EPA United States Environmental Protection Agency

Region 6 Compliance Assurance and Enforcement Division

INSPECTION REPORT

Inspection Date(s):	March 11-13, 2019		
Media:	Water		
Regulatory Program(s)	CWA		
Company Name:	**Total Environmental Solutions, Inc. (TESI)**		
Facility Name:	Multiple – see attached spreadsheet		
Facility Physical Location:	Multiple – see attached spreadsheet		
(city, state, zip code)			
Mailing address:	PO Box 14059		
(city, state, zip code)	Baton Rouge, LA 70898		
County/Parish:			
Facility Contact:	Gayle Davidson	Compliance Manager	
	gdavidson@tesi-usa.com		
FRS Number:	110009924403		
Identification/Permit Number:	LA0074853		
Media Number:			
NAICS:			
SIC:	4952		

Personnel participating in inspection:			
Rachel Matthews	EPA-R6/EN-WM	Life Scientist	214-665-8589
Lawrence Messmer	TESI	Operations Manager	337-316-2925
Michael Thompson	Geo Engineers (consultant)	Associate Environmental Engineer	225-933-8842
Earl Hayes ("Fig")	TESI	Lead Operator	
Scott Pierce	LDEQ	Enforcement	225-219-3723
Carrick Boffey	LDEQ	Inspector	337-262-5584
Shane Miller	LDEQ	Inspector	337-262-5584

EPA Lead Inspector Signature/Date	Rachel Matthews	4-10-19 Date
Supervisor Signature/Date	Carol Peters-Wagnon	4/10/19 Date

Section I - INTRODUCTION

PURPOSE OF THE INSPECTION

EPA Region 6 inspector, Rachel Matthews, arrived at a designated meeting location, on March 12, 2019, with several TESI staff for a meeting regarding the 2017 Consent Decree Modification, Civil Action No. 6:98-0687 (CD) information as well as a briefing before heading to the first of several Sewer Treatment Plants (STP) operated by TESI.

I met with Mr. Lawrence Messmer, Mr. Michael Thompson, and Mr. Earl Hayes to discuss the purpose of the inspections in regard to the ongoing tracking of the CD requirements as well as to review several sites that TESI is requesting to remove from the CD. The inspections were conducted under the authority of the CD and the National Pollutant Discharge Elimination System (NPDES) permit program in accordance with the Federal CWA.

This report is based on information supplied by TESI, observations made by me, and records and reports maintained by the permittee, the State of Louisiana, and/or the U.S. EPA.

FACILITY DESCRIPTION

Six (6), of twelve (12), facilities that were requested to be removed from the CD were inspected. In addition, 12 more STPs operated by TESI and listed in the CD were inspected in regard to the schedule of compliance as well as requests for extensions. All of the STPs are covered under a Louisiana Pollutant Discharge Elimination System (LPDES) permit, with permit numbers listed in the location descriptions spreadsheet. See Appendix 1.

Section II - OBSERVATIONS

Areas for observation included various Schedules of Compliance referenced in the CD and associated plans submitted as part of the CD requirements. The CD requires a final "Specific Process Control Plan" for all mechanical facilities, which includes information regarding sludge managment. However, prior to the development of a "Specific Process Control Plan", sludge is to be managed in accordance with the "Holistic Process Control Plan for Mechanical STPs" that is spelled out in the CD.

*For Mechanical Facilities **without** a Specific Process Control Plan:*

Sludge wasting requirements in the CD are based on the blanket level as well as solids settleability. The CD includes a response to malfunctions regarding excessive solids buildup in excess of target levels suspected to be caused by a power or mechanical malfunction. The Long-Term Compliance Plan (LTCP) of the CD includes a "Holistic Process Control Plan for Mechanical STPs". The following are the sludge wasting requirements of that section:

> *3. **Holistic Process Control Plan for Mechanical STPs.** TESI shall implement a Holistic Process Control Plan for Mechanical STPs as an interim measure until the STP-specific Process Control Plans for Mechanical STPs, required in Paragraph 4, are completed and implemented for each Mechanical STP. TESI has submitted and EPA and LDEQ have reviewed the Holistic Process Control Plan for Mechanical STPs attached hereto as Attachment 2, and determined that the attachment fulfills the requirements for a Holistic Process Control Plan for Mechanical STPs set forth in this Paragraph. TESI shall implement the attached Holistic Process Control Plan for Mechanical STPs in its entirety beginning on the Effective Date of the Consent Decree Modification. Any future modifications of the Holistic Process Control Plan for*

