CORRECTIVE ACTION PLAN

APRIL 27TH, 2017

WASTEWATER TREATMENT PLANT IMPROVEMENTS CAVE SPRINGS, ARKANSAS

ISSUED FOR REVIEW

PREPARED FOR:

THE CITY OF CAVE SPRINGS 134 N. MAIN STREET CAVE SPRINGS, AR 72718



Prepared By:

Barret Knutson, E.I.
McClelland Consulting Engineers, Inc.
1810 N. College Avenue
Fayetteville, AR 72703





CORRECTIVE ACTION PLAN THE CITY OF CAVE SPRINGS WASTEWATER TREATMENT PLANT IMPROVEMENTS

Introduction

This Corrective Action Plan (CAP) was prepared by MCE on behalf of the City of Cave Springs' Water and Wastewater Department. The CAP was prepared at the request of the Water Division Enforcement Branch of the Arkansas Department of Environmental Quality (ADEQ) in an incompleteness letter for renewal of No-Discharge Permit 4893-WR-3 in a letter dated March 24th, 2017.

Purpose

Over the past 5-years during the permitting cycle of Permit 4893-WR-2, the City of Cave Springs has recorded 22 instances of exceeding their permit limits, 20 of which were for exceedances of Total Suspended Solids (TSS) limits. The City of Cave Springs is committed to complying with environmental laws and regulations and therefore is determined to identify and address their wastewater treatment plant's performance. Exceedances of the permitted concentrations of TSS can be seen in the appendix, *Appendix 1*, at the end of this report.

Scope

The goal of this analysis was to identify and resolve the issues leading to excess solids accumulation within the system without having to upgrade or retrofit the existing plant. It was assumed that the problems were due to a piece of equipment under performing or an overlooked part of the operation and maintenance protocol. This assumption was based on the fact that the plant has a relatively short operational life. Additionally, the plant was designed to treat much higher wastewater flows while keeping concentrations of permitted pollutants within acceptable ranges. If necessary the plant would undergo some form of upgrading by whatever means necessary, in order to get into compliance with their permit.

History

With construction finished late in the year of 2006, the City's new wastewater treatment facility was permitted to dispose of its effluent via sub-surface, drip irrigation, discharge. The plant is comprised of two package treatment facilities, which discharge effluent underground beneath the adjacent Creek's Golf Course. Disposal of effluent in this fashion serves a symbiotic benefit to

both the client and the City: the golf course benefits by obtaining irrigation, rich in nutrients, for their grass fairways and rough, and the City benefits by receiving additional removal of permitted pollutants by the grasses and soils, as well as an adjacent discharge for their effluent.

Location

The Cave Springs WWTP is located off of Arkansas Highway 112 South of the City. The plant is only accessible by going through the Creeks Golf Course and is located on the far north side of the property.

Condition of Existing Facility

As previously mentioned, the current treatment facility is relatively young, and therefore should have plenty of anticipated operational life remaining. Originally, during the first permitting cycle, only Plant 1 was utilized for treatment and Plant 2 was kept on standby. During the last permitting cycle, only Plant 2 was used for treatment while Plant 1 was kept on standby; this will remain the same for the next permitting under Permit 4893-WR-3. Flows over the past year indicated an Annual Average Flow (AAF) of 40,000 GPD with a peak flow of around 150,000 GPD, with a capacity of 320,000 GPD, it is anticipated that Plant 2 will have ample treatment capacity over the next 5-years, even at peak flow. Although ample capacity is available and the operational life of Plant 2 is relatively young, instances of MMR exceedances of TSS have persisted.

Environmental Resources

The only environmental resource involved with this plan is the renewal of the City's existing ADEQ No-Discharge Permit.

Growth Area and Population

According to the Northwest Arkansas Regional Planning Committee (NWARPC), from 1990 to 2010, the average annual population increase of Cave Springs was roughly 64 people per year. With continued growth of the Fairway Valley Residential Development, the population is expected to continue to grow at around the same rate over the next decade. Based on these population growth models, the City's current WWTP will have ample treatment capacity over the next permitting cycle.

System Operation & Maintenance

Because there is no new proposed construction or expansion to the existing facility, no new staff is currently needed for plant operations. Maintenance operation will continue based upon manufacturer's recommendations.

Case Background

The existing plant is adequately sized to handle the influent flowrates and loadings received from the sewer system. However, excess TSS accumulation has led to numerous discharge violations over the previous permitting cycle. It was realized by Plant staff that the cartridge filters used in the system were regularly clogging up. This was leading to sludge accumulation in the subsurface irrigation dosing tanks.

After a thorough system investigation, it was determined that the filters were not at fault and were only clogging up due to excess solids carryover. The true cause of the WWTP's accumulation of excess TSS was due to the Waste Activated Sludge (WAS) system pumps. The operators were turning on the pumps everyday and assuming that they were operating correctly, but did not realize that the pumps had become worn and were no longer adequately pumping the sludge. Repairing and replacing the WAS pumps was a simple fix for the treatment plant and did not require any additional system redesign. By replacing the WAS pumps, solids inventories are maintained to provide adequate and efficient operation. By wasting sludge as designed, treatment will improve, and TSS will no longer carryover to the dosing tanks and into the subsurface disposal fields.

Proposed Goals of the Plan

The issues pertaining to exceedances of permitted TSS concentrations have been identified and corrected. It is predicted that after a period of equilibration, future instances of exceeding permitted TSS concentrations will be prevented. The plant operators and staff have been made aware of what created the problem and how to identify and prevent future instances of this from happening again.

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MAKE ADDITIONAL COPIES OF THIS FORM FOR	WASTEWATER	EFFLUENT MONITORING PERIOD			**			
FUTURE USE. SUBMIT LAB ANALYSES WITH THIS	MM/DD/YYYY	- MM/DD/YYY						
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TREATED WASTEWATER EFFLUENT SAMPLING								
PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE			
PHOSPHOROUS, TOTAL (AS P) EFFLUENT GROSS VALUE	******	7,4	MG/L	ONCE/ MONTH	GRAB			
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE		6.8	MG/L	ONCE/ MONTH	GRAB			
PH EFFLUENT GROSS VALUE	6 to 9	6-4	S.U.	ONCE/ MONTH	GRAB			
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE		15.0	MG/L	ONCE/ MONTH	GRAB			
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		2400	N/100 ML	ONCE/ MONTH	GRAB			
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE	******	22.40	MG/L	ONCE/ MONTH	GRAB			
NITROGEN, AMMONIA TOTAL (AS NH₃N) EFFLUENT GROSS VALUE		17.1	MG/L	ONCE/ MONTH	GRAB			
NITROGEN, NITRATE + NITRITE (AS NO ₃ N + NO ₂ -N) EFFLUENT GROSS VALUE	*****	46,293	MG/L	ONCE/ MONTH	GRAB			
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE		65.0	MG/L	ONCE/ MONTH	GRAB			
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	*****	MONTHLY TOTAL DAILY MAX	MGD	ONCE/ MONTH	TOTAL FLOW			
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER I CERTIFY UNDER PENALTY OF LAW TH		ND AM WITH THE		TELEPHONE	DATE			
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COMMENTS AND EXPLANATION OF VIOLATIONS (Reference al	l attachments here)	-						

PERMITTEE NAME	FACILITY	NAME (IF DIFFERENT)		PERMIT NO.	
City of Cave Springs		·#2]	4893-WR-2].
P.O. Bay 36		ILITY ADDRESS		AFIN NO.	
Cave socings AR 727/8	198 Pe	ebble Beach		04-01642	
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PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) EFFLUENT GROSS VALUE	*****	8.7	MG/L	ONCE/ MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE		5.4	MG/L	ONCE/ MONTH	GRAB
PH EFFLUENT GROSS VALUE	6 to 9	6.4	S.U.	ONCE/ MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE		16.0	MG/L	ONCE/ MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		3400	N/100 ML	ONCE/ MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE	******	22.40	MG/L	ONCE/ MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH3N) EFFLUENT GROSS VALUE	******	17.5	MG/L	ONCE/ MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO3N + NO2-N) EFFLUENT GROSS VALUE	*****	40.67	MG/L	ONCE/ MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE	·	59-6	MG/L	ONCE/ MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	*****	MONTHLY TOTAL DAILY MAX	MGD	ONCE/ MONTH	TOTAL FLOW
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vaintenance on clarifier and "D" box	should resolve	t TSS issues.			

