Denied

- C-141 Pages 3-5 not completed
- Driller's log needed to verify absence of DTW in top 150'

-Cristina Eads

Cimarex Energy
Sandy & Forty-Niner Tank battery
Remediation Scope of Work
Revised
Incident ID nRM2014958679
September 2020

Purpose:

To complete the remediation of the tank battery area due to a produced water spill (May 26, 2020) at the Sandy & Forty-Niner central tank battery. The remediation will be completed per the following: the OCD and BLM guidance, XEC protocol and agency approval.

Phase II Scope of Work

1. Complete the EMC (electro-magnetic conductivity) survey of the surface area. The survey will utilize an EM 38 at a 0.5-meter and 1.0-meter sensitivity. Completed
2. Review the completed EMC survey to determine the impact onsite and if any impact occurred offsite. Completed – See Attachment A.
3. The area of on-site and off-site spill impacts are noted on the EMC plat.
4. Note – The off-site impacted soils have been excavated and removed.
5. XEC will submit the scope of work for the remediation to the Artesia OCD offices for approval.

Phase III Scope of Work

1. XEC will request bids from an XEC approved contractor to remove the impacted soils on the north, central and eastern sides of the location (note this will be the area that has an EMC reading of 100 mS/m or greater).
2. Note - The area to excavate will be per the EMC survey and will be at a depth of 3.0 to 5.0 ft. to ensure adequate removal of the NaCl impacted soil.
3. XEC will notify the OCD Artesia office and BLM Carlsbad office of the scheduled date for the field work.
4. XEC will complete an excavation survey prior to commencing the field work.

5. The excavated soil will be transported to an approved New Mexico E&P waste treatment/disposal site for proper handling.
6. The on-site remediation technician will take random soil samples and test on-site to ensure the excavation depth is acceptable.
7. Soil samples will be taken of the excavation bottom and side walls per the OCD guidance rule 19.15.29.12 and sent to an XEC approved lab.
8. Upon confirmation of the clean bottom and side-walls, the excavation will be back-filled with clean caliche material.
9. Refer to Attachment B for reference to the depth of groundwater.
10. A completed C – 141 form, summary plat and soil analysis will be submitted to the OCD upon completion of the field work.

Attachment A

LEGEND

EM38 0.5-METER VERTICAL DIPOLE TERRAIN CONDUCTIVITY SURVEY

LOCATIONS OF EM38-MK2 GROUND CONDUCTIVITY MEASUREMENTS IN mS/m

APPARENT TERRAIN CONDUCTIVITIES

Minimum mS/m	Maximum mS/m	Color
0	20	
20	40	
40	60	
60	80	
80	100	
100	120	
120	140	
140	160	
160	180	
180	>200	

N

30 0 30 60

SCALE FEET

NOTES:

1) EM SURVEY PERFORMED BY EQUUS ENVIRONMENTAL, LLC ON JUNE 3, 2020 EM38-MK2 METER CONFIGURED IN VERTICAL DIPOLE MODE.

2) AERIAL PHOTOGRAPH DATED NOVEMBER 2, 2017, GOOGLE EARTH IMAGE SERVICES (GEIS), GEOREFERENCED IMAGE

3) APPARENT CONDUCTIVITY IN MILLISIEMENS PER METER (mS/m)

4) MAXIMUM DEPTH OF INVESTIGATION APPROXIMATELY 2.5 FEET BELOW GROUND SURFACE.

EQUUS Environmental, LLC
1323 East 71st Street, Suite 200
Tulsa, Oklahoma 74136-5065
918.921.5331
www.EQUUSENV.com