Mechanical STPs shall be consistent with all requirement of this Paragraph. The Holistic Process Control Plan for Mechanical STPs shall include:

a. STP Solid Wasting Procedures for regular solids evaluation and wasting to ensure solids wasting will occur within one week of each time solids depth is found to exceed 40% of the total height of the clarifier sidewall unless a 50% dilution settleability test does not show greater settleability than the standard settleability measurement taken. The solids depth measurement, the standard settleability test, and the 50% dilution settleability test must be performed during the same visit to the STP.

b. Solids wasting shall be required regardless of the results of the 50% dilution settleability
test if solids depth exceeds 40% of the total height of the clarifier sidewall and:

i. TESI is unable to perform the standard settleability test and the 50% dilution settleability test during the same visit to the STP as the visit during which the solids depth is measured, or

ii. The depth of solids in the clarifier exceeds 60% of the total height of the clarifier sidewall.

c. In addition to the provisions in Subparagraphs a and b above, the STP Solids Wasting Procedures shall ensure:

i. Each time solids wasting at an STP is required, solids shall be removed from the clarifier such that the total depth of the solids in the clarifier is no more than 1/3 of the total height of the clarifier sidewall.

ii. If TESI documents that it has contacted at least three sewage sludge hauling contractors within two business days after a determination under Paragraphs a and b above that wasting of solids is required at an STP and none of the sewage sludge hauling contractors were able to remove the solids from the STP by the applicable deadline, then TESI may invoke force majeure under Section XIV (Force Majeure) of the Consent Decree.

iii. When responding to excessive solids buildup in excess of target levels suspected to be caused by a power or mechanical malfunction, TESI personnel will follow the Mechanical WWTP Sludge Removal Protocol Due to Power and Mechanical Deficiencies Affecting Clarifier ("the Malfunction Protocol"), attached hereto as Attachment 3. If TESI seeks to apply the Malfunction Protocol, it must document that decision so that compliance with the requirements of this Long Term Compliance Plan can be evaluated. Specifically, each time the measured sludge depth in an STP exceeds 40% of the total height of the clarifier sidewall and TESI elects to follow the provisions of the Malfunction Protocol, it must document the event by providing complete information including:

1. The date, location, and result of the initial sludge depth measurement that exceeded 40% of the total height of the clarifier sidewall;

2. Whether TESI suspected that the buildup of sludge was caused by a power or mechanical malfunction;

3. Whether TESI elected to follow the Malfunction Protocol;

4. Whether TESI identified a malfunction within 24 hours and, if so, the type (power or mechanical) of malfunction identified;

5. The date, location, and result of the re-measurement of sludge depth pursuant to Malfunction Protocol ¶ 2; and

6. Whether solids were wasted from the STP after re-measurement and, if so, the date this occurred and the resulting sludge depth.

iv. Solids depths will be measured with a Sludge Judge sampling device and recorded at all mechanical STPs during each regularly scheduled visit by TESI personnel.

*For Mechanical Facilities **with** a Specific Process Control Plan:*

Sludge blanket levels and solids settleability is incorporated into the Specific Process Control Plans, as well as Mixed Liquor Suspended Solids (MLSS), for the management and wasting of sludge.

The following are site specific requirements for several facilities:

Extended Aeration Process Control Parameters and Acceptable Ranges, for the Lakeside Village STP

Parameter	*Minimum Value*	*Maximum Value*	*Units*
Dissolved Oxygen (DO)	*2*	*4*	*mg/L*
RAS Rate	*50%*	*100%*	*Of average daily flow*
MLSS	*1,900*	*2,900*	*mg/L*
Sludge Volume Index	*100*	*150*	*mL/g*
30-Minute Settleability	*20%*	*45%*	
Clarifier Sludge Blanket Depth	*1*	*4*	*ft*
Residual Chlorine	*0.2*	*1.5*	*mg/L*

Extended Aeration Process Control Parameters and Acceptable Ranges, for the Bois Bechet STP