	PERMI	TTEE NAME
City of	Cave	Springs
PERSONAL PROPERTY.		TEE ADDRESS
P.O. Box Cave Sprin	36 AR	22718
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电视心验	FACILITY	NAME (IF DIFFERENT)
	Plant	#2
ALC: N	FA	CILITY ADDRESS
498	Pebble	Beach

PERMIT NO.	20
4893-WR-2	
AFIN NO.	Œ.
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MAKE ADDITIONAL COPIES OF THIS FORM FOR FUTURE USE. SUBMIT LAB ANALYSES WITH THIS FORM.

WASTEWATER EFFLUENT MONITORING PERIOD

MM/DD/YYY

FROM

O7/01/90/6

TO 07/31/20/6

PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) EFFLUENT GROSS VALUE	*****	8.5	MG/L	ONCE/ MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE		11.6	MG/L	ONCE/ MONTH	GRAB
PH EFFLUENT GROSS VALUE	6 to 9	6.5	S.U.	ONCE/ MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE		36.0	MG/L	ONCE/ MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		340	N/100 ML,	ONCE/ MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE	******	22.40	MG/L	ONCE/ MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH₃N) EFFLUENT GROSS VALUE	* ****** .,	16.7	MG/L	ONCE/ MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ N + NO ₂ -N) EFFLUENT GROSS VALUE	*****	42.6	MG/L	ONCE/ MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE		61.0	MG/L	ONCE/ MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	*****	MONTHLY TOTAL DAILY MAX	MGD .	ONCE/ MONTH	TOTAL FLOW
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PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE	
PHOSPHOROUS, TOTAL (AS P) EFFLUENT GROSS VALUE		7.9	MG/L	ONCE/ MONTH	GRAB	
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE		8.2	MG/L	ONCE/ MONTH	GRAB	
PH EFFLUENT GROSS VALUE	6 to 9	6-3	S.U.	ONCE/ MONTH	GRAB	
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE		15.5	MG/L	ONCE/ MONTH	GRAB	
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		600	N/100 ML	ONCE/ MONTH	GRAB .	
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE		52.40	MG/L	ONCE/ MONTH	GRAB	
NITROGEN, AMMONIA TOTAL (AS NH ₃ N) EFFLUENT GROSS VALUE	******	20.0	MG/L	ONCE/ MONTH	GRAB	
NITROGEN, NITRATE + NITRITE (AS NO ₃ N + NO ₂ -N) EFFLUENT GROSS VALUE	*****	35.152	MG/L	ONCE/ MONTH	GRAB	
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE		30.5	MG/L	ONCE/ MONTH	GRAB	
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	*****	MONTHLY TOTAL DAILY MAX	MGD	ONCE/ MONTH	TOTAL FLOW	
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER CERTIFY UNDER PENALTY OF LAW THAT				TELEPHONE	DATE	
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day before the lab pulled the sample. We will investigate and make sure that is the grablem.						

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY MONITORING REPORT FOR DECENTRALIZED WASTEWATER TREATMENT FACILITIES VIA DRIP IRRIGATION

PERMITTEE NAME
City of Cave Springs
PERMITTEE ADDRESS
P.O. Box 36 Cave Springs AR, 70718

MAKE ADDITIONAL COPIES OF THIS FORM FOR FUTURE USE. SUBMIT LAB ANALYSES WITH THIS

	FACILITY	NAME (IF	DIFFERENT)
	Plant	#2	
MARKET	FA	CILITY AD	DRESS
	498	Pebble	Beach

PERMIT NO. 4893-WK-2 AFIN NO. 04 - 01642

FORM. FROM	12/01/2015	TO 12/3/18015			
	TREATED WASTEWATE	R EFFLUENT SAMPLING			
PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) EFFLUENT GROSS VALUE	*****	4.9	MG/L	ONCE/ MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE		5.0	MG/L	ONCE/ MONTH	GRAB
PH EFFLUENT GROSS VALUE	6 to 9	6.5	S.U.	ONCE/ MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE		16.0	MG/L	ONCE/ MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		2500	N/100 ML	ONCE/ MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE	*****	13.40	MG/L	ONCE/ MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH3N) EFFLUENT GROSS VALUE	*****	3.2	MG/L	ONCE/ MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO3N + NO2-N) EFFLUENT GROSS VALUE	*****	32.79	MG/L	ONCE/ MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE		39.1	MG/L	ONCE/ MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	*****	MONTHLY TOTAL DAILY MAX	MGD	ONCE/ MONTH	TOTAL FLOW
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ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY MONITORING REPORT FOR DECENTRALIZED WASTEWATER TREATMENT FACILITIES VIA DRIP IRRIGATION

City of Caue Springs PERMITTEE ADDRESS	FACILITY I		PERMIT NO. 4893 - ωR-Ω		
P.O. Box 36 Cave Springs , AR, 72718		oble Beach		AFIN NO. OH-OIGH A	
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		R EFFLUENT SAMPLING		7,	
PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) EFFLUENT GROSS VALUE	*****	7.0	MG/L	ONCE/ MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE		5.0	MG/L	ONCE/ MONTH	GRAB
PH EFFLUENT GROSS VALUE	6 to 9	6.5	S.U.	ONCE/ MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE		16.0	MG/L	ONCE/ MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		4	N/100 ML	ONCE/ MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE	*****	20.20	MG/L	ONCE/ MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH₃N) EFFLUENT GROSS VALUE	*****	13.8	MG/L	ONCE/ MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ N + NO ₂ -N) EFFLUENT GROSS VALUE	******	45.02	MG/L	ONCE/ MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE	:	60.7	MG/L	ONCE/ MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	******	MONTHLY TOTAL DAILY MAX 1.49 .045	MGD	ONCE/ MONTH	TOTAL FLOW
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER CERTIFY UNDER PENALTY OF LAW THAT				TELEPHONE	DATE
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City of Cave Springs	Plant t			4893-WR-2	· .
P.O. Box 36 Cave Springs, AR, 72718	1499 1/2	5. Main st		04-01642	,
MAKE ADDITIONAL COPIES OF THIS FORM FOR		EFFLUENT MONITORING PERIOD			
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	07/01/2015	TO 07/31/2019			
	TREATED WASTEWAT	REFELUENTISAMPLING			41.0
PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) EFFLUENT GROSS VALUE	****** .	14.9	MG/L	ONCE/ MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE		27.0	MG/L	ONCE/ MONTH	GRAB
PH EFFLUENT GROSS VALUE	6 to 9	7.0	S.U.	ONCE/ MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE		28.0	MG/L	ONCE/ MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		70.0	N/100 ML	ONCE/ MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE	*****	42.60	MG/L	ONCE/ MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH₃N) EFFLUENT GROSS VALUE	******	41.6	MG/L	ONCE/ MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO₃N + NO₂-N) EFFLUENT GROSS VALUE	*****	,469	MG/L	ONCE/ MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE		42.4	MG/L	ONCE/ MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	*****	MONTHLY TOTAL DAILY MAX	MGD	ONCE/ MONTH	TOTAL FLOW
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER I CERTIFY UNDER PENALTY OF LAW THAT INFORMATION SUBMITTED HEREIN; AND I	I HAVE PERSONALLY EXAMINED AN	D AM WITH THE		TELEPHONE	DATE
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TYPED OR PRINTED IMPRISONMENT.	WATION, INCLUDING THE PUSSIBILIT	Y OF FINE AND EXECUTIVE O	FFICER OR D AGENT	AREA CODE NUMBER	MM/DD/YYYY
COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all att	achments here) We wi	ill be shuting this poli	ant days	mechan	1 42 200 001
COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all att fixed and until we get enough flow to monthly total will not be accurate ADEO Form	this plant, as or due to Mac me	now we are sendin	g all was	ite water to	plant #2.
ADEO Form		Mai Functioning.			

