



Jason Michelson
Project Manager

**Chevron Environmental
Management Company**
1500 Louisiana Street, #38116
Houston, Texas 77002
Work: 832-854-5601
Cell: 281-660-8564
jmichelson@chevron.com

January 15, 2019

New Mexico Oil Conservation Division, District 1
1625 N. French Drive
Hobbs, NM 88240

**Re: WVU #68 1RP-5206
Response to Comments on the Letter dated October 26, 2018 Regarding 2014 Site
Assessment Report
Lea County, New Mexico**

Dear whom it concerns,

Please find enclosed for your files, copies of the following report:

- Response to Comments on the Letter dated October 26, 2018 Regarding *2014 Site Assessment Report* – West Vacuum Unit #68, Lea county, New Mexico Case No. 1RP- 5206

The submittal was prepared by Arcadis U.S., Inc. (Arcadis) on behalf of Chevron Environmental Management Company (CEMC).

Please do not hesitate to call Scott Foord with Arcadis at 713-953-4853 or myself at 832-854-5601, should you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jason Michelson".

Jason Michelson

Encl. Response to Comments on the Letter dated October 26, 2018 Regarding *2014 Site Assessment Report* – West Vacuum Unit #68, Lea county, New Mexico Case No. 1RP- 5206
C.C. Amy Barnhill, Chevron/MCBU



New Mexico Oil Conservation Division – District I
1625 N French Drive
Hobbs, New Mexico 88240

Arcadis U.S., Inc.
10205 Westheimer Road
Suite 800
Houston
Texas 77042
Tel 713 953 4800
Fax 713 977 4620
www.arcadis.com

Subject:

Response to Comments on the Letter dated October 26, 2018 Regarding *2014 Site Assessment Report – West Vacuum Unit #68, Lea county, New Mexico* Case No. 1RP- 5206

ENVIRONMENT

To Whom it May Concern:

Date:
December 9, 2019

On behalf of Chevron U.S.A. Inc. under the direction of Chevron Environmental Management Company (CEMC), Arcadis U.S., Inc. (Arcadis) is providing this letter in response to the New Mexico Oil Conservation Division (NMOCD) comments regarding the *2014 Site Assessment Report – West Vacuum Unit #68, Lea county, New Mexico* (site) received on October 26, 2018.

Contact:
Scott Foord

For ease of review, the comments are presented in italicized text, followed by the responses in standard text.

Phone:
713.953.4853

- 1. *Is there any documentation that additional excavation, greater than 2 ft. bgs, was conducted upon receiving the laboratory chloride data analysis of 34,000 mg/kg, in order to reflect the data results from May 16, 2013 sampling date?*

Email:
Scott.foord@arcadis.com

Response:

Our ref:
30006608

In further review of the available documents regarding initial assessment and response activities, there is no indication that additional excavation efforts beyond the initial clean-up response took place. Per the attached C-141 forms (**Attachment 1**), the affected area was excavated, a 4-point composite sample was collected, and the excavation was backfilled with imported soil. Excavation depths of 2 ft bgs or less are common for this area due to the presence of an impervious indurated caprock caliche layer. Based off the depth of the caprock caliche encountered during drilling activities (**Attachment 2**) and the location of subsurface utilities (**Figure 1**), it is likely that the excavation size and depth were confined by these two factors.

ARCADIS U.S., Inc.
TX Engineering License # F-533
Geoscientist License # 50158

- 2. *Are the April 2012 composite sampling locations, demarcated on Figure 2, approximate or actual known locations? If the latter, what is the rationale for not sampling over the same spots that provided a composite sample of 34,000 mg/kg?*

New Mexico Oil Conservation Division –
District I
December 9, 2019

Response:

In May 2013, Arcadis performed site assessment activities to characterize the lateral and vertical extents of impacted soil at the site. Soil boring locations were selected based on the results of the April 2012 composite confirmation sample results in proximity to each sample collection point of the 4-point composite confirmation sample depicted on **Figure 1**. Available documentation (**Figure 2** provided by Chevron) did not provide sample coordinates nor indicated whether each individual sample point of the 4-point composite sample were actual or approximate locations. It is assumed that each April 2012 composite confirmation sample location depicted on the figures is an approximate location. The April 2012 4-point composite confirmation sample locations show to be collected from each corner (Northwest, Northeast, Southwest and Southeast) of the excavation prior to backfilling. The May 2013 soil boring locations were installed in proximity to the April 2012 composite sample locations, and soil sample results from the 2013 borings are assumed representative of soil conditions within the release area in 2013.

Please contact me with any questions or concerns.

Sincerely,

Arcadis U.S., Inc.



Scott Foord
Certified Project Manager

Copies:

Jason Michelson, Chevron Environmental Management Company
Amy Barnhill, Mid-Continent Business Unit
Bradford Billings, New Mexico Oil Conservation Division
Greg Cutshall, Arcadis

Enclosures:

Attachments

- Attachment 1 – C-141 Forms
- Attachment 2 – Boring Logs

Figures

- Figure 1 – Release and Soil Boring Locations
- Figure 2 – Composite Sample Locations (4-Point)

ATTACHMENT 1



District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

Initial Report Final Report

Name of Company	Chevron USA	Contact	Josie DeLeon
Address	HCR 60 Box 423 Lovington, NM 88260	Telephone No.	432-425-1528
Facility Name	West Vacuum	Facility Type	Produced Water Transfer Line
Surface Owner	State Leasee - Fred Pearce	Mineral Owner - State	Lease No. 1576

LOCATION OF RELEASE (Nearest Well WVU 56)

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	34	17S	34 E	100	South	2450	East	Lea

Latitude _N_ 32 deg 47.230 min _Longitude_ _W_ 103 deg 32.69 min

NATURE OF RELEASE

Type of Release	produced water	Volume of Release	9.44 water (bbl)	Volume Recovered	9 bbl
Source of Release	corrosion on nipple (pinhole leak)	Date and Hour of Occurrence:	3/13/12 07:00 AM	Date and Hour of Discovery:	03/13/12 07:00 AM
Was Immediate Notice Given?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required <input type="checkbox"/>	If YES, To Whom?	Geoffrey Leking - voicemail		
By Whom?	Josie DeLeon	Date and Hour	3/13/12		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.*
No Impact to watercourse.

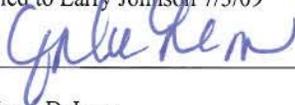
Describe Cause of Problem and Remedial Action Taken.*

Corrosion on nipple caused pinhole leak on injector inlet. Shut in well for repair.

Describe Area Affected and Cleanup Action Taken.*

Picked up the water that was free standing on the ground. Affected area will be delineated and plan submitted to NMOCD for remediation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signed and emailed to Larry Johnson 7/3/09	OIL CONSERVATION DIVISION		
Signature: 	Approved by District Supervisor:		
Printed Name: Josie DeLeon	Approval Date:	Expiration Date:	
Title: Safety Specialist	Conditions of Approval:		
E-mail Address: jdxd@chevron.com			Attached <input type="checkbox"/>
Date: 3/26/12	Phone: 432-425-1528		

* Attach Additional Sheets If Necessary

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR Initial Report Final Report

Name of Company: CHEVRON U.S.A. Inc.	Contact: Luke Welch
Address: 56 Texas Camp Road, Lovington, NM 88260	Telephone No.: Office: (713) 372-0292 Mobile: (832) 627-9171
Facility Name: West Vacuum Unit #68	Facility Type: Produced Water Transfer Line
Surface Owner: State Leasee – Fred Pearce	Mineral Owner: State of New Mexico
API No.: Lease No. 1576	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	34	17S	34E	100	South	2450	East	Lea

Latitude N. 32 deg 47.230 min **Longitude** W 103 deg 32.69 min

NATURE OF RELEASE

Type of Release: Produced water	Volume of Release: 9.44 water (bbls)	Volume Recovered: 9 bbls
Source of Release: Corrosion on nipple (pinhole leak)	Date and Hour of Occurrence: 03/13/12 07:00 AM	Date and Hour of Discovery: 03/13/12 07:00 AM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Geoffrey Leking - voicemail	
By Whom? Josie DeLeon	Date and Hour: 3/13/12	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*
No impact to watercourse.

Describe Cause of Problem and Remedial Action Taken.*

Corrosion on nipple caused pinhole leak on injector inlet. Shut in well for repair.

Describe Area Affected and Cleanup Action Taken.*

Picked up the water that was free standing on the ground. Affected area was delineated and plan submitted to NMOCD for remediation.