Parameter	*Minimum Value*	*Maximum Value*	*Units*
Dissolved Oxygen (DO)	*2*	*4*	*mg/L*
RAS Rate	*80%*	*120%*	*Of average daily flow*
MLSS	*2,500*	*3,500*	*mg/L*
Sludge Volume Index	*100*	*150*	*mL/g*
30-Minute Settleability	*25%*	*52%*	
Clarifier Sludge Blanket Depth	*1*	*4*	*ft*
Residual Chlorine	*0.2*	*1.5*	*mg/L*

Extended Aeration Process Control Parameters and Acceptable Ranges, for the Kinco STP

Parameter	Minimum Value	Maximum Value	Units
Dissolved Oxygen (DO)	2	4	mg/L
RAS Rate	50%	100%	Of average daily flow
MLSS	2,400	3,400	mg/L
Sludge Volume Index	100	150	mL/g
30-Minute Settleability	24%	51%	
Clarifier Sludge Blanket Depth	1	4	ft
Residual Chlorine	0.2	1.5	mg/L

Extended Aeration Process Control Parameters and Acceptable Ranges, for the Highland Acres STP

Parameter	Minimum Value	Maximum Value	Units
Dissolved Oxygen (DO)	2	4	mg/L
RAS Rate	50%	150%	Of average daily flow
MLSS	4,200	5,200	mg/L
Sludge Volume Index	100	125	mL/g
30-Minute Settleability	42%	65%	
Clarifier Sludge Blanket Depth	1	4	ft
Residual Chlorine	0.2	1.5	mg/L

Extended Aeration Process Control Parameters and Acceptable Ranges, for the Windy Acres STP

Parameter	Minimum Value	Maximum Value	Units
Dissolved Oxygen (DO)	2	4	mg/L
RAS Rate	50%	150%	Of average daily flow
MLSS	3,500	4,500	mg/L
Sludge Volume Index	100	125	mL/g
30-Minute Settleability	35%	56%	
Clarifier Sludge Blanket Depth	1	4	ft
Residual Chlorine	0.2	1.5	mg/L

Extended Aeration Process Control Parameters and Acceptable Ranges, for the Young Acres STP

Parameter	*Minimum Value*	*Maximum Value*	*Units*
Dissolved Oxygen (DO)	*2*	*4*	*mg/L*
RAS Rate	*50%*	*150%*	*Of average daily flow*
MLSS	*2,700*	*3,700*	*mg/L*
Sludge Volume Index	*100*	*150*	*mL/g*
30-Minute Settleability	*27%*	*55%*	
Clarifier Sludge Blanket Depth	*1*	*4*	*ft*
Residual Chlorine	*0.2*	*1.5*	*mg/L*

Observations of sludge blanket depth, MLSS, and settleability for several facilities requested to be removed from the CD can be found in the attached observations' spreadsheet as Appendix 2. Other observations are also included for each facility in the spreadsheet.

Section III – AREAS OF CONCERN

At the closing meeting I met with Mr. Lawrence Messmer to reiterate the inspections for the facilities TESI has requested to be removed from the CD must be a combined effort and agreement between the EPA and LDEQ.

The inspections for all other facilities were primarily to review the progress for each, with regard to the CD, as well as inspect some where TESI has requested an extension for certain schedules of compliance and/or reviewing in order to change from a pond system to a mechanical system.

Section IV – FOLLOW UP

I requested a follow-up report with a detailed explanation and pictures regarding the recent leak and repair at the Kindco facility.

I requested effluent violation information from LDEQ and received a list for January 2017 through December 2018 on the six facilities listed to be removed from the CD. See appendix 4.

Section V – LIST OF APPENDICES

Appendix 1 – Spreadsheet of all facilities, and descriptions, inspected
Appendix 2 – Spreadsheet of observations
Appendix 3 – Follow-up report on Kinco
Appendix 4 – 2017 and 2018 DMR violations for several sites