ADEQ Form

	TOTAL TOTAL PROPERTY OF THE PR
PERMITTEE NAME OF ACADE AND A	FACILITY NAME (IF DIFFERENT)
City of Cave Serings	PANT #/
PERMITTEE ADDRESS WARRENDS	SECRETARIA DE PACILITY ADDRESS PROPERTOR
Cave Springs Ar 727/8	14991/2 S. Main
MAKE ADDITIONAL COPIES OF THIS FORM FOR	WASTEWATER EFFLUENT MONITORING PERIOD WE ANALYSE
FUTURE USE. SUBMIT LAB ANALYSES WITH THIS	MM/DDYYYY MM/DDYYYY
FORM.	FROM 06-01-2015 TO 06-30-2015

CONTROL CONTRO	GTREATED WASTEWATI	R EFFLUENT SAMPLING	AND THE R.	Harris Market Barrell	PESANT IN AL DIVING
PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) EFFLUENT GROSS VALUE	. ******	5.0	MG/L	ONCE/ MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE	·	60	MG/L	ONCE/ MONTH	GRAB
PH EFFLUENT GROSS VALUE	6 to 9	7,2	S.U.	ONCE/ MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE	***************************************	20.0	MG/L	ONCE/ MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		1500	N/100 ML	ONCE/ MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE	*****	26.90	MG/L	ONCE/ MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH₃N) EFFLUENT GROSS VALUE		25,6	MG/L	ONCE/ MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO3N + NO2-N) EFFLUENT GROSS VALUE	******	12.3	MG/L	ONCE/ MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE		38.3	MG/L	ONCE/ MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	******	MONTHLY TOTAL DAILY MAX	MGD	ONCE/ MONTH	TOTAL FLOW
RILK SCYPE.	HAVE PERSONALLY EXAMINED AN	D AM WITH THE	7	TELEPHONE	DATE
WATER-Sewer Superinterly Information is true, accurate, and or	NG THE INFORMATION, I BELIEVE IMPLÉTE. I AM AWARE THAT THERE	THE SUBMITTED ARE SIGNATURE O		479-721-7539	07-02-2015
			OFFICER OR ED AGENT		
COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all as AND PUMPOUT SIME SLUGE From DESC TOMIC TO WE ALSO HAD TAMES OVER FLOW ON 6-18-2 STATED USING SEWER PLANT #Z, Sewer ADEQ FORM	tachments here) OV/TSS Sludge Timk, We Ad US From RAIN A Cr Overflow (or	is still A little High Iso Had Mugmeter Go NO pumps Quit word Itiv mation Number	HOLD HAVE V	rset the slodge the Firsts day in 180 f June,	Timers or plant sof the month. We ALSD
ADEQ Form			11000	13H	

4873-WR-Z

PERMITTEE NAME ***	NEW STREET	NAME (IF DIFFERENT)	T PACIFILIES (IA DRIP IRRIGAT	
City of Cauc Springs	Plant H	/	4	PERMIT NO.]
PERMITTEE ADDRESS & PARCELE	PERM	CILITY ADDRESS	爿	4893-WR-Z]
Cave Spring S Ar 727/8			<u> </u>	AFIN NO.	
MAKE ADDITIONAL COPIES OF THIS FORM FOR	177712	S. Main		04-01642	1
FUTURE USE. SUBMIT LAB ANALYSES WITH THIS	MM/DD/YYYY	EFFLUENT MONITORING PERIOD	TEDAY		
FORM. FROM	05-01-3015	TO AC-3/-			
PARAMETER	ATREATED WASTEWAY	TO 05-31-5	2015		
PARAMETER	THEATED WASTEWAT	ER EFFLUENT SAMPLING	(2) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	and the second	
	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) EFFLUENT GROSS VALUE				ANALYSIS	SAMPLE TIPE
		6.7	MG/L	ONCE/	GRAB
CBOD, 5-DAY (20 DEG. C)		10.1		MONTH	0.00
EFFLUENT GROSS VALUE		10.1	MG/L	ONCE/	
PH		19.6		MONTH	GRAB
EFFLUENT GROSS VALUE	6 to 9			ONCE/	
		7.0	S.U.	MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE			†		
		28.0	MG/L	ONCE/ MONTH	GRAB
COLIFORM, FECAL GENERAL				MONTH	
EFFLUENT GROSS VALUE		2200	N/100 ML	ONCE/	2242
NITROGEN, TOTAL KJELDAHL (AS TKN)		2000		MONTH	GRAB
EFFLUENT GROSS VALUE	*****	2// 75	Mon	ONCE/	
NITROGEN, AMMONIA TOTAL (AS NH3N)		34.70	MG/L	MONTH	GRAB
EFFLUENT GROSS VALUE		20		Sugar.	
		29.5	MG/L	ONCE/ MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ N + NO ₂ -N)	*****			MONTH	
EFFLUENT GROSS VALUE		23.53	MG/L	ONCE/	CDAD
PLANT AVAILABLE NITROGEN (AS PAN)		2000		MONTH	GRAB
CALCULATED VALUE		C111	MG/L	ONCE/	
FLOW, THRU CONDUIT OR TREATMENT UNIT		54.6	, more	MONTH	GRAB
EFFLUENT GROSS VALUE	•••••	MONTHLY TOTAL DAILY MAX		ONCE/	
		1.10 0.07	MGD	MONTH	TOTAL FLOW
RILK SCHIPE INFORMATION SUBMITTED HEREIN AND B		AM WITH THE		TELEPHONE	0.175
WATER-Sewer Superinter Conformation is True accurate and con-	THE INFORMATION, I BELIEVE T	HE SUBMITTED	(1.11)	TELEPHONE	DATE
			xuju	499-721-7539	N/ n/201
TYPED OR PRINTED PENALTIES FOR SUBMITTING FALSE INFORM IMPRISONMENT.	ATION, INCLUDING THE POSSIBILITY	OF FINE AND EXECUTIVE O	FFICER OR	111 101 1001	06-01-2015
COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all atta Our Sever plant must have gotten Hit I One master pump. Not sure if this is the pro getting everything FixED, Had Region ADEQ Form With All the rain this migh	ichments here \	AUTHORIZE	D AGENT	CODE NUMBER	MM/DD/YYYY
Our Sever plant must have gotten Hit	by lighting ground	the 27 of May, WE l	ost one sluc	POURD MACA	1-4-C A
One master pump. Not sure if this is the on	ben To Six Hick	TES those it was the	e partiem =	מצחות שוקטק	ard, And
getting everything FixED Had Bonn	o Ven Com	111	ישים ומשושטים	BUT BOD, A	e working on
ADEQ Form With All the Main this	+ los aresory o	UT TO GO OUD! PLA	nt. Still a	of Pondon o	ndrio Evid
The free from this mass	nt be some of t	he problem to the	rond ne	Revised De	2ember 13, 2005
					Annual La Zines

