WATER RESOURCES RECEIVED	
		OCT 23 2023	
		KS DEPT OF AGRICULTURE	

Particle Size Distribution



Method: ASTM C 136, ASTM C 117

Date Tested: 8/15/2023
Tested By: Roberto Martinez

Sieve Size	% Retained	Limits
No.4	0	
No.8	1	
No.16	22	
No.30	71	
No.50	94	
No.100	98	
No.200	98.3	
Finer No.200 (75µm)	1.8	

Comments

N/A

Material Test Report

Project No.: 230837-000.01
Report No.: MAT:PEC-W40380-S7-1

Client : Layne Christensen Company
Project : Layne Lab Testing
 Materials Testing

CC:
 Gail Ball

Project Manager : Patrick A Younkin

Accreditation is granted by AAP and this accreditation is limited to the laboratory and the standards for which the laboratory is accredited. (#) indicates tests for which the lab is not accredited.



Date Issued: 8/15/2023
Reviewed By: Patrick Younkin

Sample Details

Sample ID PEC-W40380-S7
Date Sampled 8/11/2023
Material Sand
Specification General Sieve Set
General Location CHS
Location 140-145
Tested By Roberto Martinez

Other Test Results

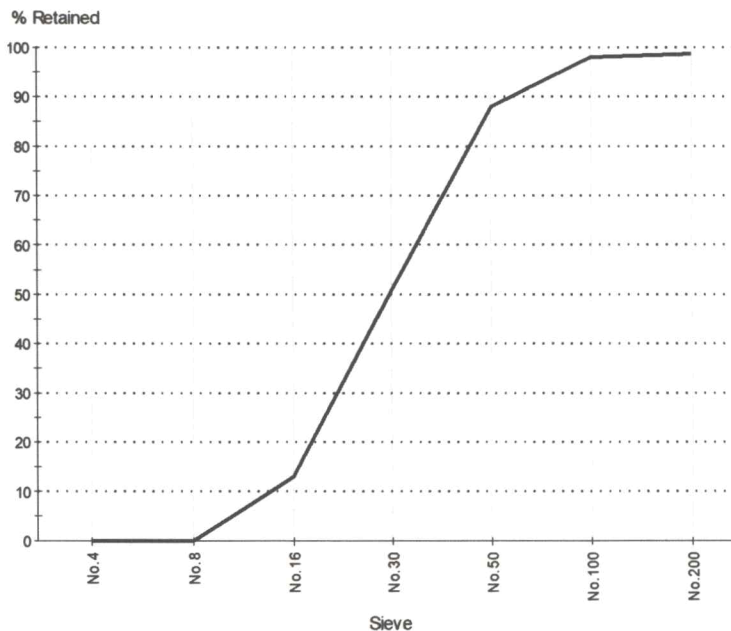
Description	Method	Result	Limits
-------------	--------	--------	--------

WATER RESOURCES
 RECEIVED

OCT 23 2023

KS DEPT OF AGRICULTURE

Particle Size Distribution



Method: ASTM C 136, ASTM C 117

Date Tested: 8/15/2023
Tested By: Roberto Martinez

Sieve Size	% Retained	Limits
No.4	0	
No.8	0	
No.16	13	
No.30	51	
No.50	88	
No.100	98	
No.200	98.6	
Finer No.200 (75µm)	1.6	

Comments

N/A

Material Test Report


Project No.: 230837-000.01
Report No.: MAT:PEC-W40380-S8-1

Client : Layne Christensen Company
Project : Layne Lab Testing
 Materials Testing