Appendix 1

Appendix 1 - TESI Inspection Sites 3-2019

Permit #	Name	type	Address	City	Comment
LAG541195	Bois Bechet	Mechancial	3615 University Ave	Carencro	Requested removal from CD
LAG540104	Highland Acres		110 Dayna Dr.		
LAG541184	Windy Acres		216 Mardi Gras Rd		
LAG540132	Young Acres		141 Jollene Dr.You		
LAG540105	Kindco		204 Meda Dr	Duson	
LAG540107	Lakeside Village		300 Sharpsburg Dr.	Lafayette	
LA0074951	Avies Knoll		603 Breton	Lafayette	Avies Knoll in same area as Lakeside Village
LAG560193	Riverbend #1& #2	Pond	7593 and 7954 Driftwood Dr.	Ventress	Evaluating to install mechanical
LAG560167	Island Woods		5550 Woodview Lane	Jarreau	Evaluating to install mechanical and requested extension for fencing
LAG570144	Lakeside East	Mechanical	10661 Wade Drive	Denham Springs	
LAG570088	Jones Estates		8178 Cecil		
LAG540368	Highland Ridge		13273 Ed		
LAG540375	La Amite	Pond	7390 Latimer Dr.		
LAG540370	Martin		39431 Al Drive	Prairieville	Requested extension for fencing
LAG540619	Martin Lake Resort		45624 Lake Martin Rd.		
LAG560316	Beechwood	Mechanical	18178 Beechwood		
LAG570045	Cotton Fields		4050 Cotton Field		
LAG540620	Old Perkins Place		18245 Old Perkins Place		

Appendix 2

Appendix 2 - Observations

Request for removal from CD							
Name	**Sludge Judge (FT)**	**Depth of Clarifier (FT)**	**30 minute Settlometer (% settled)**	**MLSS Readings (mg/l)**			**Other Observations**
Young Acres	5.5	14	15				Weir discharge at the CCC appeared slightly cloudy, final discharge appeared clear, with no solids at the outfall. Treatment system appeared in proper O&M. Items in SOC appeared to be complete. Loading = 6,400 GPD
Highland Acres	5.5	11	17.6	4050	3880	3970	Not discharging very much at time of inspection, but no solids at the outfall. Generally treatment system appeared in proper O&M, although one skimmer was having trouble skimming properly (slightly low in the clarifier). Some floatables in the lift station. Items in SOC appeared to be complete. Loading = 13,200 GPS.
Windy Acres	5 & 7.5	11 (2)	18	2420	2290	2330	Some erosion around the facility with standing water in the pockets. Final discharge clear, with no solids at the outfall. Treatment system appeared in proper O&M. Items in SOC appeared to be complete. Loading = 14,400 GPD
Bois Bechet	7 & 6	13 (2)	80	3340	2960	2710	sludge settled 80% in less than 9 minutes. Loading = 22,000 GPD.
Kinco	Could not inspect facility completely as site was not fully up and running after fixing a leak. Detailed information was requested to be sent after the inspection. See Appendix 3. Items in SOC appeared to be complete, but new CCC lid is beginning to rust. Loading = 6,800 GPD						
Lakeside Village	Could not fully inspect facility due to active sludge removal at the time of inspection. Loading = 14,000						

CCC - Chlorine Contact Chamber

SOC - Schedule of Compliance

Other Facilities					
Name	**Sludge Judge (FT)**	**Depth of Clarifier (FT)**	**30 minute Settlometer (% settled)**	**MLSS Readings (mg/l)**	**Other Observations**
Avies Knoll	These sites do not yet have site specific process control plans and there was no request to remove them from the CD at the time. Sites were reviewed for schedules of compliance, extension requests, and/or possible changing a pond to a mechanical treatment system.				mechanical
Riverbend #1& #2					ponds with road between the two. Being evaluated for mechanical. Already fenced well.
Island Woods					Pond is difficult to access. Dike erosion. Requesting extension to fencing deadline for potential change to mechanical treatment system. A new mechanical system would be located at the lift station alongside the road (where it is easy to access).
Lakeside East	These sites do not yet have site specific process control plans and there was no request to remove them from the CD at the time. Sites were reviewed for schedules of compliance, extension requests, and/or possible changing a pond to a mechanical treatment system.				skimer under water. Leaking along most of the seam of above ground mechanical. Site is being evaluated to replace due to the leak and continuing need to repair.
Jones Estates					corrosion in multiple areas. Skimmer under water. Some bulking solids and pin floc.
Highland Ridge					small leak at overflow discharge (clamp). Effluent was turbid. Some items (netting and tree trimming) have been delayed from the CDER timeline.
La Amite					Considerable erosion around manhole next to pond. Ucoming plans to regrout the manhole.
Martin					several items from CDER complete, but extension for fencing was submitted with some items to be completed later.
Martin Lake Resort					most CDER work not completed. 9 customers, with one residence currently on in place (moved).
Beechwood					two separte (mechanical) sides of this facility. Skimmers not working properly on either side and solids bulking in side #2. CDER completion table has a date completed for chlorine covers, but side #1 has a lid next to the CCC with the chlorine tubes held up with a rope tied to the handrail due to the bracket broken. This also prevents the cover from fitting. Side #2 has no cover at all.
Cotton Fields					skimmer possibly misplaced, one blower line leaking.
Old Perkins Place					Corrosion in CCC. Color of mixed liquor was gray-brown. History of DO problem, but there is completion date. DO appears to still be a problem based on color and diffusers also seemed weak.