PERMITTEE NAME	FACILITY NAME (IF DIFFERENT)			PERMIT NO.	
City of Cauc Secings	PHort #1			4813 WR-Z	
PERMITTEE ADDRESS		ILITY ADDRESS		AFIN NO.	CEIVE
Caux Springs, Ar 727/8	1499 12 3	S. Main		04-016VL	
MAKE ADDITIONAL COPIES OF THIS FORM FOR	WASTEWATER	EFFLUENT MONITORING PERIOD.		N A	MAY 1 3 2015
FUTURE USE. SUBMIT LAB ANALYSES WITH THIS	WWDDJAAAA	MM/DDYYY		11	10.50
FORM. FROM	04-01-2015	TO 04-30-20	015		-
and the second of the first the second of	TREATED WASTEWATE	R EFFLUENT SAMPLING	Marine San Art Berg	the fact of the second	
PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) EFFLUENT GROSS VALUE	******	6.2	MG/L	ONCE/ MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE		14.0	MG/L	ONCE/ MONTH	GRAB
PH EFFLUENT GROSS VALUE	6 to 9	7.4	S.U.	ONCE/ MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE		17.0	MG/L	ONCE/ MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		5800	N/100 ML	ONCE/ MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE		31.40	MG/L	ONCE/ MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH ₃ N) EFFLUENT GROSS VALUE		29.9	MG/L	ONCE/ MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ N + NO ₇ -N) EFFLUENT GROSS VALUE	*****	13.83	MG/L	ONCE/ MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE		44.2	MG/L	ONCE/ MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	*****	MONTHLY TOTAL DAILY MAX 6.88 0.035	MGD	ONCE/ MONTH	TOTAL FLOW
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER CERTIFY UNDER PENALTY OF LAW THAT	I HAVE PERSONALLY EXAMINED A		0	TELEPHONE	DATE
RICK SHYPE INFORMATION SUBMITTED HEREIN; AND			aus		
IMMEDIATELY RESPONSIBLE FOR OBTAIN	ING THE INFORMATION, I BELIEVE	THE SUBMITTED	augo	476-721-7539	105-05-2015
TYPED OR PRINTED PENALTIES FOR SUBMITTING FALSE INFO	RMATION, INCLUDING THE POSSIBIL	ITY OF FINE AND EXECUTIVE	OF PRINCIPAL OFFICER OR	AREA MINESE	MM/DDYYYY
COMMENT.	attachmente horo		ZED AGENT	CODE	
Not Sure WMYTSS is HigH AS AW, Just H Drip field. Have falled AND Meet with	and slug THANKS PUR SAME SAM DUNN &	npal out. We Ave A McClelland consultin	realso Having Engineers	ing some por sto Fix the p	nding on arbiem.

ADEQ Form

City of Caus Sections	-	DANT #	NAME (IF DIRFERENT)	4	PERMIT NO.	
PERMITTEE ADDRESS	=		ILITY ADDRESS		4873-WR-Z]
Po. Box 36 Cave Springs, Ar 727/8	1 '		S. Main	4	04-01642	
MAKE ADDITIONAL COPIES OF THIS FORM FOR	_		EFFLUENT MONITORING PERIOD	1		
FUTURE USE. SUBMIT LAB ANALYSES WITH THIS		MM/DD/YYYY	MM/DD/YYY	Y		
FORM.	FROM	- Carre	TO 02-28-2			
	· 中国的政治	TREATED WASTEWATE	REFELUENT SAMPLING	STORE THE PARTY OF	A County	
PARAMETER		PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) GROSS VALUE	EFFLUENT	******	5.6	MG/L	ONCE/ MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE			7:0	MG/L	ONCE/ MONTH	GRAB
PH EFFLUENT GROSS VALUE		6 to 9	7.2	S.U.	ONCE/ MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE			15.0	MG/L	ONCE/ MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE	:		844	N/100 ML	ONCE/ MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE	4	*****	Z8.80 .	MG/L	ONCE/ MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH3N) EFFLUENT GROSS VALUE	-	*****	27.7	MG/L	ONCE/ MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ N + NO EFFLUENT GROSS VALUE	O ₂ -N)	*****	72,D	MG/L	ONCE/ MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE	i		SO. D	MG/L	ONCE/ MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	i.	*****	MONTHLY TOTAL DAILY MAX	MGD	ONCE/ MONTH	TOTAL FLOW
	PENALTY OF LAW THAT I	HAVE PERSONALLY EXAMINED AN	D AM WITH THE	7	TELEPHONE	DATE
LU Ater-Sewer Superinter by Information is to	PONSIBLE FOR OBTAINING RUE, ACCURATE, AND CON	BASED ON MY INQUIRY OF THOSE OF THE INFORMATION, I BELIEVE. MPLETE, I AM AWARE THAT THERE A	THE SUBMITTED AND A	Supe		03-05-2015
TYPED OR PRINTED IMPRISONMENT.		THE POSSIBILITY	TOP FINE AND EXECUTIVE	OFFICER OR	AREA	MM/DD/YYYY
COMMENTS AND EXPLANATION OF VIOLATIO	NS (Reference all atta	achments here)	AUTHORIZE	ED AGENT	COOE	. WIW(DD/TTTT
		,				