Visually impacted soils in the area were excavated to a depth of approximately two feet bgs and a four point composite confirmation soil sample was collected from the base of the excavation. An additional site assessment was conducted to confirm the extent of soil impacts.

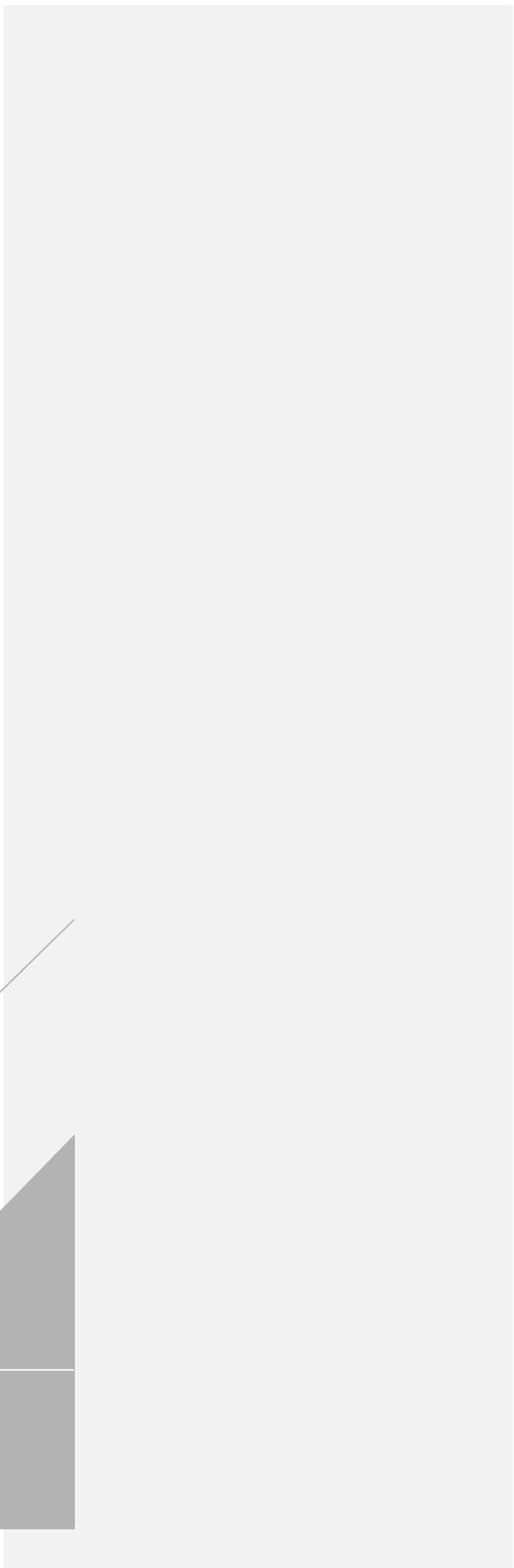
Analytical results of the additional assessment are attached.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

OIL CONSERVATION DIVISION	
Signature:	Approved by Environmental Specialist:
Printed Name: Luke Welch	Approval Date:
Title: Project Manager	Expiration Date:
E-mail Address: LWelch@chevron.com	Conditions of Approval:
Date: Phone: (713) 372-0292	Attached <input type="checkbox"/>

* Attach Additional Sheets If Necessary

ATTACHMENT 2



Drilling Company: White Drilling Company/ R Dallas

Client: Chevron EMC
Location: West Vacuum Unit



Drilling Method: Air Rotary
Sampling Method: Shovel

Borehole Depth: 30' bgs
Descriptions By: R Nanny

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-------	-----------	-------------------	-----------------	-----------------	---------------------	-------------------	-----------------	---------------------------

0	0	1	AR	5	21.1	☒		CAPROCK CALICHE, White (7.5YR8/1) to Light Brown (7.5YR6/4), indurated, laminated, contains pisolites, caliche intermxd with silica lamination.
5	-5	2	AR	5	16.5	☒		CLAYEY CALICHE, Pink (7.5YR8/3), soft to slightly firm, arenaceous, dry.
10	-10	3	AR	5	13.2	☒		SANDY CALICHE, Very Pale Brown (10YR8/2), very firm, dry, powdery, traces sand, silt to very fine to firm grains, subrounded, poorly sorted. Formation also contains traces concretionary nodules, siliceous, nodular, rounded, 0.3 to 0.5 cm in size.
15	-15	4	AR	5	11.7	☒		CALCAREOUS SAND, Very Pale Brown (10YR8/2), very fine to firm ground, subangular, poorly sorted, loose, mostly sand, some intergranular caliche, soft, powdery, dry.
20	-20	5	AR	5	9.2	☒		SANDSTONE, Very Pale Brown (10YR8/2), very firm to fine grained, subangular, poorly sorted, dry, calcareous. Formation sand becomes subrounded at 25 feet bgs.
25	-25	6	AR	5	13.2	☒		
30	-30					☒		

<p>Infrastructure · Water · Environment · Buildings</p>	<p>Remarks: ags = above ground surface; AK = air knife; amsl = above mean sea level; AR = air rotary; bgs = below ground surface; ppm = parts per million; cm = centimeter;</p>
---	--

Drilling Company: White Drilling Company/ R Dallas

Client: Chevron EMC
Location: West Vacuum Unit



Drilling Method: Air Rotary
Sampling Method: Shovel

Borehole Depth: 30' bgs
Descriptions By: R Nanny

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-------	-----------	-------------------	-----------------	-----------------	---------------------	-------------------	-----------------	---------------------------

0	0		AK					Indurated Caliche at surface.
1		5	AR	11.7				CAPROCK CALICHE, White (7.5YR8/1) to Light Brown (7.5YR6/4), indurated, laminated, containing pisolites, caliche intermixed with silica lamination.
5	-5		AR	15.2				CLAYEY CALICHE, Pink (7.5YR8/3), soft to slightly firm, arenaceous, dry.
2		5	AR	5.9				SANDY CALICHE, Very Pale Brown (10YR8/2), very firm, dry, powdery, traces very fine to fine grain sand, subrounded, poorly sorted, formation also contained traces concretionary nodules, siliceous, nodular, rounded, 0.3 to 0.5 cm in size.
3		5	AR					
15	-15			8.6				CALCAREOUS SAND, Very Pale Brown (10YR8/2), very fine to fine grained, subangular, poorly sorted, loose, mostly sand, some intergranular caliche, soft, dry, powdery.
4		5		10.1				SANDSTONE, Very Pale Brown (10YR8/2), very fine to fine grained, subrounded to subangular, poorly sorted, firmly cemented, friable, dry, calcareous, intergranular caliche cementation is powdery, sand became subrounded at 30' bgs.
5		5	AR	12.2				
6		5						
30	-30							

<p>ARCADIS Infrastructure · Water · Environment · Buildings</p>	<p>Remarks: ags = above ground surface; AK = air knife; amsl = above mean sea level; AR = air rotary; bgs = below ground surface; ppm = parts per million; cm = centimeter;</p>
---	--

Drilling Company: White Drilling Company/ R Dallas

Client: Chevron EMC

Location: West Vacuum Unit

Drilling Method: Air Rotary

Sampling Method: Shovel

Borehole Depth: 30' bgs

Descriptions By: R Nanny



DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-------	-----------	-------------------	-----------------	-----------------	---------------------	-------------------	-----------------	---------------------------

0	0	1	AR	5	3.5	☒		CAPROCK CALICHE, White (7.5YR8/1) to Light Brown (7.5YR6/4), indurated, laminated, containing pisolites, caliche intermixed with silica cementation.
5	-5		AR		5.4	☒		CLAYEY CALICHE, Pink (7.5YR8/3), soft to slightly firm, arenaceous, dry, powdery.
10	-10	2	AR	5	5.4	☒		SANDY CALICHE, Very Pale Brown (10YR8/2), firm, dry, powdery, trace sand, very firm to firm grain, subangular, poorly sorted, formation also contains trace concretionary nodules, siliceous, nodular rounded, 0.3 to 0.5 cm in size.
15	-15	3	AR	5	7.1	☒		CALCAREOUS SAND, Very Pale Brown (10YR8/2), very firm to firm grained, subangular, poorly sorted, loose, mostly sand, some intergranular caliche, soft, dry, powdery.
20	-20	4	AR	5	12.2	☒		SANDSTONE, Very Pale Brown (10YR8/2), very fine to fine grained, subangular to subrounded, poorly sorted, firm, friable, dry, strongly calcareous. Very fine at 22' bgs. Formation also became indurated at 25' bgs.
25	-25	5	AR	5	9.5	☒		
30	-30	6		5		☒		