CCC - Chlorine Contact Chamber

SOC - Schedule of Compliance

Appendix 3

KINCO - (EPA - SITE EVALUATION) 3-12-19			
DATE	**PROBLEM**	**WHAT WAS DONE**	**COMPLETED**
Monday, March 11, 2019	During routine operations site visit, Operator/Technician observed leaking from plant. Plant was leaking at the seam between the top course (or ring) of concrete and the second, at a point below the clarifier weir.	Using a portable, submersible pump, the technician pump the supernatant from the clarifier through the tablet chlorinator and chlorine contact chamber to allow for the discharge of treated wastewater to the receiving stream and prevent further leakage from the seam.	Yes (Morning of 3/11/19)
Monday, March 11, 2019	Seam grouting was inspected and found to need replacement.	Seam was cleaned and prepped for re-grouting. Hydro patch plastic cement was applied as a permanent repair of the seam.	Yes (Afternoon of 3/11/19)
Tuesday, March 12, 2019	The chlorine contact chamber was observed as having a thin film of solids, presumably sludge, accumulated on the bottom. Likely entered the chamber as the pumping of clarifier supernatant neared completion. No solids were observed in discharge nor on discharge side of V-notch weir.	The plant equipment was temporarily powered down as normal operating water levels had not returned (e.g., water level in clarifier remained a couple feet below the effluent weir). During this time, the chlorine contact chamber was cleaned by pumping the contents back to the head of the plant. All solids were removed from chlorine contact chamber. Returned plant equipment to normal operating conditions.	Yes (Morning of 3/12/19)
Wednesday, March 13, 2019	No problems suspected. Needed to verify plant was operating properly.	Technician conducted an operations site visit and verified that the plant was not leaking. The plant and all equipment were operating as intended, including discharging of a clear effluent.	Yes (Morning of 3/13/19)