PERMITTEE NAME

Permittee NAME CHY OF CAUC SECRES PERMITTEE ADDRESS PO. BOX 34 CAUC SPONCES AC 72718		Plant H /	NAME (IF DIFFERENT)		H873 WR-Z SMAFIN NO.	
MAKE ADDITIONAL COPIES OF THIS FORM FOR FUTURE USE. SUBMIT LAB ANALYSES WITH THIS FORM.	FROM	MM/DDYYYY 61-01-2015	FFLUENT MONITORING PERIOD (1) MMDDMM TO 01-31-20	2/5		
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Contract of the	TREATED WASTEWATE	REFFLUENT SAMPLINGEN	発生なる。	ALCON .	
PARAMETER		PERMIT REQUIREMENT	SAMPLE MEASUREMENT .	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) EFFLU GROSS VALUE	ENT	*****	5.9	MG/L	ONCE/ MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE			5.D	MG/L	ONCE/ MONTH	GRAB
PH EFFLUENT GROSS VALUE		6 to 9	7.2	S.U.	ONCE/ MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE			18.0	MG/L	ONCE/ MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE			4100	N/100 ML	ONCE/ MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE		*****	24.60	MG/L	ONCE/ MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH3N) EFFLUENT GROSS VALUE			23,6	MG/L	ONCE/ MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ N + NO ₂ -N) EFFLUENT GROSS VALUE		******	16.7	MG/L	ONCE/ MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE			40.6	MG/L	ONCE/ MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT		*****	MONTHLY TOTAL DAILY MAX	MGD	ONCE/ MONTH	TOTAL FLOW
NAMERTITLE PRINCIPAL EXECUTIVE OFFICER I CERTIFY UNDER PENALTY	OF LAW THAT I	HAVE PERSONALLY EXAMINED AN	AM WITH THE	7	TELEPHONE	DATE
WATER-SEWER Superintered Theoremation is True, accu	FOR OBTAINING RATE, AND COM	ASED ON MY INQUIRY OF THOS THE INFORMATION, I BELIEVE T PLETE. I AM AWARE THAT THERE A	THE SUBMITTED AND A CHARLES SIGNIFICANT	Signe		0202-2015
TYPED OR PRINTED PENALTIES FOR SUBMITTING	FALSE INFORM	ATION, INCLUDING THE POSSIBILIT	Y OF FINE AND EXECUTIVE O	FFICER OR	AREA	MM/DD/YYYY
COMMENTS AND EXPLANATION OF VIOLATIONS (Refe Concergant our TSS IS HIGH, WE H Corre of this publish.	arence all atta Ad 130+h	ichments here) Slvg Tanks pump	ed out on 1-13-2015.	I hope +	45 TAKES	
ADEQ Form						

PERMITTEE NAME 250	FACILITY	NAME (IF DIFFERENT)		PERMIT NO.	i
City of Cave Serios	- Plant #	/	7	4893-WR-Z	
P.O. BOX 36		ILITY ADDRESS		AFIN NO.	
Cave springs, Ar 727/8		S. Main		04-01642	J
MAKE ADDITIONAL COPIES OF THIS FORM FOR FUTURE USE. SUBMIT LAB ANALYSES WITH THIS	MM/DD/YYYY	EFFLUENT MONITORING PERIOD			
FORM.	FROM 12-01-7014	TO 72-37-3	2011		
2000年1月1日 1月1日 1月1日 1月1日 1日 1	TREATED WASTEWATE	R EFFLUENT SAMPLING	MARKAN WARRANG	Section 14.5	
PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) EFFLUENT GROSS VALUE	*****	6.3	MG/L	ONCE/ MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE		13.0	MG/L	ONCE/ MONTH	GRAB
PH EFFLUENT GROSS VALUE	6 to 9	7.1	S.U.	ONCE/ MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE		21.0	MG/L	ONCE/ MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		6800	N/100 ML	ONCE/ MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE	*****	16.80	MG/L	ONCE/ MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH ₃ N) EFFLUENT GROSS VALUE		12.0	MG/L	ONCE/ MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ N + NO ₂ -N) EFFLUENT GROSS VALUE	******	26.80	MG/L	ONCE/ MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE		40.2	MG/L	ONCE/ MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE NAME/TITLE PRINCIPAL EXECUTIVE OFFICER I CERTIFY UNDER PENALTY OF LAW		MONTHLY TOTAL DAILY MAX 6.86 (9.03.3)	MGD	ONCE/ MONTH	TOTAL FLOW
	V THAT I HAVE PERSONALLY EXAMINED AND AND BASED ON MY INQUIRY OF THOS	AM WITH THE		TELEPHONE	DATE
			supe	100 721 702	
TYPED OR PRINTED TYPED OR PRINTED	E INFORMATION, INCLUDING THE POSSIBILIT	Y OF FINE AND EXECUTIVE OF		449-161-1539	01-02-2015
COMMENTS AND EXPLANATION OF VIOLATIONS (References	a all attachments have	AUTHORIZE	D AGENT	AREA CODE NUMBER	MM/DD/YYYY
COMMENTS AND EXPLANATION OF VIOLATIONS (Reference TSS WENT BACK UP NOT SUR WMY, WE OF TAINIL, I THINK OUT NEXT STEP IS TO	pumped Close tank Back nave slugt Tanks pum	To the Front of plant apped out and Have slug	to SEE How S. Howlad off	much shig wa	s in bottom
ADEQ Form			k		cember 13, 2005

PERMITTEE NAME		FACILITY NAME (IF DIFFERENT)		4873 WR-Z	
PERMITTEE ADDRÉSS	Phont #/	LITY ADDRESS		AFIN NO.	
Do. Box 36				04-01642	
Cave Sorras, Ar 72718	149912 8	s. Main			
MAKE ADDITIONAL COPIES OF THIS FORM FOR		FFLUENT MONITORING PERIOD		MECE	IVEN
FUTURE USE. SUBMIT LAB ANALYSES WITH THIS	MMODAYYY	MM/DDYYYY		4 SKR	2 10am 0 2014
FORM. FF	ROM 10-01-2014	TO 10 31-26	14	NOV 1	0 2014
	TREATED WASTEWATE	R EFFLUENT SAMPLING		1	
PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUÊNCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) EFFLUENT GROSS VALUE	*****	6.7	MG/L	ONCE/ MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE		6.0	MG/L	ONCE/ MONTH	GRAB
PH EFFLUENT GROSS VALUE	6 to 9	6.1	S.U.	ONCE/ MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE		26.0	MG/L	ONCE/ MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		800	N/100 ML	ONCE/ MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE	*****	11.70	MG/L	ONCE/ MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH3N) EFFLUENT GROSS VALUE		8.6	MG/L	ONCE/ MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ N + NO ₂ -N) EFFLUENT GROSS VALUE		38.568	MG/L	ONCE/ MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE		47.9	MG/L	ONCE/ MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE		MONTHLY TOTAL DAILY MAX 0.90 0056	MGD	ONCE/ MONTH	TOTAL FLOW
	THAT I HAVE PERSONALLY EXAMINED AN	D AM WITH THE		TELEPHONE	DATE
WATER SENER SUPERINTER INFORMATION IS TRUE, ACCURATE, AN	and based on my inquiry of tho itaining the information, I believe id complete. I am aware that there	THE SUBMITTED ARE SIGNIFICANT SIGNATURE OF		479-721-7539	11-03-2014
TYPED OR PRINTED IMPRISONMENT	INFORMATION, INCLUDING THE POSSIBILI	AUTHORIT	ED ACENT	AREA NUMBER	MM/DD/YYYY
COMMENTS AND EXPLANATION OF VIOLATIONS (Reference: TSS HILLY - When they is stalled plant they From DOSE TANK TO the Slug TANK, -	all attachments here)	cinta dose TANK.	We are go	my to remove)	Wish Line
755 HIGH-WATER TO the SING TANK	THON HAVE CLUSE LAND	K pumped out.	,		/ -
From Vise Park to the	THE PARE (LOSE PARE	<i>p y z</i>			120

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY

MONTHLY MONITORING REPORT FOR DECENTRALIZED WASTEWATER TREATMENT FACILITIES VIA DRIP IRRIGATION ADEQ PERMIT NO. FACILITY NAME (IF DIFFERENT) PERMITTEE NAME 4873 WR- L OCT 02 2014 City of CAUC SPECIOS DANH #1 PERMITTEE ADDRESS FACILITY ADDRESS AFIN NO. PO. BOX 36 04-01642 149912 S. Main ECEIVE Cave Sorry S, Ar 727/8 MAKE ADDITIONAL COPIES OF THIS FORM FOR WASTEWATER EFFLUENT MONITORING PERIOD FUTURE USE. SUBMIT LAB ANALYSES WITH THIS MM/DD/YYYY MM/DD/YYYY OCT 08 2014 FORM. FROM TREATED WASTEWATER EFFLUENT SAMPLING FREQUENCY OF PERMIT REQUIREMENT SAMPLE MEASUREMENT SAMPLE TYPE PARAMETER UNITS ANALYSIS ONCE/ PHOSPHOROUS, TOTAL (AS P) **EFFLUENT** MG/L GRAB **GROSS VALUE** MONTH CBOD, 5-DAY (20 DEG. C) ONCE/ MG/L GRAB **EFFLUENT GROSS VALUE** MONTH ONCE/ 6 to 9 S.U. GRAB EFFLUENT GROSS VALUE MONTH SOLIDS, TOTAL SUSPENDED ONCE/ MG/L GRAB EFFLUENT GROSS VALUE MONTH COLIFORM, FECAL GENERAL ONCE/ N/100 ML GRAB MONTH EFFLUENT GROSS VALUE NITROGEN, TOTAL KJELDAHL (AS TKN) ONCE/ MG/L GRAB **EFFLUENT GROSS VALUE** MONTH NITROGEN, AMMONIA TOTAL (AS NH₃N) ONCE/ ***** MG/L GRAB MONTH EFFLUENT GROSS VALUE NITROGEN, NITRATE + NITRITE (AS NO₃N + NO₂-N) ONCE/ ***** MG/L GRAB MONTH EFFLUENT GROSS VALUE PLANT AVAILABLE NITROGEN (AS PAN) ONCE/ MG/L GRAB CALCULATED VALUE MONTH MONTHLY TOTAL DAILY MAX FLOW, THRU CONDUIT OR TREATMENT UNIT ONCE/ MGD TOTAL FLOW EFFLUENT GROSS VALUE 0.031 MONTH NAME/TITLE PRINCIPAL EXECUTIVE OFFICER CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM WITH THE TELEPHONE DATE FORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS RILK Sayre MEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED 721-7539 IN After-Source Superinterle INTORMATION IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT SIGNATURE OF PRINCIPAL PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND EXECUTIVE OFFICER OR TYPED OR PRINTED MM/DD/YYYY COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all attachments here)

it tolls like our TSS is still high how were in contact with company that installed bysten, where tried living they required to do and it is still high, we are now going to have the slung tourks AUTHORIZED AGENT

City of Caus Secres	DANT #1	NAME (IF DIFFERENT)		H873 WR-Z	
Cave Springs Ar 727/8	149912 3	S. Main	1	04-01642	
MAKE ADDITIONAL COPIES OF THIS FORM FOR FUTURE USE. SUBMIT LAB ANALYSES WITH THIS	WASTEWATER	EFFLUENT MONITORING PERIOD			
FORM. FROM	MMVDDYYYY 1 08-01-204	TO 08-31-20	14		
。 一种工作, 中国的人种和自然, 中国的人种和自然, 中国的人种和自然, 中国的人种和自然, 中国的人种和自然, 中国的人种和自然, 中国的人种和自然, 中国的人种和自然, 中国的人种和自然, 中国的人种和自然, 中国的人种和自然, 中国的人种和自然, 中国的人种和自然, 中国的人种和自然, 中国的人种和自然, 中国的人种和自然, 中国的人种和自然, 中国的人种和自然, 中国的人种种和自然, 中国的人种种和自然, 中国的人种种种种和自然, 中国的人种种种种种种种种种种种种种种种种种种种种种种种种种种种种种种种种种种种种	TREATED WASTEWATE	REFFLUENT SAMPLING	COMMON TO STATE OF ST	etipes as a real	35 Page 1
PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) EFFLUENT GROSS VALUE	*****	6.7	MG/L	ONCE/ MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE		9.0	MG/L	ONCE/ MONTH	GRAB
PH EFFLUENT GROSS VALUE	6 to 9	6.0	S.U.	ONCE/ MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE		18.0	MG/L	ONCE/ MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		100	N/100 ML	ONCE/ MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE	*****	15.70	MG/L	ONCE/ MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH₃N) EFFLUENT GROSS VALUE	. *****	9.5	MG/L	ONCE/ MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO₃N + NO₂-N) EFFLUENT GROSS VALUE	******	45.386	MG/L	ONCE/ MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE		56.7	MG/L	ONCE/ MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	******	MONTHLY TOTAL DAILY MAX 0,65 0.025	MGD	ONCE/ MONTH	TOTAL FLOW
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER CERTIFY UNDER PENALTY OF LAW THAT	I HAVE PERSONALLY EXAMINED AN	AM WITH THE		TELEPHONE	DATE
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TYPED OR PRINTED IMPRISONMENT.	MATION, INCLUDING THE POSSIBILIT	Y OF FINE AND EXECUTIVE O		AREA NUMBER	MM/DD/YYYY
COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all att	achments here)	- to low HAVE AT	usted the	1x Place	

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY MONTHLY MONITORING REPORT FOR DECENTRALIZED WASTEWATER TREATMENT FACILITIES VIA DRIP IRRIGATION PERMITTEE NAME (VALUE) FACILITY NAME (IF DIFFERENT) AGE, THE

PERMIT NO. /

Revised December 13, 2005 and the first state of the

City of Cave Springs	DANT # 1		7	4873-WR-Z	1
PERMITTEE ADDRESS WEEK TO A	FAC	ILITY ADDRESS	ā ·	TO AFIN NO.	i
Cave Spring S, Ar 727/8	149912 3	S. Main	1	04-01642	
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PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) EFFLUENT GROSS VALUE	******	7.6	MG/L	ONCE/ MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE		10.0	MG/L	ONCE/ MONTH	GRAB
PH EFFLUENT GROSS VALUE	6 to 9	6.4	· S.U.	ONCE/ MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE		32.0	MG/L	ONCE/ MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		164	N/100 ML	ONCE/ MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE	******	14.60	I MG/L	ONCE/ MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH ₃ N) EFFLUENT GROSS VALUE		11.2) MG/L	ONCE/ MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO₃N + NO₂-N) EFFLUENT GROSS VALUE	******	33.635	MG/L	ONCE/ MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE		45.8	MG/L	ONCE/ MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	*****	MONTHLY TOTAL DAILY MAX 0.632 0.024	MGD	ONCE/ MONTH	TOTAL FLOW
NAME/TITLE PRINCIPAL EXECUTIVE OFFICIAL I CERTIFY UNDER PENALTY OF LAW THAT	I HAVE PERSONALLY EXAMINED AN	D AM WITH THE		TELEPHONE	DATE
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COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all at	tachments here)	AUTHORIZE	/ /D	CODE	
TSS-Lymits we high this Musity W	e found that th	le slose pumps had	Been wi	por	
Turned off.					

