

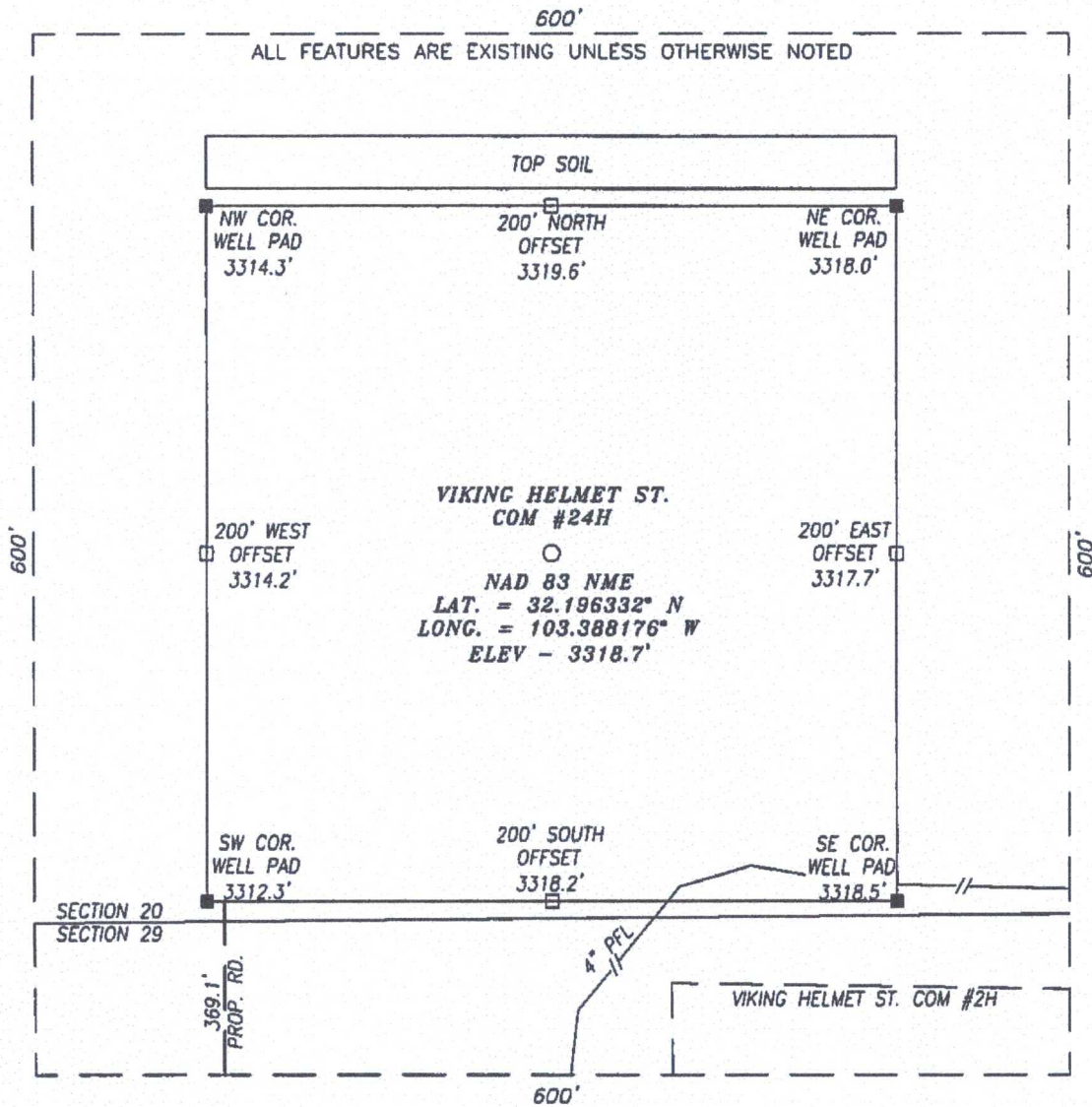
DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

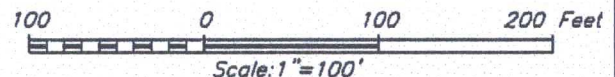
Certificate No. CHAD HARCROW 17777
W.O. 17-415 DRAWN BY: JH