3-12-19 Kindco CCC Pump Back into Plant

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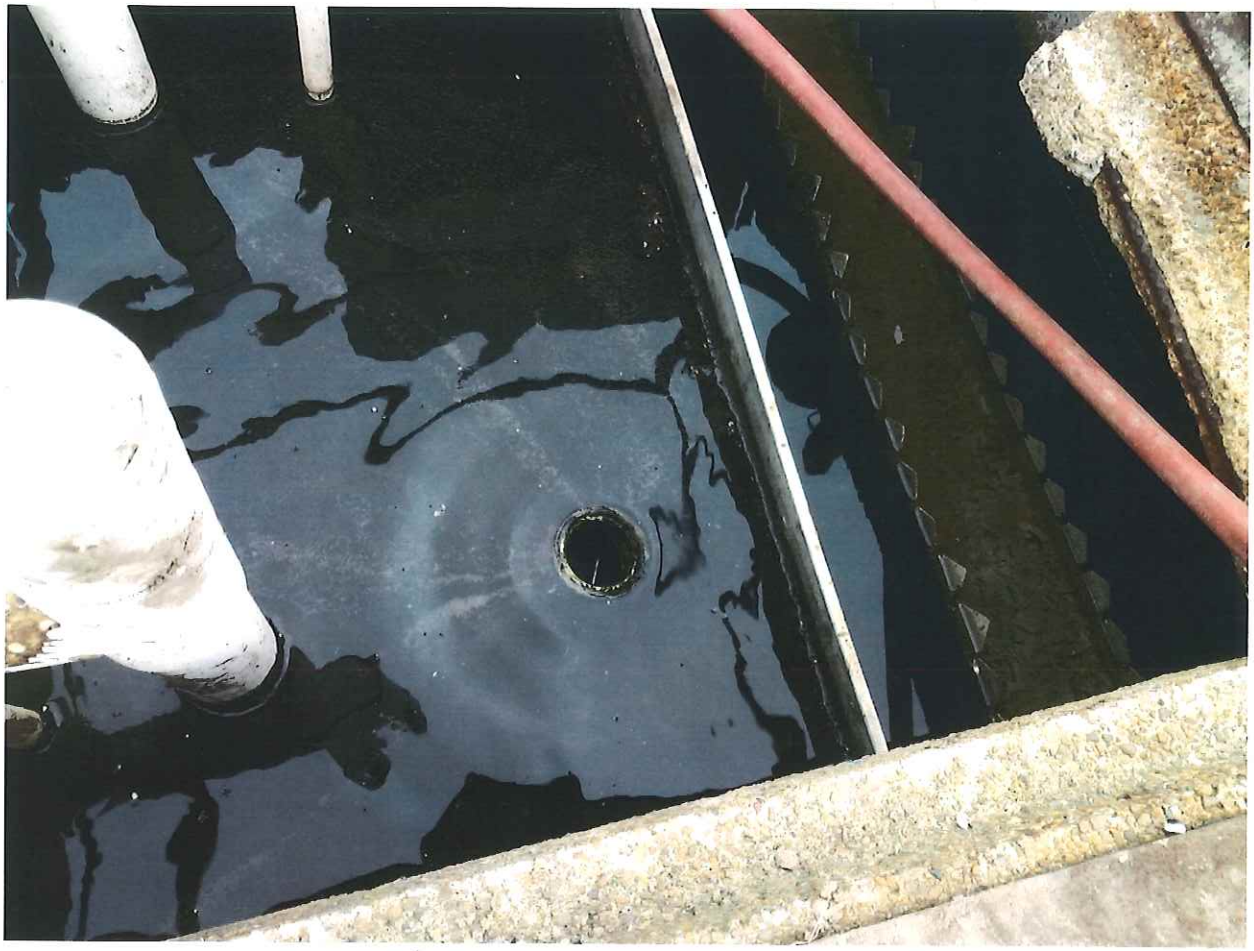

3-13-19 Kindco Follow UP

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3-13-19 Kindco Follow UP

Appendix 4

TESI - Highland Acres-LAG540104

MP End Date	Outfall	STORET	Mon Loc	DMR Field	Parameter	Limit	DMR Value	Units	No. EX	Freq. of Analysis	Sample Type	Vio Code	Rec'd
06/30/2017	001-Q	00530	1	C2	Solids, total suspended --- MO AVG	30	**34**	mg/L	0	01/90	GR	E90	7/28/2017
06/30/2018	001-Q	00530	1	C2	Solids, total suspended --- MO AVG	30	**33.67**	mg/L	1	03/90	GR	E90	7/25/2018
06/30/2018	001-Q	00530	1	C3	Solids, total suspended --- DAILY MX	45	**53**	mg/L	1	03/90	GR	E90	7/25/2018

TESI - Lakeside Village-LAG540107

MP End Date	Outfall	STORET	Mon Loc	DMR Field	Parameter	Limit	DMR Value	Units	No. EX	Freq. of Analysis	Sample Type	Vio Code	Rec'd
06/30/2017	001-Q	00530	1	C2	Solids, total suspended --- MO AVG	30	**42**	mg/L	0	01/90	GR	E90	7/28/2017
03/31/2018	001-Q	00530	1	C2	Solids, total suspended --- MO AVG	30	**68**	mg/L	1	01/90	GR	E90	4/27/2018
03/31/2018	001-Q	00530	1	C3	Solids, total suspended --- DAILY MX	45	**68**	mg/L	1	01/90	GR	E90	4/27/2018

TESI - Windy Acres-LAG541184

MP End Date	Outfall	STORET	Mon Loc	DMR Field	Parameter	Limit	DMR Value	Units	No. EX	Freq. of Analysis	Sample Type	Vio Code	Rec'd
06/30/2018	001-Q	74055	1	C3	Coliform, fecal general --- DAILY MX	400	**3500**	#/100mL	2	04/90	GR	E90	7/25/2018