Project Manager : Patrick A Younkin

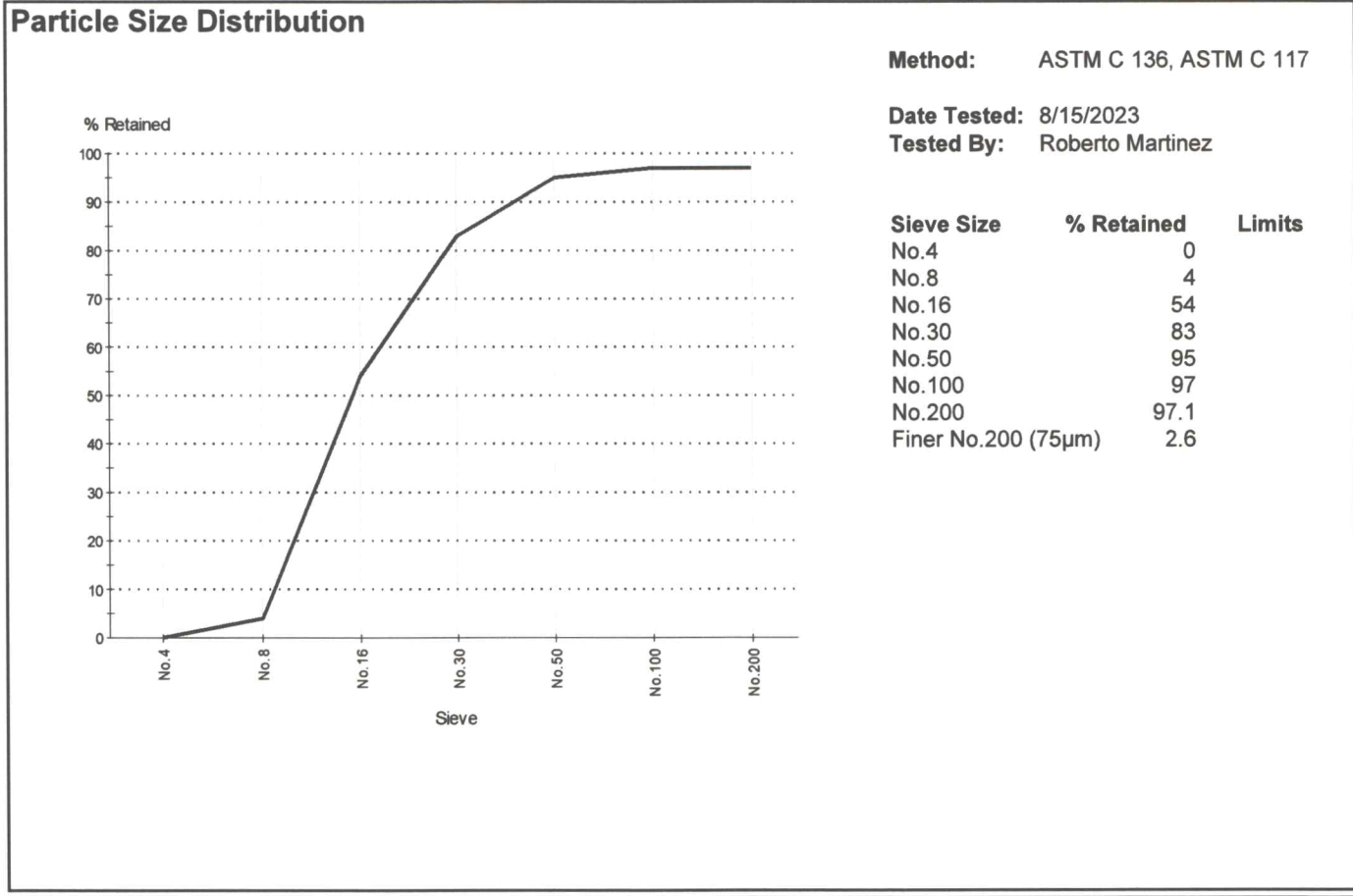
CC:
 Gail Ball

Accreditation is granted by AAP and this accreditation is limited to the laboratory and the standards for which the laboratory is accredited. (#) indicates tests for which the lab is not accredited.



Date Issued: 8/15/2023
Reviewed By: Patrick Younkin

Sample Details		Other Test Results			
Sample ID	Date Sampled	Description	Method	Result	Limits
PEC-W40380-S8	8/11/2023				
Material	Sand				
Specification	General Sieve Set				
General Location	CHS				
Location	145-150				
Tested By	Roberto Martinez				
				WATER RESOURCES RECEIVED	
				OCT 23 2023	
				KS DEPT OF AGRICULTURE	



Comments
 N/A

Material Test Report


Project No.: 230837-000.01
Report No.: MAT:PEC-W40380-S9-1

Client : Layne Christensen Company
Project : Layne Lab Testing
 Materials Testing