	<p>Remarks: ags = above ground surface; AK = air knife; amsl = above mean sea level; AR = air rotary; bgs = below ground surface; ppm = parts per million; cm = centimeter;</p>
--	--

Drilling Company: White Drilling Company/ R Dallas

Client: Chevron EMC

Location: West Vacuum Unit

Drilling Method: Air Rotary

Sampling Method: Shovel

Borehole Depth: 30' bgs

Descriptions By: R Nanny



DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
-------	-----------	-------------------	-----------------	-----------------	---------------------	-------------------	-----------------	---------------------------

0	0		AK					No recovery, indurated caliche at surface.
1		1	AR	5	0.8	☒		CAPROCK CALICHE, White (7.5YR8/1) to Light Brown (7.5YR6/4), indurated, laminated, contains pisolites, calcified with silica cementation.
2	-5	2	AR	5	0.9	☒		CLAYEY CALICHE, Pink (7.5YR8/3), soft to slightly firm, arenaceous, dry.
3	-10	3	AR	5	1.2	☒		SANDY CALICHE, Very Pale Brown (10YR8/2), very firm, powdery, traces very fine to fine graining, subangular, poorly sorted, formation also contained traces concretionary nodules, siliceous, nodular, rounded, dry.
4	-15	4	AR	5	0.7	☒		CALCAREOUS SAND, Very Pale Brown (10YR8/2), very fine to fine grained, subangular, poorly sorted, loose, mix of sand and intergranular caliche, soft, dry, powdery.
5	-20	5	AR	5	0.8	☒		SANDSTONE, Very Pale Brown (10YR8/2), very fine to fine grained, subangular, poorly sorted, firmly cemented, friable, dry, calcareous. intergranular caliche lamination in powdery formation. Sand became subrounded at 30' bgs.
6	-25	6	AR	5	6.8	☒		
30	-30					☒		

	<p>Remarks: ags = above ground surface; AK = air knife; amsl = above mean sea level; AR = air rotary; bgs = below ground surface; ppm = parts per million;</p>
--	---

FIGURE 1



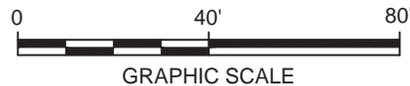


LEGEND:

- MAY 2013 ASSESSMENT SOIL SAMPLING LOCATION
- ① APRIL 2012 CONFIRMATION SOIL SAMPLING LOCATION
- - - - POTENTIAL UNDERGROUND UTILITY LINE NOT DETECTED BY THIRD PARTY SURVEYOR
- - - - ABOVE GROUND UTILITY LINE
- - - - APPROXIMATE EXTENT OF SPILL

NOTES:

1. AERIAL PHOTOGRAPH FROM GOOGLE EARTH PRO.
2. COORDINATES FOR ALL MAY 2013 SAMPLE LOCATIONS WERE COLLECTED USING A SUB-METER TRIMBLE GPS UNIT.
3. UTILITIES WERE IDENTIFIED USING GROUND PENETRATING RADAR, RADIO FREQUENCY SURVEY OR VISUAL MEANS.



VACUUM/LOVINGTON FUNCTIONAL MANAGEMENT
 TEAM UNITS
 LEA COUNTY, NEW MEXICO
SITE ASSESSMENT REPORT

**RELEASE AND SOIL BORING LOCATIONS
 WWU 68**

 **ARCADIS**

FIGURE **1**

FIGURE 2



WVU 68 (4pt comp)



District I
 1625 N. French Dr., Hobbs, NM 88240
 Phone:(575) 393-6161 Fax:(575) 393-0720

District II
 811 S. First St., Artesia, NM 88210
 Phone:(575) 748-1283 Fax:(575) 748-9720

District III
 1000 Rio Brazos Rd., Aztec, NM 87410
 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV
 1220 S. St Francis Dr., Santa Fe, NM 87505
 Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS
 Action 3391

CONDITIONS

Operator: Arcadis U.S., Inc 630 Plaza Drive Highlands Ranch, CO 80129	OGRID: 329073
	Action Number: 3391
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bbillings	None	8/2/2021