ADEQ Form

PERMITTEE NAME > R. A.C.	FACILITY.	NAME (IF DIFFERENT)	a .	PERMIT NO.	1
City of Cave Springs	Plant #		1	4873-WR-Z	·
PERMITTEE ADDRESS POR COME	CARLES THAT FAC	ILITY ADDRESS	នី	WAFIN NO.	i
Cave Springs Ar 727/8	149912 3	S. Main	1	04-01642	
MAKE ADDITIONAL COPIES OF THIS FORM FOR		EFFLUENT MONITORING PERIODS	E STATE OF THE STA		
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PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) EFFLUENT GROSS VALUE	******	5.2	MG/L	ONCE/ MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE		11.0	MG/L	ONCE/ MONTH	GRAB
PH EFFLUENT GROSS VALUE	6 to 9	7.3	S.U.	ONCE/ MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE		22.0	MG/L	ONCE/ MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		8100	N/100 ML	ONCE/ MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE	*****	30,20	MG/L	ONCE/ MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH ₃ N) EFFLUENT GROSS VALUE	*****	0.3	MG/L	ONCE/ MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ N + NO ₂ -N) EFFLUENT GROSS VALUE	*****	22.19	MG/L	ONCE/ MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE		31.5	MG/L	ONCE/ MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	*****	MONTHLY TOTAL DAILY MAX	MGD	ONCE/ MONTH	TOTAL FLOW
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER CERTIFY UNDER PENALTY OF LAW THAT	I HAVE PERSONALLY EXAMINED AN	D AM WITH THE		TELEPHONE	DATE
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COMMENTS AND EXPLANATION OF VIOLATIONS (Paferance of at	tachments here	AUTHORIZE		CODE NUMBER	MM/DD/YYYY
Total Suspended Solids, we a little	High this mont	n, We had just clear	ned the F.	Hers At	
the cower plants. THIS might be 4	he cause of the 1	4:1 h readings.	•		

Revised December 13, 2005

ADEQ Form

PERMITTEE NAME OF THE PARTY OF		NAME (IF DIFFERENT)		PERMIT NO.	
City of Cave Spring S	plant # 1	ILITY ADDRESS	1	4883-WEZ	
00.B0x36			4	04-0164Z	
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				FREQUENCY OF	
PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	ANALYSIS	SAMPLE TYPE
PHOSPHOROUS, TOTAL (AS P) EFFLUENT GROSS VALUE	******	4.7	MG/L	ONCE/ MONTH	GRAB
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE		2.0	MG/L	ONCE/ MONTH	GRAB
PH EFFLUENT GROSS VALUE	6 to 9	6.7	S.U.	ONCE/ MONTH	GRAB
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE		ZZ. O	MG/L	ONCE/ MONTH	GRAB
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		210	N/100 ML	ONCE/ MONTH	GRAB
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE	******	10.10	MG/L	ONCE/ MONTH	GRAB
NITROGEN, AMMONIA TOTAL (AS NH3N) EFFLUENT GROSS VALUE	******	5.7	MG/L	ONCE/ MONTH	GRAB
NITROGEN, NITRATE + NITRITE (AS NO ₃ N + NO ₂ -N) EFFLUENT GROSS VALUE	*****	22,917	MG/L	ONCE/ MONTH	GRAB
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE		29.9	MG/L	ONCE/ MONTH	GRAB
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	******	MONTHLY TOTAL DAILY MAX 0.065	MGD	ONCE/ MONTH	TOTAL FLOW
NAME TITLE PRINCIPAL EXECUTIVE OFFICER CERTIFY UNDER PENALTY OF LAW THAT			0	TELEPHONE	DATE
W41-er Sever Superinted Commation is these accurate, and co	NG THE INFORMATION, I BELIEVE MPLETE. I AM AWARE THAT THERE A	THE SUBMITTED JULY A		479 7217539	09-04-2013
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COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all at Looks like Total Suspended Solids Exceed and but by lighting and Chused A Down Ou	tachments here) 5 Permittimits. T Age it Alsova	His might be because	00 08-08-	Zol3our Seu	ier plant

MM/DD/YYYY

PERMITTEE NAME TO A STATE OF THE
City of Cave Springs
PERMITTEE ADDRESS
P.D.BOX36
Cave Springs ar 72718
MAKE ADDITIONAL COPIES OF THIS FORM FOR
FUTURE USE. SUBMIT LAB ANALYSES WITH THIS

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MM/DD/YYYY

PENPERMIT NO. 15% 4893-WR-Z

FORM. FRO		то								
TREATED.WASTEWATER EFFLUENT SAMPLING WASTEWATER EFFLUENT SAMPLING										
PARAMETER	PERMIT REQUIREMENT	SAMPLE MEASUREMENT	UNITS	FREQUENCY OF ANALYSIS	SAMPLE TYPE					
PHOSPHOROUS, TOTAL (AS P) EFFLUENT GROSS VALUE	*****	3.6	MG/L	ONCE/ MONTH	GRAB					
CBOD, 5-DAY (20 DEG. C) EFFLUENT GROSS VALUE		2.0	MG/L	ONCE/ MONTH	GRAB					
PH EFFLUENT GROSS VALUE	6 to 9	9.9	S.U.	ONCE/ MONTH	GRAB					
SOLIDS, TOTAL SUSPENDED EFFLUENT GROSS VALUE		18.D	MG/L	ONCE/ MONTH	GRAB					
COLIFORM, FECAL GENERAL EFFLUENT GROSS VALUE		26	N/100 ML	ONCE/ MONTH	GRAB					
NITROGEN, TOTAL KJELDAHL (AS TKN) EFFLUENT GROSS VALUE	******	11.20	MG/L	ONCE/ MONTH	GRAB					
NITROGEN, AMMONIA TOTAL (AS NH₃N) EFFLUENT GROSS VALUE	******	7.4	MG/L	ONCE/ MONTH	GRAB .					
NITROGEN, NITRATE + NITRITE (AS NO ₃ N + NO ₂ -N) EFFLUENT GROSS VALUE	*****	37.79	MG/L	ONCE/ MONTH	GRAB					
PLANT AVAILABLE NITROGEN (AS PAN) CALCULATED VALUE		46.3	MG/L	ONCE/ MONTH	GRAB					
FLOW, THRU CONDUIT OR TREATMENT UNIT EFFLUENT GROSS VALUE	******	MONTHLY TOTAL DAILY MAX	MGD	ONCE/ MONTH	TOTAL FLOW					
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER I CERTIFY UNDER PENALTY OF LAW THAT	0	TELEPHONE	DATE							
Rick A Sourc Information Submitted Herein; and Immediately Responsible for Obtain Water Superstandent Information is true, accurate, and co	OUNL F PRINCIPAL	479 7217589	09-05-2012							
TYPED OR PRINTED PENALTIES FOR SUBMITTING FALSE INFO		AUTUODITE	EXECUTIVE OFFICER OR AUTHORIZED AGENT		MM/DD/YYYY					
COMMENTS AND EXPLANATION OF VIOLATIONS (Reference all as We new St. Il working con How much Social as we just cleaned Filters at the plant, It	n to add toget P.h n's might be why	.where we NEDIX. TSS was high this	Should Be I Month.	better wext m	ionth.					