SECTION 20, TOWNSHIP 24 SOUTH, RANGE 35 EAST, N.M.P.M.,
LEA COUNTY NEW MEXICO



DIRECTIONS TO LOCATION

GOING SOUTHEASTERLY ON HWY. 128 TURN LEFT (NORTHERLY) APPROX. 0.1 MILE PAST MM 39 AND GO APPROX. 0.9 MI.; THEN TURN RIGHT (EAST) AND GO APPROX. 0.6 MI. TO THE EXISTING VIKING HELMET ST. COM #2H WELL PAD; PROPOSED WELL LIES APPROX. 260 FEET NORTH OF THE NORTHWEST CORNER OF EXISTING PAD..



HARCROW SURVEYING, LLC
2314 W. MAIN ST, ARTESIA, N.M. 88210
PH: (575) 746-2158 FAX: (575) 746-2158
c.harcrow@harcrowsurveying.com



COG OPERATING, LLC

VIKING HELMET STATE COM #24H
LOCATED 210 FEET FROM THE SOUTH LINE
AND 2230 FEET FROM THE EAST LINE OF SECTION 20,
TOWNSHIP 24 SOUTH, RANGE 35 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO

SURVEY DATE: APRIL 5, 2017

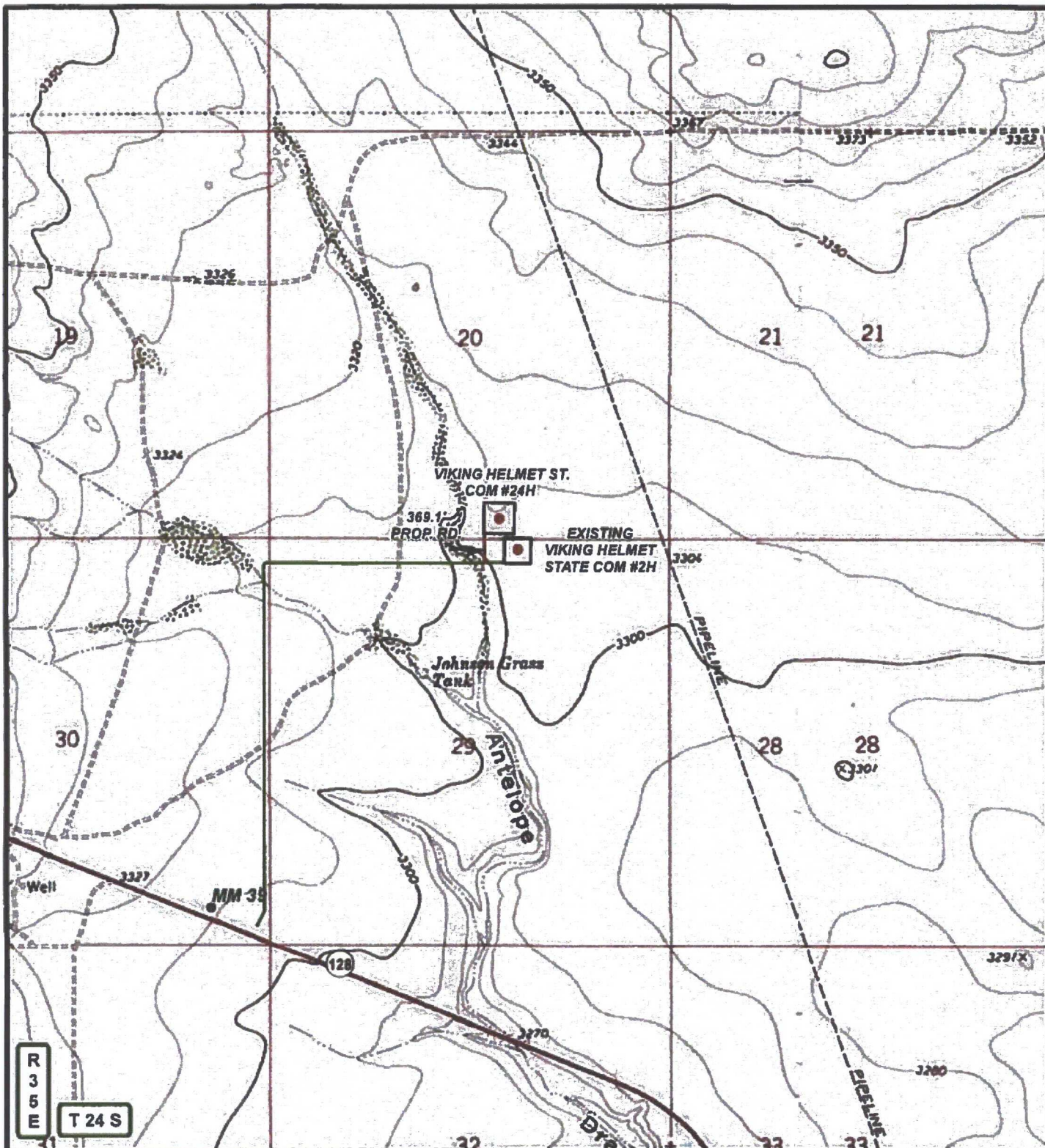
PAGE: 1 OF 1

DRAFTING DATE: APRIL 6, 2017

APPROVED BY: CH

DRAWN BY: JH

FILE: 17-415



LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

VIKING HELMET STATE COM #24H (ALTERNATE)

SEC: 20 TWP: 24 S. RGE: 35 E. ELEVATION: 3318.7'
 STATE: NEW MEXICO COUNTY: LEA 210' FSL & 2230' FEL
 W.O. # 17-415 LEASE: VIKING HELMET ST. COM SURVEY: N.M.P.M

0 2,500 5,000 FEET

0 0.125 0.25 0.5 Miles

1 IN = 2,000 FT

LOCATION MAP

TOPO

04/06/2017

J.H.



COG OPERATING, LLC



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LEGEND

-  WELL
-  WELLPAD
-  EXISTING ROAD
-  PROPOSED ROAD

MINE REPORT STATE OF NEW MEXICO

SEC: 20 TWP: 24 N. RGE: 25 E. ELEVATION: 2318.7
 STATE: NEW MEXICO COUNTY: LRA 219' PSL & 2219' PSL
 W.O. # 17-415 LEASE: VIKING HARBOR ST. COAL SURVEY: H.A.P.M.

0 2,000 4,000 FEET

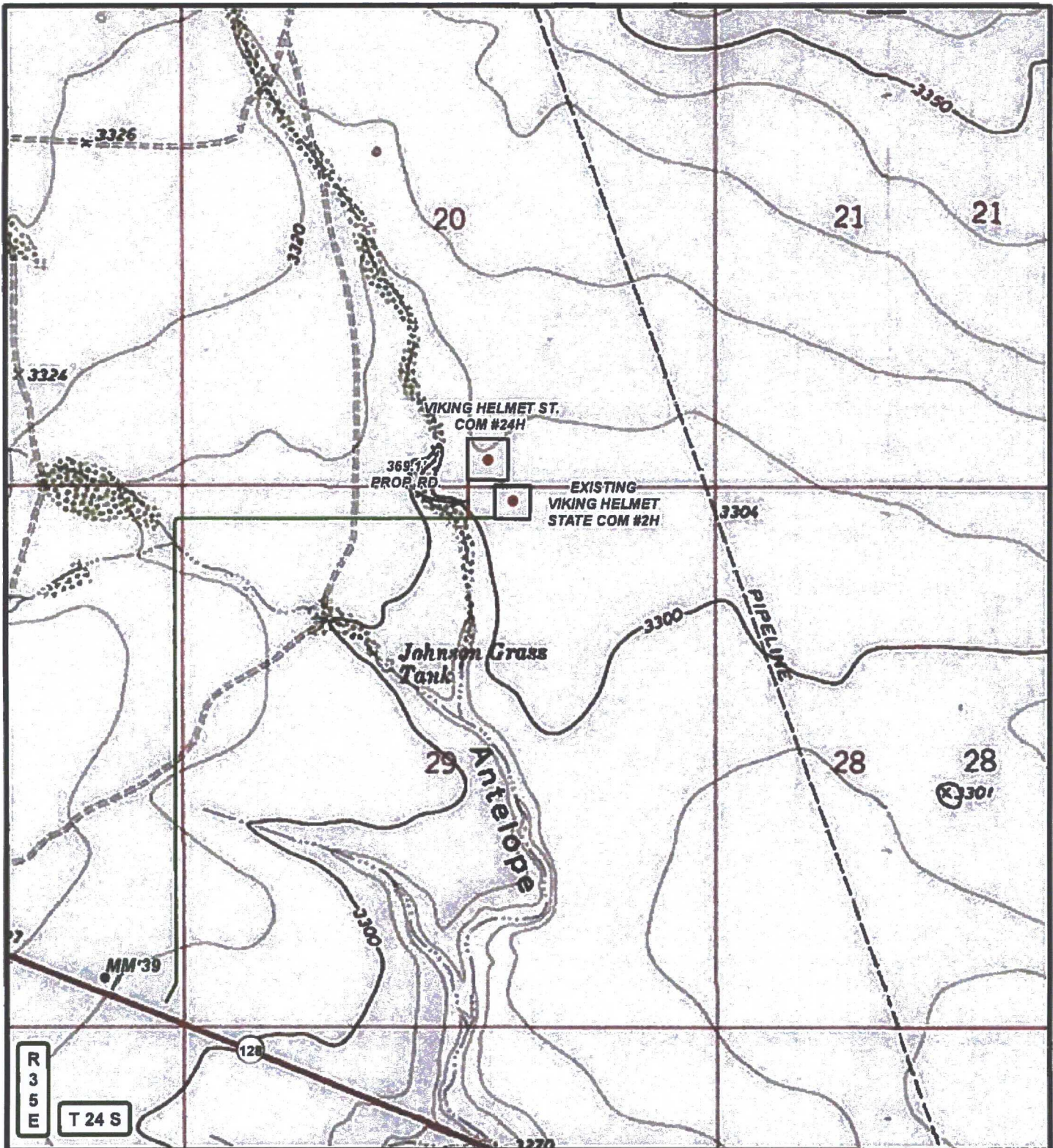
0 0.125 0.25 0.5 MILES 1 IN = 2,000 FT

DATE: 10/15/2015 TIME: 10:00 AM BY: J. L. HARRIS



COG OPERATING, LLC

HE HARRIS ENERGY, LLC
 2100 W. GARDEN ST., ALBUQUERQUE, NM 87102
 P.O. BOX 100000 ALBUQUERQUE, NM 87110
 CHAIRMAN: J. L. HARRIS

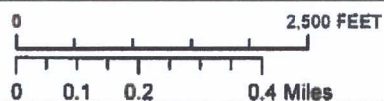


LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

VIKING HELMET STATE COM #24H (ALTERNATE)

SEC: 20 TWP: 24 S. RGE: 35 E. ELEVATION: 3318.7'
 STATE: NEW MEXICO COUNTY: LEA 210' FSL & 2230' FEL
 W.O. # 17-415 LEASE: VIKING HELMET ST. COM SURVEY: N.M.P.M



1 IN = 1,500 FT

LOCATION MAP

TOPO ROAD

04/06/2017

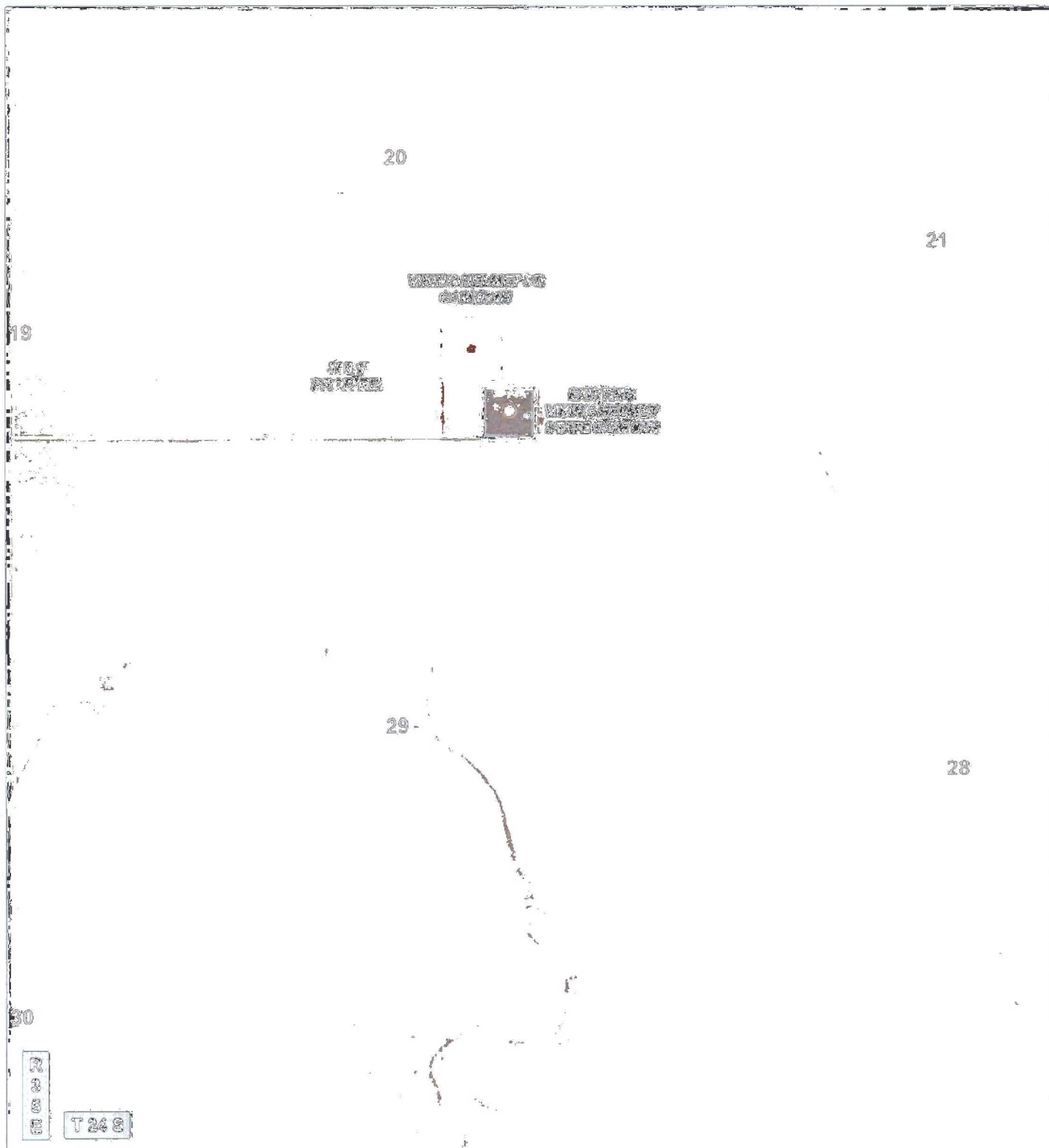
J.H.



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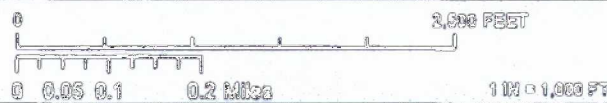


LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

Viking Helmet State Coal Seam (Intermittent)

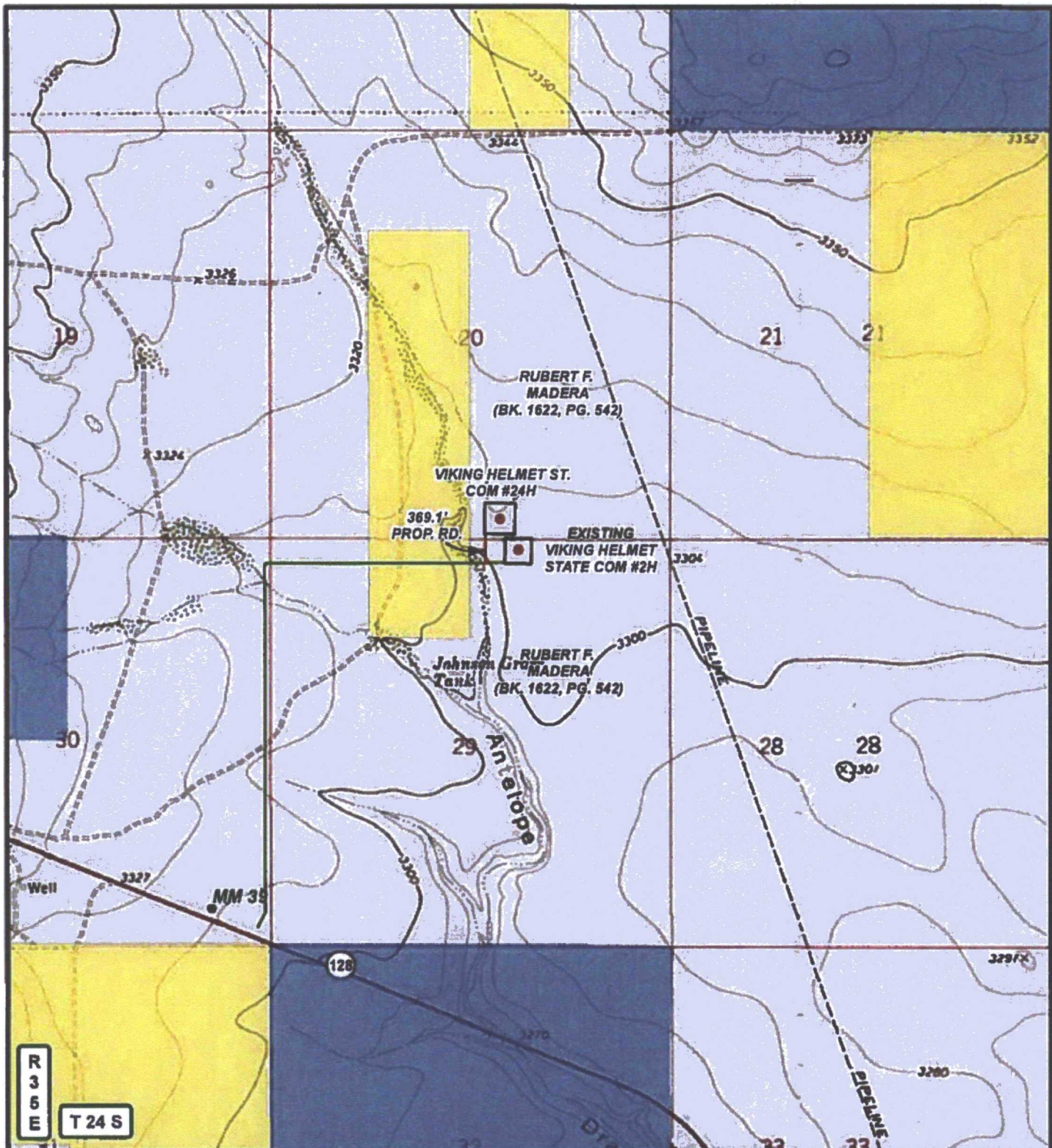
SEC: 20 TWP: 34 S. RGE: 25 E. ELEVATION: 5312.7
 STATE: NEW MEXICO COUNTY: LEA 210' FEL & 2130' FEL
 W.O. # 17-415 LEASE: VIKING HELMET ST. COM SURVEY: H.M.P.M.



COG OPERATING, LLC



HARGREAVES SURVEYING, LLC
 2800 W. NORTH ST. SUITE 200, ALBUQUERQUE, NM 87104
 (505) 262-0200 FAX (505) 262-0200
 albuquerque@hargreavesurveying.com



LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD
- PRIVATE
- STATE OF NM
- US BLM

VIKING HELMET STATE COM #24H (ALTERNATE)

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 STATE: NEW MEXICO COUNTY: LEA 210' FSL & 2230' FEL
 W.O. # 17-415 LEASE: VIKING HELMET ST. COM SURVEY: N.M.P.M

0 2,500 5,000 FEET

0 0.125 0.25 0.5 Miles

1 IN = 2,000 FT

LOCATION MAP

LAND STATUS

04/06/2017

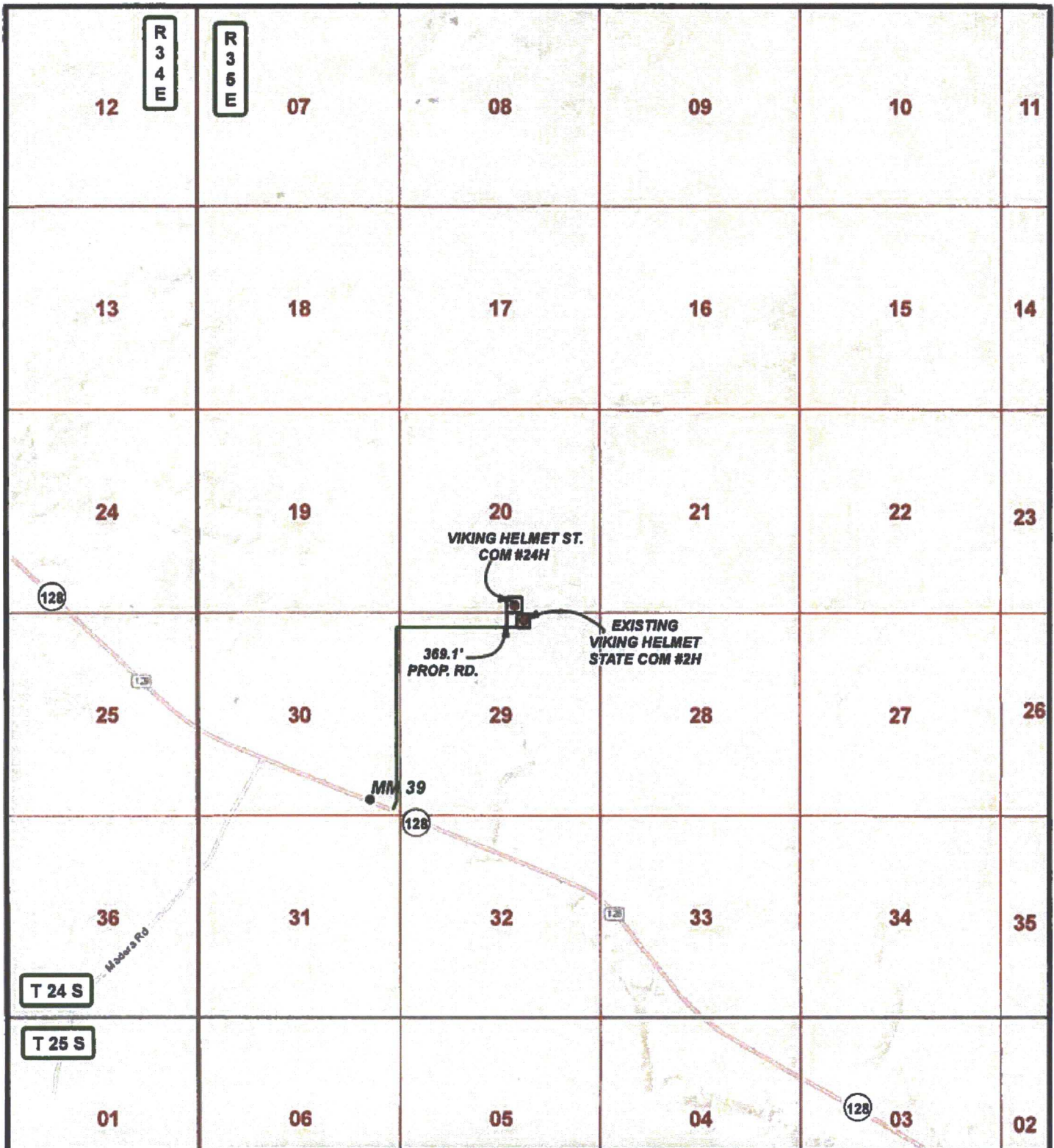
J.H.

CONCHO

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LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

VIKING HELMET STATE COM #24H (ALTERNATE)

SEC: 20 TWP: 24 S. RGE: 35 E. ELEVATION: 3318.7'
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0 2,500 5,000 7,500 10,000 FEET

0 0.275 0.55 1.1 Miles 1 IN = 4,000 FT

LOCATION MAP

VICINITY

04/06/2017

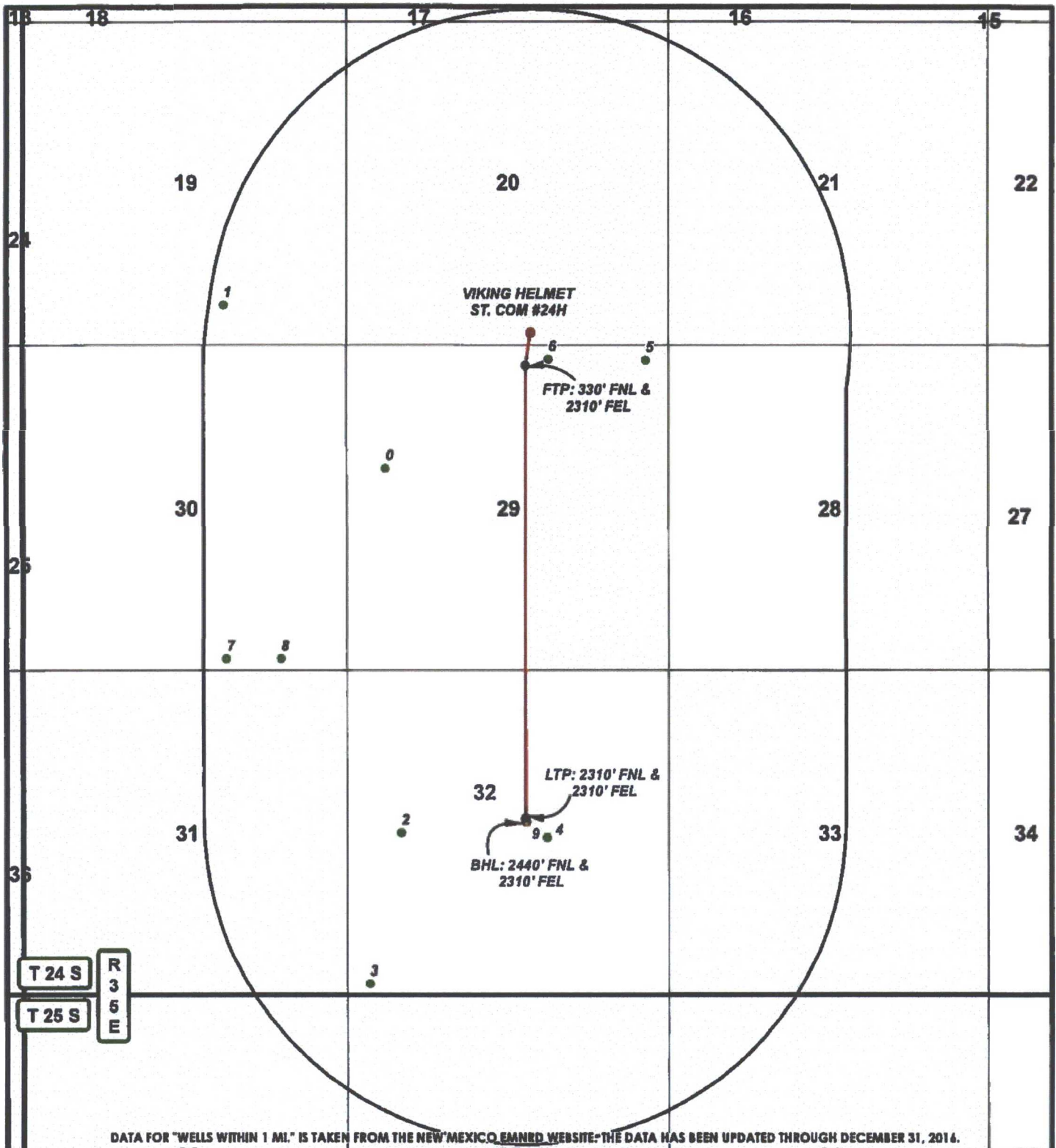
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DATA FOR "WELLS WITHIN 1 MI." IS TAKEN FROM THE NEW MEXICO EMNRD WEBSITE-THE DATA HAS BEEN UPDATED THROUGH DECEMBER 31, 2014.

LEGEND

- WELL
- BOTTOMHOLE
- WELLS WITHIN 1 MI.
- 1 MI. BUFFER

VIKING HELMET STATE COM #24H (ALTERNATE)

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 STATE: NEW MEXICO COUNTY: LEA 210' FSL & 2230' FEL
 W.O. # 17-415 LEASE: VIKING HELMET ST. COM SURVEY: N.M.P.M

0 2,500 5,000 FEET

0 0.15 0.3 0.6 Miles

1 IN = 2,500 FT

1 MILE MAP

04/06/2017

J.H.



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