DOCUMENT TITLE: RESULTS OF EM38 SURVEY

FIGURE TITLE: ***EM38 0.5-METER VD CONDUCTIVITY SURVEY RESULTS***

CLIENT: CIMAREX ENERGY

LOCATION: SANDY WELL PAD
PERMIAN BASIN-HOBBS, EDDY CO., NEW MEXICO

DESIGNED BY	GHR		
APPROVED BY	GHR	SCALE	1"= 60'
DRAWN BY	SKG	DATE	7/6/2020

PROJECT NUMBER	FIGURE NUMBER
XECSANDY:H2020	1

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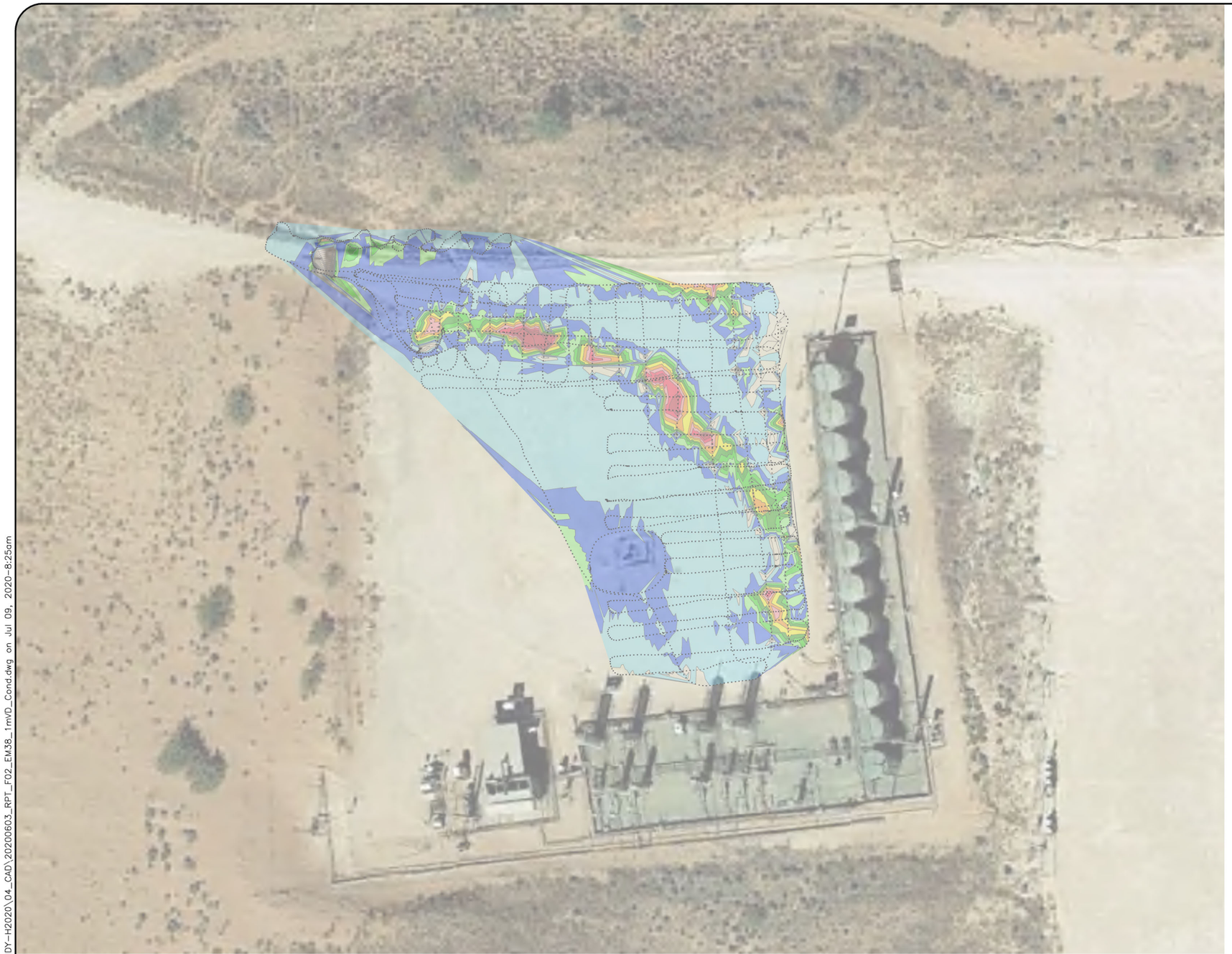

LEGEND

EM38 1.0-METER VERTICAL DIPOLE TERRAIN CONDUCTIVITY SURVEY

LOCATIONS OF EM38-MK2 GROUND CONDUCTIVITY MEASUREMENTS IN mS/m

APPARENT TERRAIN CONDUCTIVITIES

Minimum mS/m	Maximum mS/m	Color
0	10	
10	20	
20	30	
30	40	
40	50	
50	60	
60	70	
70	80	
80	90	
90	>100	

N

30 0 30 60

SCALE FEET

NOTES:

1) EM SURVEY PERFORMED BY EQUUS ENVIRONMENTAL, LLC ON JUNE 3, 2020. EM38-MK2 METER CONFIGURED IN VERTICAL DIPOLE MODE.

2) AERIAL PHOTOGRAPH DATED NOVEMBER 2, 2017, GOOGLE EARTH IMAGE SERVICES (GEIS), GEOREFERENCED IMAGE

3) APPARENT CONDUCTIVITY IN MILLISIEMENS PER METER (mS/m)

4) MAXIMUM DEPTH OF INVESTIGATION APPROXIMATELY 5 FEET BELOW GROUND SURFACE.