CC:
 Gail Ball

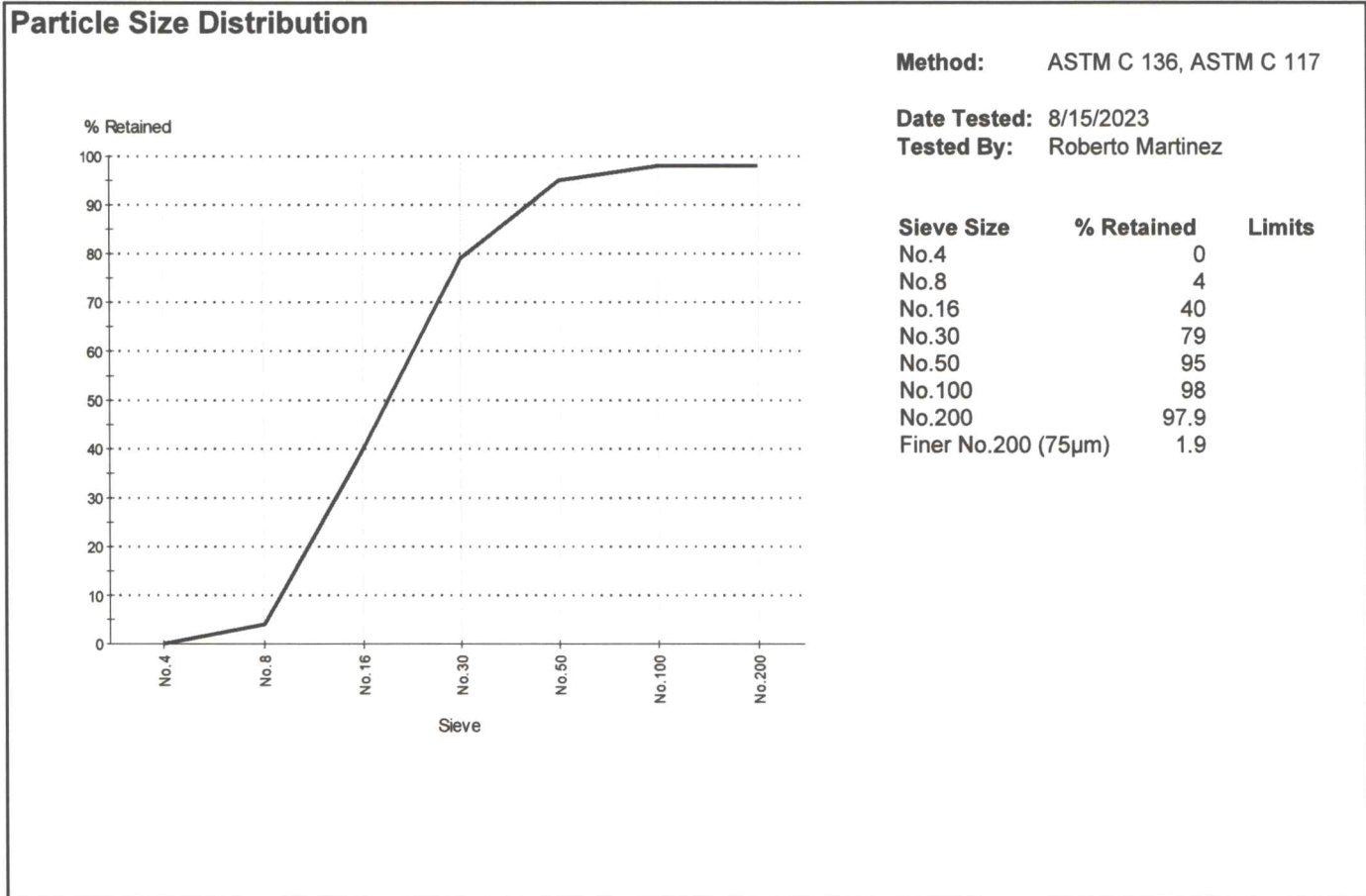
Project Manager : Patrick A Younkin

Accreditation is granted by AAP and this accreditation is limited to the laboratory and the standards for which the laboratory is accredited. (#) indicates tests for which the lab is not accredited.



Date Issued: 8/15/2023
Reviewed By: Patrick Younkin

Sample Details		Other Test Results			
Sample ID	Date Sampled	Description	Method	Result	Limits
PEC-W40380-S9	8/11/2023				
Material	Sand			WATER RESOURCES RECEIVED	
Specification	General Sieve Set			OCT 23 2023	
General Location	CHS			KS DEPT OF AGRICULTURE	
Location	150-155				
Tested By	Roberto Martinez				



Comments
 N/A

Material Test Report

Project No.: 230837-000.01
Report No.: MAT:PEC-W40380-S10-1

Client : Layne Christensen Company
Project : Layne Lab Testing
 Materials Testing

CC:
 Gail Ball

Accreditation is granted by AAP and this accreditation is limited to the laboratory and the standards for which the laboratory is accredited. (#) indicates tests for which the lab is not accredited.

Project Manager : Patrick A Younkin



Date Issued: 8/15/2023
Reviewed By: Patrick Younkin

Sample Details

Sample ID PEC-W40380-S10
Date Sampled 8/11/2023
Material Sand
Specification General Sieve Set
General Location CHS
Location 155-163
Tested By Roberto Martinez

Other Test Results

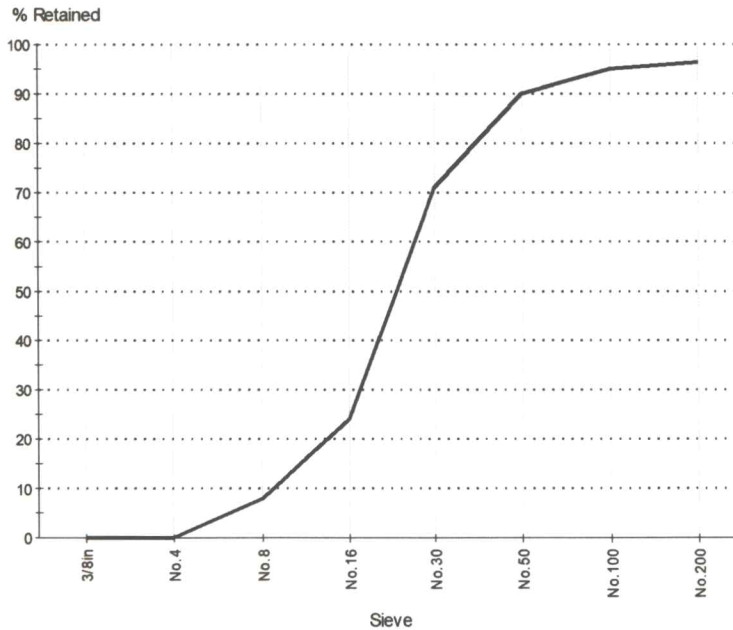
Description	Method	Result	Limits
-------------	--------	--------	--------

WATER RESOURCES
 RECEIVED

OCT 28 2023

KS DEPT OF AGRICULTURE

Particle Size Distribution



Method: ASTM C 136, ASTM C 117

Date Tested: 8/15/2023
Tested By: Roberto Martinez

Sieve Size	% Retained	Limits
3/8in	0	
No.4	0	
No.8	8	
No.16	24	
No.30	71	
No.50	90	
No.100	95	
No.200	96.4	
Finer No.200 (75µm)	3.2	

Comments

N/A

Material Test Report


Project No.: 230837-000.01
Report No.: MAT:PEC-W40380-S11-1

Client : Layne Christensen Company
Project : Layne Lab Testing
 Materials Testing

CC:
 Gail Ball

Project Manager : Patrick A Younkin

Accreditation is granted by AAP and this accreditation is limited to the laboratory and the standards for which the laboratory is accredited. (#) indicates tests for which the lab is not accredited.



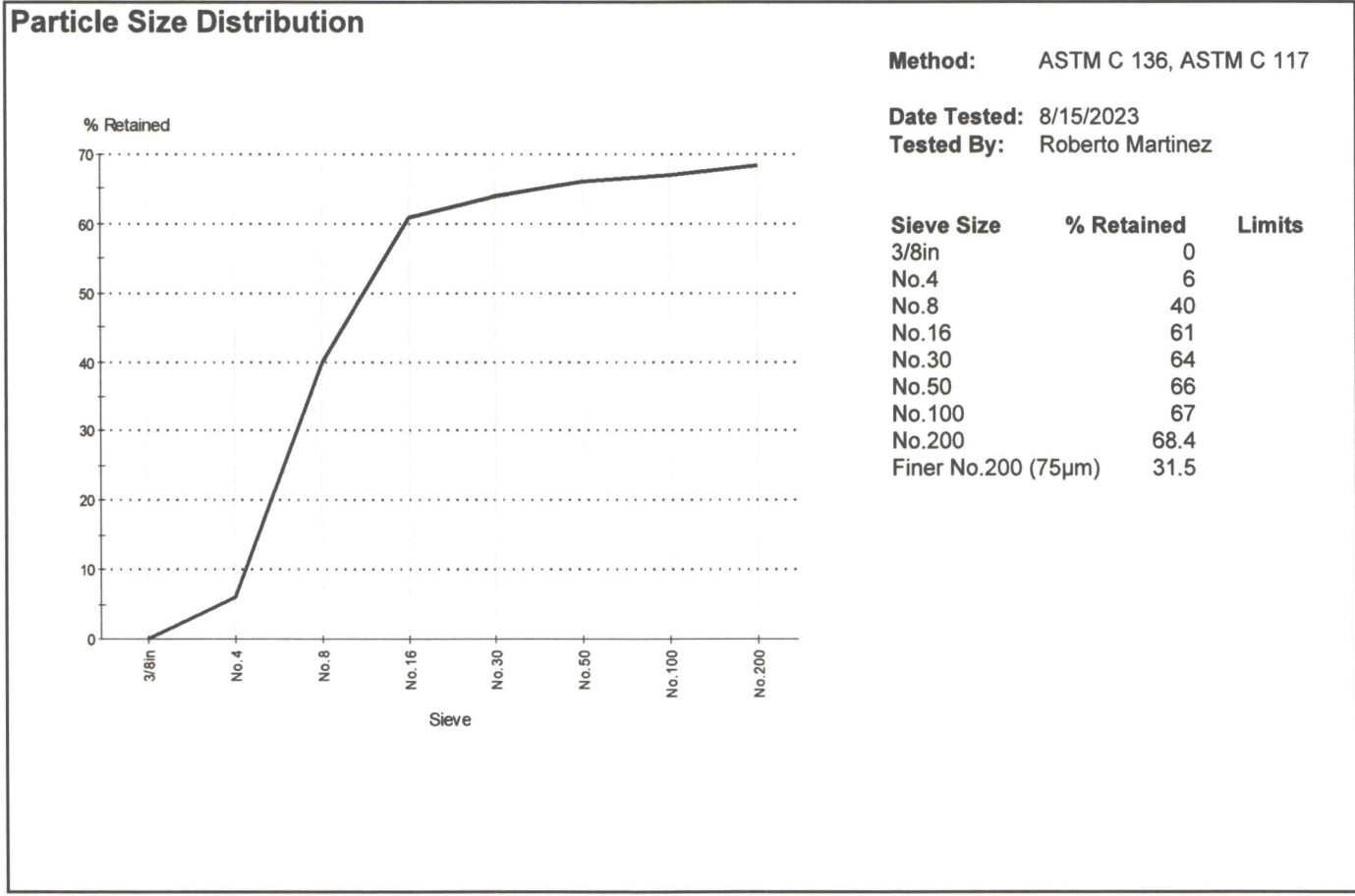
Date Issued: 8/15/2023
Reviewed By: Patrick Younkin

Sample Details		Other Test Results			
		Description	Method	Result	Limits
Sample ID	PEC-W40380-S11				
Date Sampled	8/11/2023				
Material	Sand				
Specification	General Sieve Set				
General Location	CHS				
Location	163-170				
Tested By	Roberto Martinez				

WATER RESOURCES RECEIVED

OCT 23 2023

KS DEPT OF AGRICULTURE



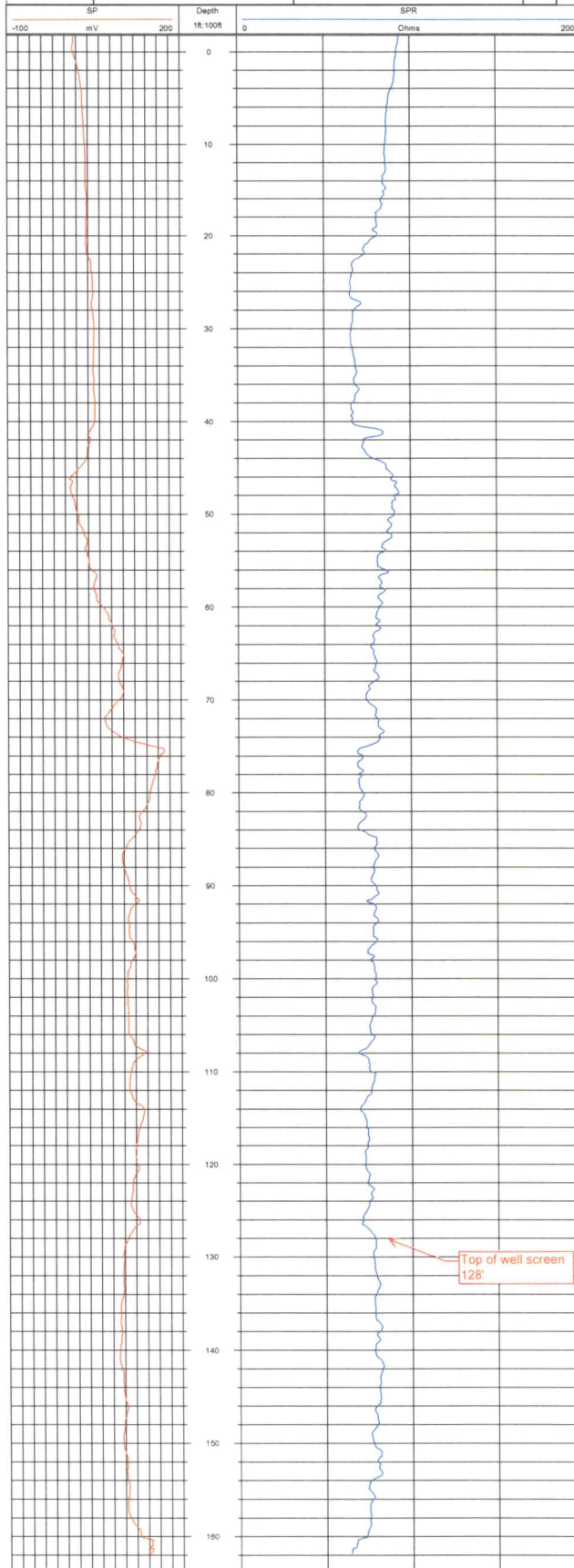
Comments
 N/A

COMPANY: Iayne		Casing
Location: wwt-15		
Well	Depth Driller	Depth Logger
Date: 7-25-23	BH Fluid	
File Name: wwt-15	Witness:	

WATER RESOURCES
RECEIVED

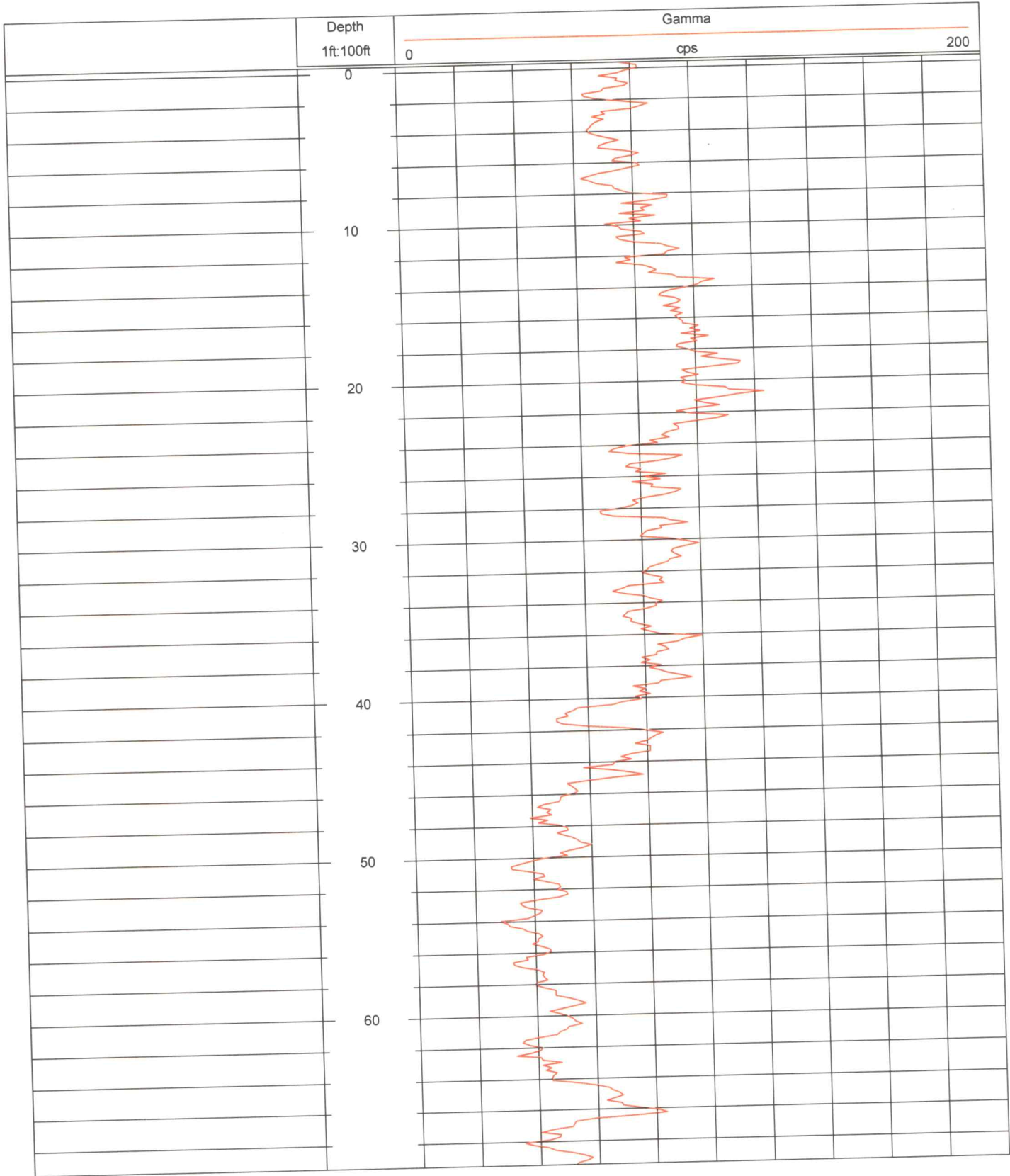
OCT 23 2023

KS DEPT OF AGRICULTURE



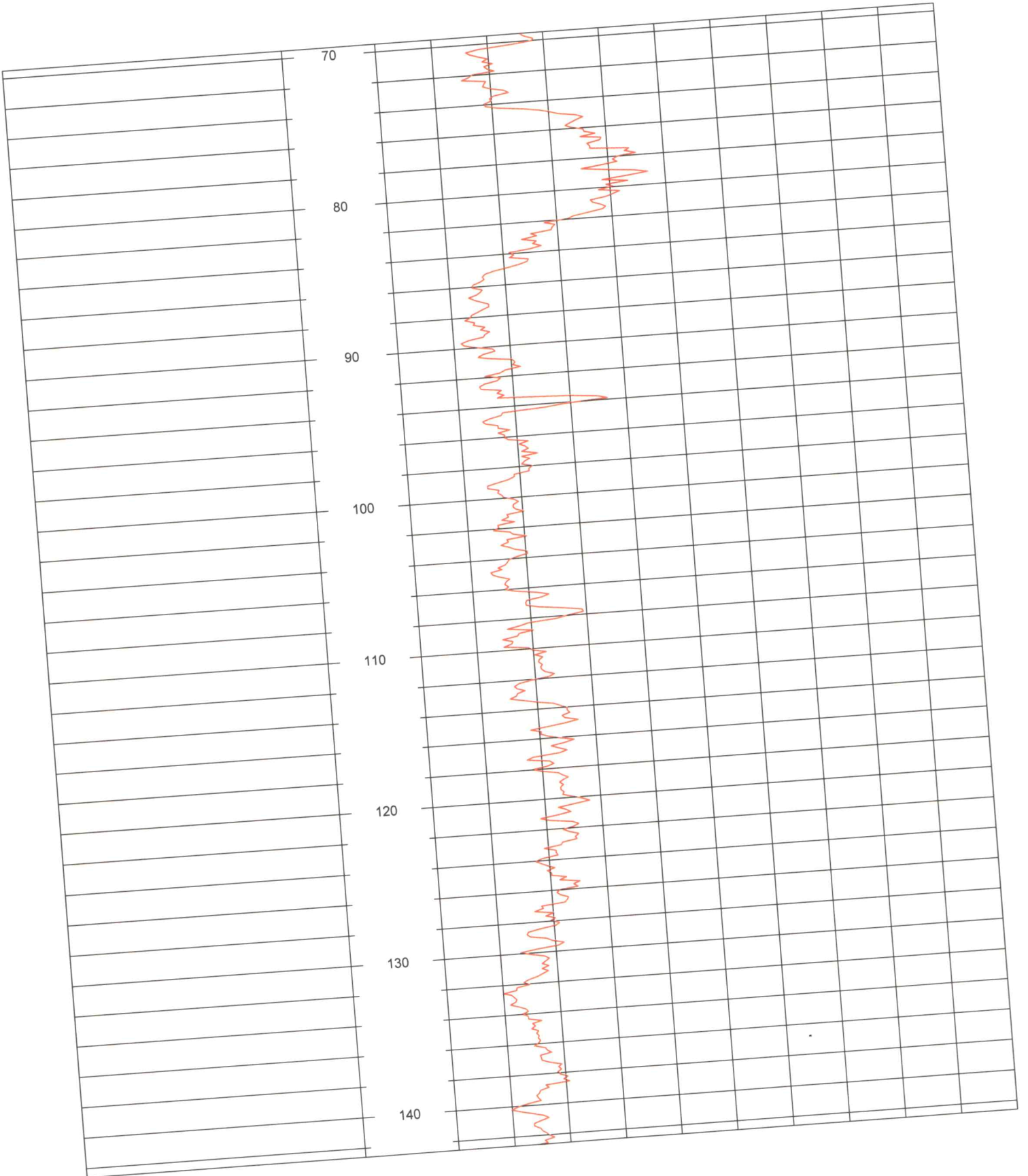
OCT 23 2023

KS DEPT OF AGRICULTURE



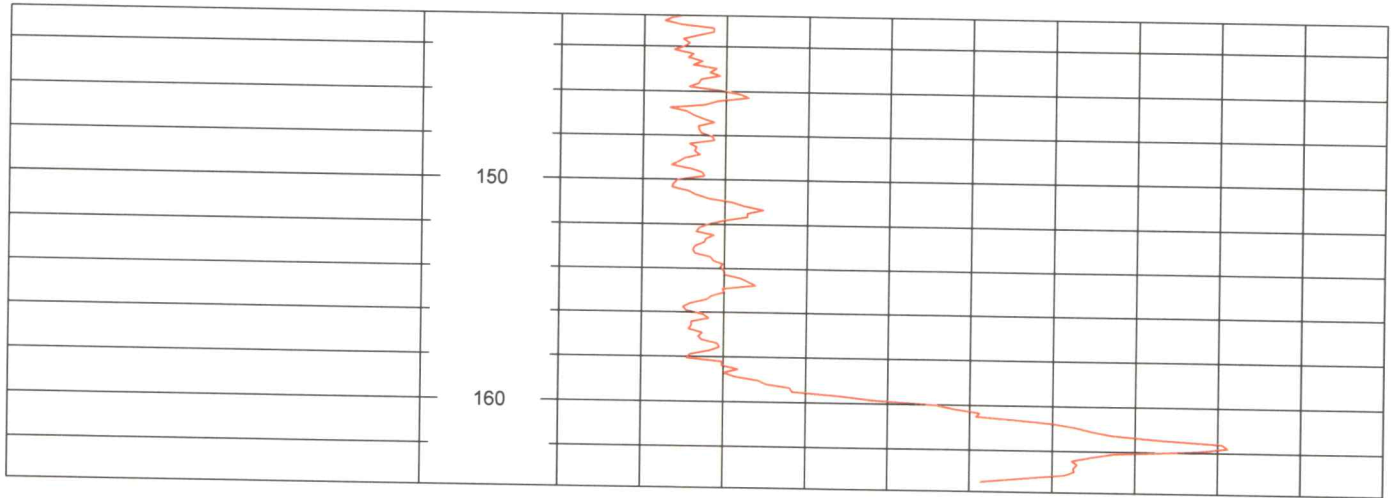
OCT 23 2023

KS DEPT OF AGRICULTURE



OCT 28 2023

KS DEPT OF AGRICULTURE





2000 S Main Street
McPherson, KS 67460

620-241-2340
chsinc.com/refining

October 19, 2023

WATER RESOURCES
RECEIVED

OCT 23 2023

KS DEPT OF AGRICULTURE

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

RE: Request for Change in Point of Diversion Works

Dear Mr. Lewis,

Enclosed is an Application for Approval to Change the Point of Diversion (New Water Well) at CHS McPherson Refinery. In addition to the application paperwork, please find the associated \$200 check and drilling report for a test well that was recently drilled near the proposed location for the new water well.

If you have any questions, please feel free to contact me at (620) 241-9295 or via e-mail at andrew.vogelsberg@chsinc.com.

Sincerely,
CHS

Andy Vogelsberg
Environmental Scientist

Enclosure

File: G:\Environmental\Recordkeeping\Refinery\Groundwater\Water Appropriation\Correspondence

ASN

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

October 24, 2023

CHS MCPHERSON REFINERY INC
2000 S MAIN STREET
MCPHERSON KS 67460

RE: File No(s). 18

Dear Sir or Madam:

The Division of Water Resources (Division) has received your application(s) to change the place of use, point of diversion or use made of water for 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(s) 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. If you call, please reference the file number so we can help you more efficiently.

Sincerely,

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

Kristen Baum
New Applications and Changes Supervisor
Water Appropriation Program