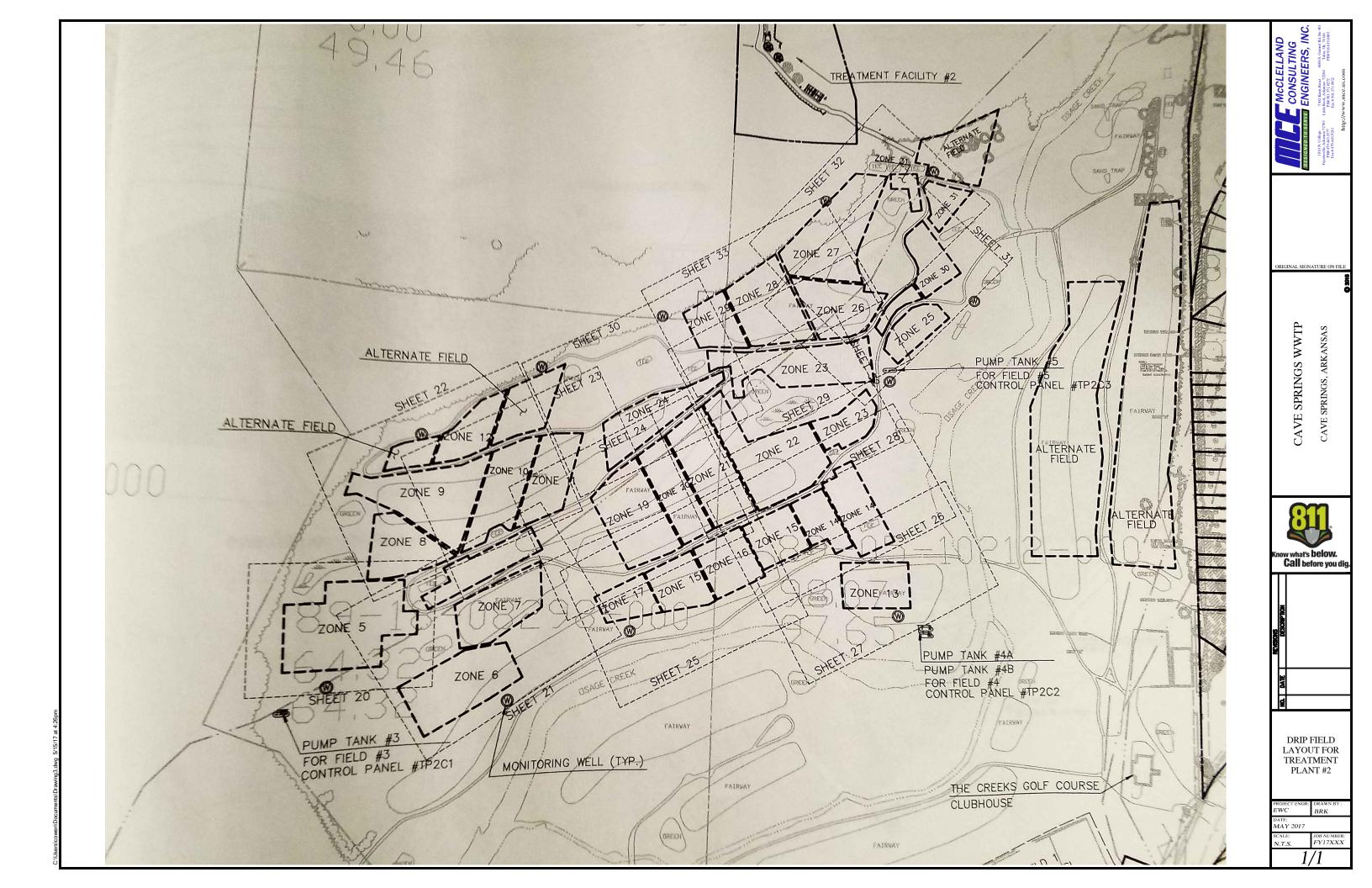
As agreed upon by McClelland Consulting Engineers (MCE) and Jamal Solaimanian of the ADEQ, Treatment Plant #1 will not be utilized during this permitting cycle. When Treatment Plant 1 is needed for further treatment purposes, The City of Cave Springs and MCE will consult with the ADEQ on requirements needed to implement the plant into future permits.

The City of Cave Springs, Arkansas has a municipal wastewater treatment plant which disposes its effluent via a subsurface discharge drip irrigation system located on an adjacent, privately owned golf course, The Creeks. There are five effluent disposal fields on the Creeks golf course which are intended to discharge effluent from the city of Cave Springs' two separate package wastewater treatment facilities into an underground drip system located on the Creek's Golf Course. Final construction of the plants was completed in 2006, connecting two dripfields to Treatment Plant 1 (TP1) and three dripfields to Treatment Plant 2 (TP2).

Originally only TP1, with a capacity of 92,000 gallons per day (GPD), was used for the city's sewage treatment needs and this was sufficient capacity to handle the city's waste treatment needs. However, since that time, TP1 has been taken out of service and TP2 serves as the only treatment facility for the city. TP2 has a much larger capacity of 320,000 GPD and is fully capable of handling waste flows, even at times of peak flow. With the current population growth projections, it has been determined that TP2 will be sufficient for the handling of the city's wastewater flows for the next permitting cycle, 4893-WR-3. TP1 will be kept on standby for future treatment needs and permitting cycles.

In accordance with the existing no discharge permit, 4893-WR-2, waste must be applied at a rate that provides a quantity of PAN that is equal or less than the nitrogen uptake rate of the cover crop. Cover crops on the golf course consist of the following three grasses, Bermuda, Fescue, and Rye. Waste is applied at a rate that complies with the guidelines set by the ADEQ based on the uptake of each cover crop. Bermuda grass was used as the cover crop for the course's fairway's and rough and therefore encompasses the vast majority of the dripfields. Rye and Fescue grasses are naturally occurring grasses which can be found in 'out of bounds' areas not developed by the golf course.

A monitoring well which lies in an intermediate elevation point on the course, within zone 8, can be used to assess the depth to groundwater level. In the previous permit 4893-WR-2, it is required that the depth to groundwater be at least 5-feet, in order to allow for proper treatment of Fecal Coliform. The most recent depth to groundwater measurement was taken in early May of 2017, where the depth to ground water was measured at 66-inches from the level of the soil. It should be noted that this measurement was taken only days after a significant flooding event when water table levels were high, and the depth to groundwater was still several inches clear of the permitted depth.









From: Barret Knutson

To: McWilliams, Katherine

Cc: Water Permit Application

Subject: RE: Permit 4893-WR-3; Response to Insufficiencies

Date: Monday, May 15, 2017 6:56:51 PM

Attachments: <u>image002.png</u> image004.png

image004.png Full Plan Signed.pdf

WMP Response to Insufficient Comments.pdf

Dear Katherine,

Attached to This email are two PDF documents which address the Deficiencies as outlined in the incompleteness letter dated March 24th, 2017:

- 1) Corrective Action Plan Addressing MMR violations associated with Total Suspended Solids.
- 2) Response to Comments Made on the Waste Management Plan
 - a. The majority of the information requested had to do with operation of Plant 1. As discussed in our meeting last month, we have no intentions to implement Plant 1 during this permitting cycle but it will be kept on standby until further notice.
 - b. As MCE did not do the design of this plant, the original WMP and the subsequent calculations were kept with the CEI cover page and project number.

Please contact me at your earliest possible convenience if you have any questions or concerns.

Barret Knutson, El Project Engineer



1810 N. College Ave. | Fayetteville, AR 72703 P.O. Box 1229 | Fayetteville, AR 72202 479.443.2377 office | 479.443.9241 fax

bknutson@mce.us.com

www.mce.us.com