EQUUS Environmental, LLC
1323 East 71st Street, Suite 200
Tulsa, Oklahoma 74136-5065
918.921.5331
www.EQUUSENV.com

DOCUMENT TITLE: RESULTS OF EM38 SURVEY

FIGURE TITLE: ***EM38 1.0-METER VD CONDUCTIVITY SURVEY RESULTS***

CLIENT: CIMAREX ENERGY

LOCATION: SANDY WELL PAD
PERMIAN BASIN-HOBBS, EDDY CO., NEW MEXICO

DESIGNED BY	GHR		
APPROVED BY	GHR	SCALE	1"= 60'
DRAWN BY	SKG	DATE	7/6/2020

PROJECT NUMBER	FIGURE NUMBER
XECSANDY:H2020	2

H:\PROJECTS\Cimarex\XECSANDY-H2020\04_CAD\20200603_RPT_F02_EM38_1mVD_Cond.dwg on Jul 09, 2020-8:25am

Attachment B

NM OIL CONSERVATION
ARTESIA DISTRICT
OCD Artesia
JUN 11 2015

Form 3160-4
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

RECEIVED

5. Lease Serial No.: NMNM114356

1a. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other
b. Type of Completion: ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr.
Other

6. If Indian, Allottee or Tribe Name:

7. Unit or CA Agreement Name and No.:

2. Name of Operator: CIMAREX ENERGY COMPANY — Contact: TERRI STATHEM — E-Mail: tstathem@cimarex.com

8. Lease Name and Well No.: SANDY FEDERAL 21H

3. Address: 202 S. CHEYENNE AVE, STE 1000, TULSA, OK 74103

3a. Phone No. (include area code): Ph: 432-620-1936

9. API Well No.: 30-015-41791

4. Location of Well (Report location clearly and in accordance with Federal requirements)*
At surface: 225FSL 250FEL Sec 23 T23S R30E Mer
At top prod interval reported below: 225FSL 250FEL Sec 23 T23S R30E Mer
At total depth: 330FNL 2334FEL Sec 24 T23S R30E Mer

10. Field and Pool, or Exploratory: FORTY NINER RIDGE BS

11. Sec., T., R., M., or Block and Survey or Area: Sec 23 T23S R30E Mer

12. County or Parish: EDDY — 13. State: NM

14. Date Spudded: 04/24/2014

15. Date T.D. Reached: 05/30/2014

16. Date Completed: ☐ D & A ☒ Ready to Prod. 09/15/2014

17. Elevations (DF, KB, RT, GL)*: 3294 GL

18. Total Depth: MD 15711 TVD 9760

19. Plug Back T.D.: MD 15708 TVD

20. Depth Bridge Plug Set: MD TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each): NONE

22. Was well cored? ☒ No ☐ Yes (Submit analysis)
Was DST run? ☒ No ☐ Yes (Submit analysis)
Directional Survey? ☐ No ☒ Yes (Submit analysis)

23. Casing and Liner Record *(Report all strings set in well)*

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
17.500	13.375 J55	48.0	0	377		390		0	59
12.250	9.625 J55	36.0	0	3852		1485		0	314
8.500	5.500 P110	17.0	0	15711		3240 ~~2700~~		0	0

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.375	9389	9389						

25. Producing Intervals / 26. Perforation Record

	Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A)	BONE SPRING	10460	15675	10460 TO 15675	0.540	432	OPEN
B)							
C)							
D)							

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
10460 TO 15675	2034188 GALS FLUID; 3065677# SAND

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
09/23/2014	10/15/2014	24	→	431.0	938.0	1156.0	46.5		GAS LIFT

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status
24/64	550	110.0	→	431	938	1156		POW

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status
			→					

ACCEPTED FOR RECORD
MAY 29 2015
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #288300 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

Reclamation Date: 4/15/15

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status
			→					

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status
			→					

29. Disposition of Gas *(Sold, used for fuel, vented, etc.)*
SOLD

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth
DELAWARE	3865	7750	SANDSTONE, WATER	RUSTLER	150
BONE SPRING	7750	16479	SANDSTONE, SHALE, LIMESTONE	SALT	488
				DELAWARE	3865
				BONE SPRING	7750

32. Additional remarks (include plugging procedure):

33. Circle enclosed attachments:

1. Electrical/Mechanical Logs (1 full set req'd.)
2. Geologic Report
3. DST Report
4. Directional Survey
5. Sundry Notice for plugging and cement verification
6. Core Analysis
7. Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #288300 Verified by the BLM Well Information System.
For CIMAREX ENERGY COMPANY, sent to the Carlsbad
Committed to AFMSS for processing by DEBORAH HAM on 05/14/2015 ()

Name *(please print)* TERRI STATHEM Title MANAGER REGULATORY COMPLIANCE

Signature (Electronic Submission) Date 01/16/2015

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fradulent statements or representations as to any matter within its jurisdiction.

**** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ****