Carlsbad Field Office
OCD Artesia

Form 3160-3
(March 2012)*

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM-004825 NMNM-129261

6. If Indian, Allotee or Tribe Name
N/A

1a. Type of work: ☑ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.
N/A

1b. Type of Well: ☐ Oil Well ☑ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.
PENNZOIL 32 FED 201H 320077

2. Name of Operator MATADOR PRODUCTION COMPANY 228937

9. API Well No.
30-015- 44926

3a. Address
5400 LBJ FREEWAY, SUITE 1500
DALLAS, TX 75240

3b. Phone No. *(include area code)*
972 371 5241

10. Field and Pool, or Exploratory
BURTON FLAT; WOLFCAMP, E (GAS)

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface 420' FNL & 220' FWL 33-20S-29E
At proposed prod. zone 330' FNL & 240' FWL 32-20S-29E

11. Sec., T. R. M. or Blk. and Survey or Area
SHL: NWNW 33-20S-29E NMPM
BHL: NWNW 32-20S-29E NMPM

14. Distance in miles and direction from nearest town or post office*
12 MILES NE OF CARLSBAD, NM

12. County or Parish
EDDY

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
SHL: 220'
BHL: 240'

16. No. of acres in lease
SHL = 1711.45 acres
BHL = 320.00 acres

17. Spacing Unit dedicated to this well
N2 32-20S-29E

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
SHL: 30' (Pennz. 131H)
BHL: 235' (ditto)

19. Proposed Depth
TVD: 9465'
MD: 14749'

20. BLM/BIA Bond No. on file
BLM NMB-001079

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3264' UNGRADED

22. Approximate date work will start*
02/01/2017

23. Estimated duration
3 MONTHS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature B. Wood

Name *(Printed/Typed)*
BRIAN WOOD (PHONE: 505 466-8120)

Date
11/10/2016

Title
CONSULTANT (FAX: 505 466-9682)

Approved by *(Signature)* Cody R. Layton

Name *(Printed/Typed)* Cody R. Layton

Date 04/16/2018

Title
AV Field Manager

Office
CFO

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

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 fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

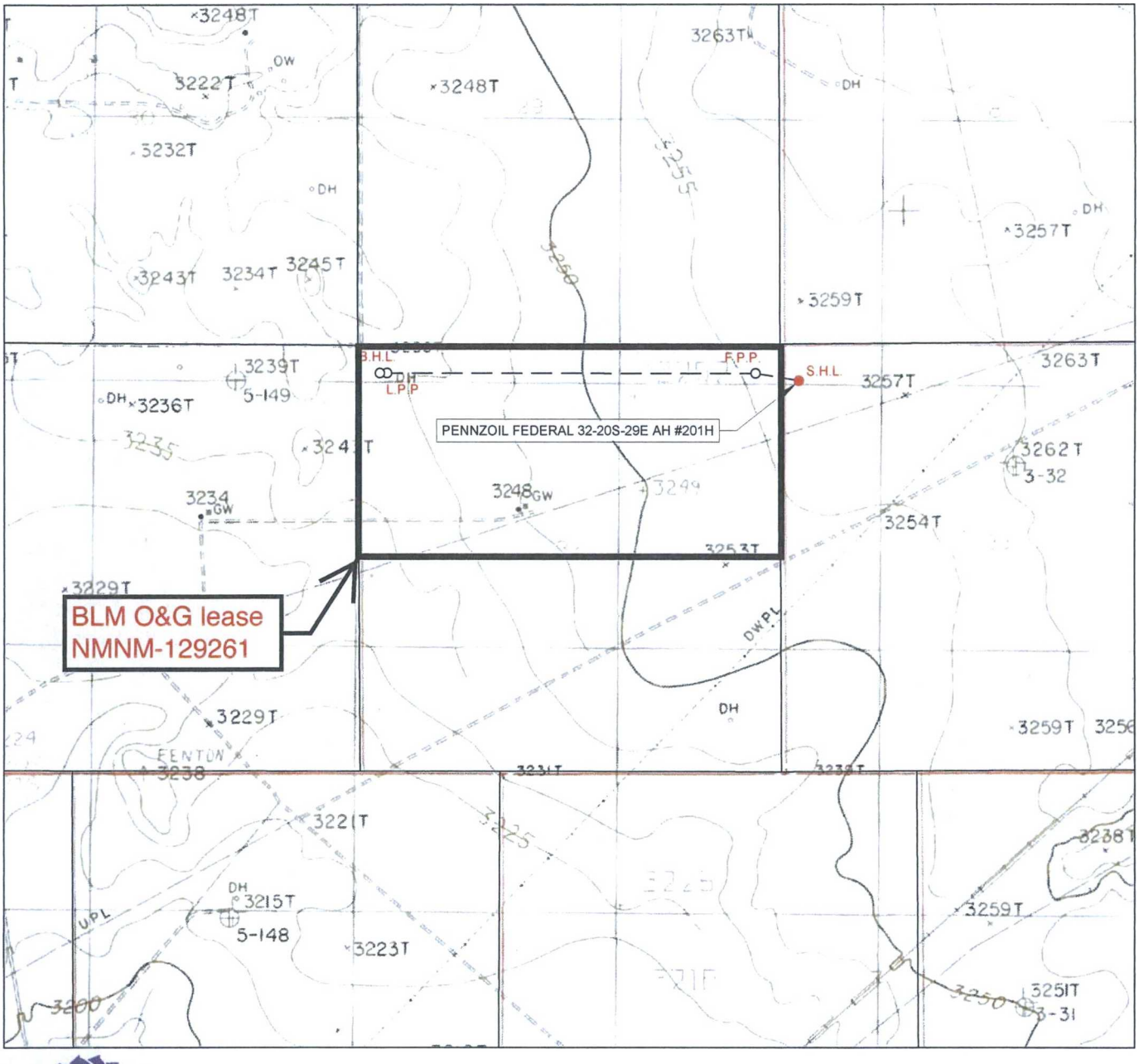
*(Instructions on page 2)

NM OIL CONSERVATION
ARTESIA DISTRICT
APR 26 2018
RECEIVED

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

RWP 5-1-18

LOCATION & ELEVATION VERIFICATION MAP



LEASE NAME & WELL NO.: PENNZOIL FEDERAL 32-20S-29E AH #201H

SECTION 33 TWP 20-S RGE 29-E SURVEY N.M.P.M.
COUNTY EDDY STATE NM ELEVATION 3264'
DESCRIPTION 420' FNL & 220' FWL

LATITUDE N 32.5358835 LONGITUDE W 104.0873849

-N-

SCALE: 1" = 2000'

0' 1000' 2000'

THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY MATADOR PRODUCTION COMPANY. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE OF THE NORTH AMERICAN DATUM 1927, U.S. SURVEY FEET.

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY

WWW.TOPOGRAPHIC.COM

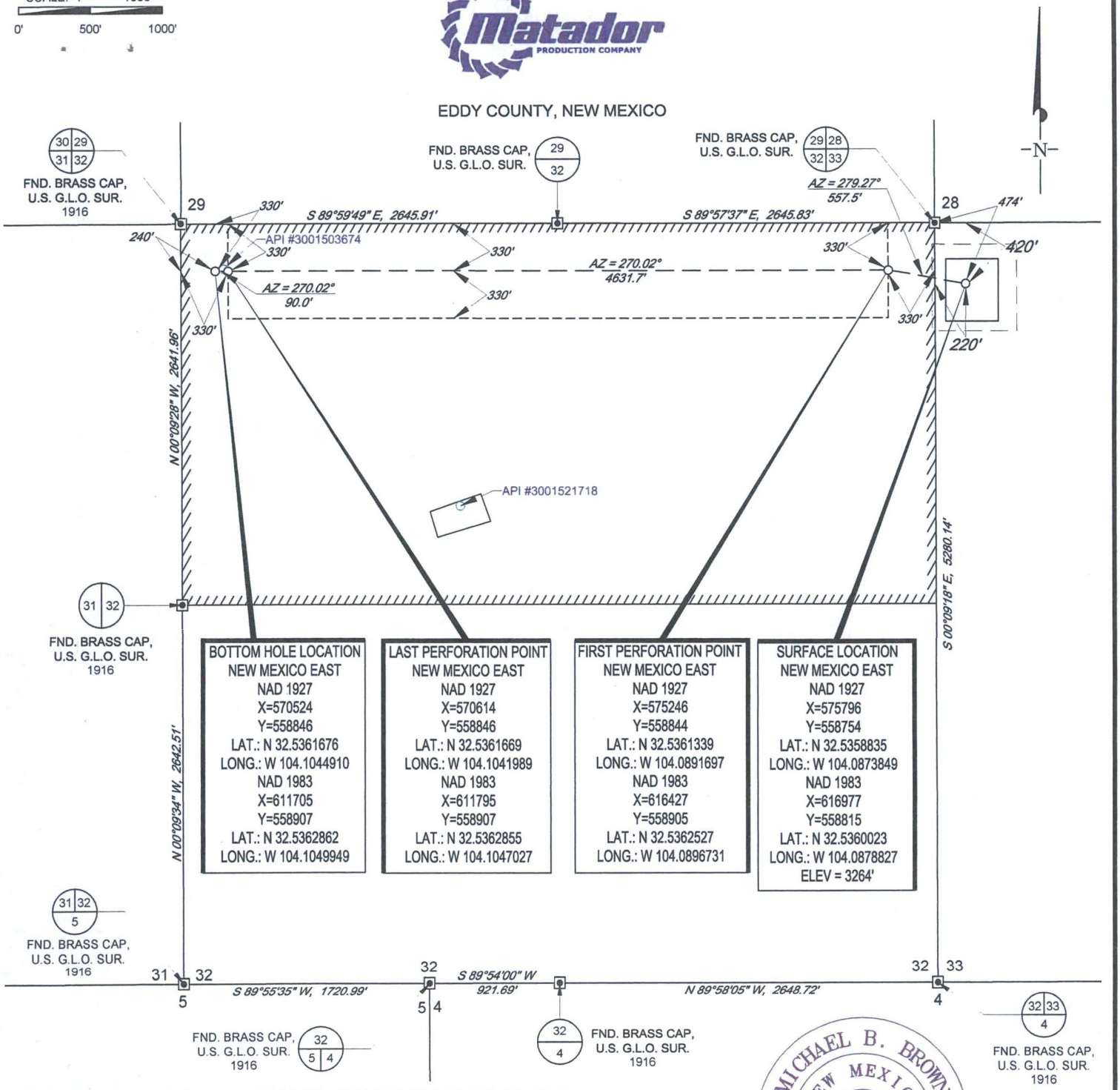
S:\SURVEY\MATADOR_RESOURCES\PENNZOIL_FEDERAL_32-20S-29E_AH_201H\FINAL_PRODUCTS\LO_PENNZOIL_FEDERAL_32-20S-29E_AH_201H_REV1.DWG 8/2/2016 9:08:22 AM aflores

SCALE: 1" = 1000'

0' 500' 1000'

Matador PRODUCTION COMPANY

EDDY COUNTY, NEW MEXICO



BOTTOM HOLE LOCATION	LAST PERFORATION POINT	FIRST PERFORATION POINT	SURFACE LOCATION
NEW MEXICO EAST	NEW MEXICO EAST	NEW MEXICO EAST	NEW MEXICO EAST
NAD 1927	NAD 1927	NAD 1927	NAD 1927
X=570524	X=570614	X=575246	X=575796
Y=558846	Y=558846	Y=558844	Y=558754
LAT.: N 32.5361676	LAT.: N 32.5361669	LAT.: N 32.5361339	LAT.: N 32.5358835
LONG.: W 104.1044910	LONG.: W 104.1041989	LONG.: W 104.0891697	LONG.: W 104.0873849
NAD 1983	NAD 1983	NAD 1983	NAD 1983
X=611705	X=611795	X=616427	X=616977
Y=558907	Y=558907	Y=558905	Y=558815
LAT.: N 32.5362862	LAT.: N 32.5362855	LAT.: N 32.5362527	LAT.: N 32.5360023
LONG.: W 104.1049949	LONG.: W 104.1047027	LONG.: W 104.0896731	LONG.: W 104.0878827
			ELEV = 3264'

LEASE NAME & WELL NO.: PENNZOIL FEDERAL 32-20S-29E AH #201H

SECTION 33 TWP 20-S RGE 29-E SURVEY N.M.P.M.

COUNTY EDDY STATE NM

DESCRIPTION 420' FNL & 220' FWL

DISTANCE & DIRECTION

FROM INT. OF US-285 AND US-180/US-62 E/W GREENE ST. GO EAST ON

FEET NORTHEAST OF THE LOCATION

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE OF THE NORTH AMERICAN DATUM 1927, U.S. SURVEY FEET

THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY MATADOR PRODUCTION COMPANY. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

AS OF THE DATE OF SURVEY, ALL ABOVE GROUND APPURTENANCES WITHIN 300' OF THE STAKED LOCATION ARE SHOWN HEREON.

MICHAEL B. BROWN NEW MEXICO 18329 PROFESSIONAL SURVEYOR

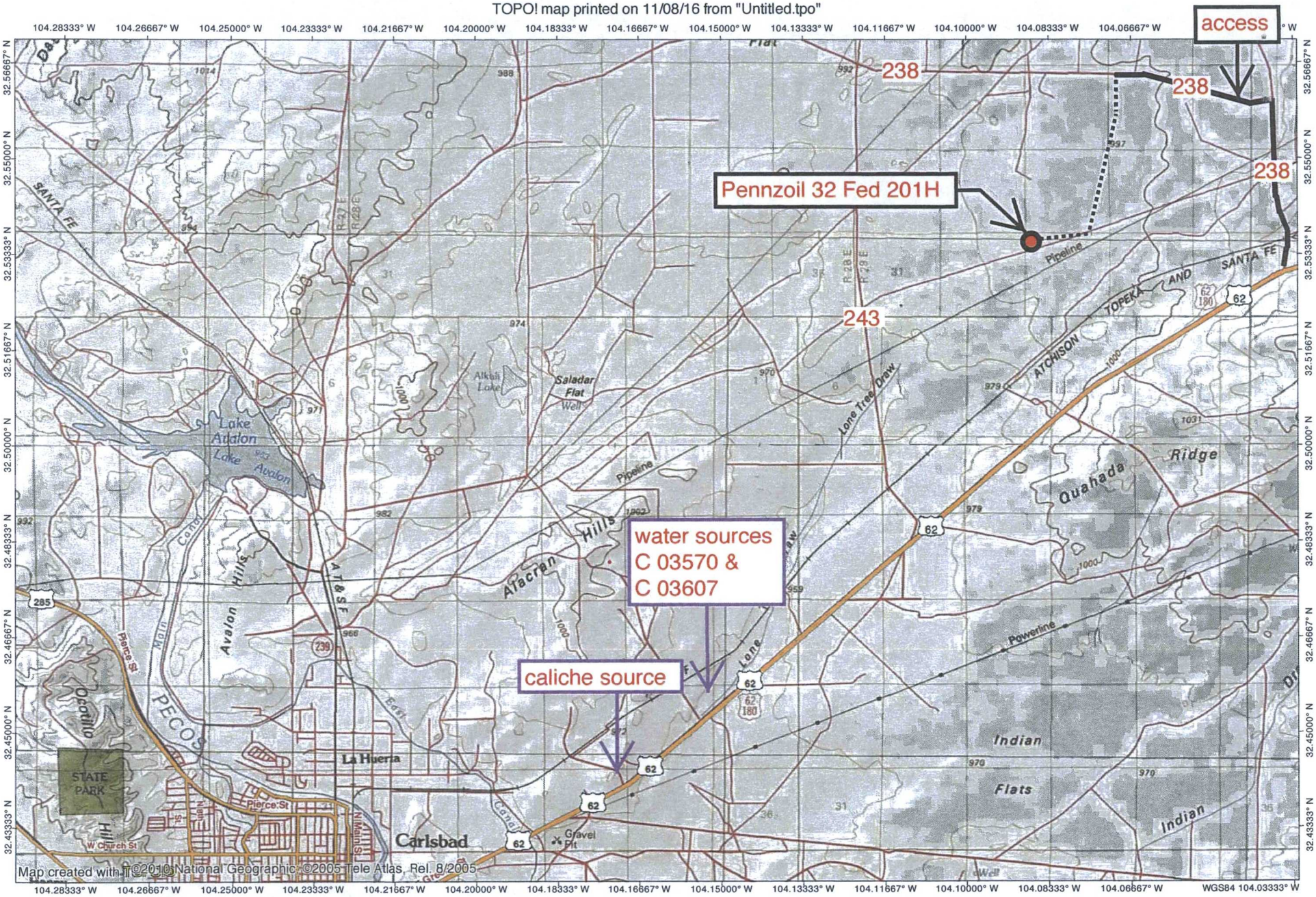
Michael Blake Brown, P.S. No. 18329

AUGUST 1, 2016

TOPOGRAPHIC LOYALTY INNOVATION LEGACY

WWW.TOPOGRAPHIC.COM

S:\SURVEY\MATADOR_RESOURCES\PENNZOIL_FEDERAL_32-20S-29E_AH_201H\FINAL_PRODUCTS\LO_PENNZOIL_FEDERAL_32-20S-29E_AH_201H_REV1.DWG 8/8/2016 4:38:20 PM jstovall

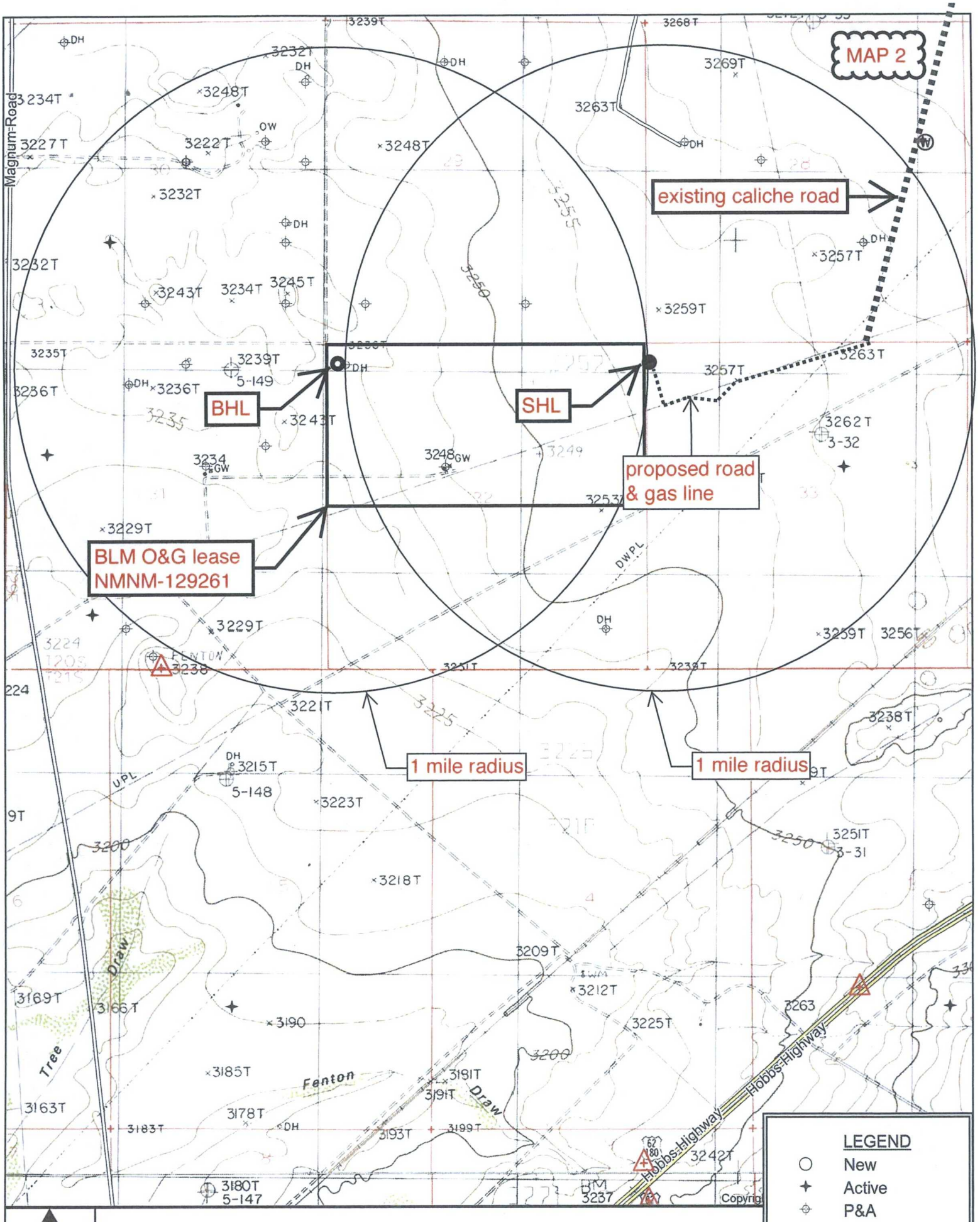


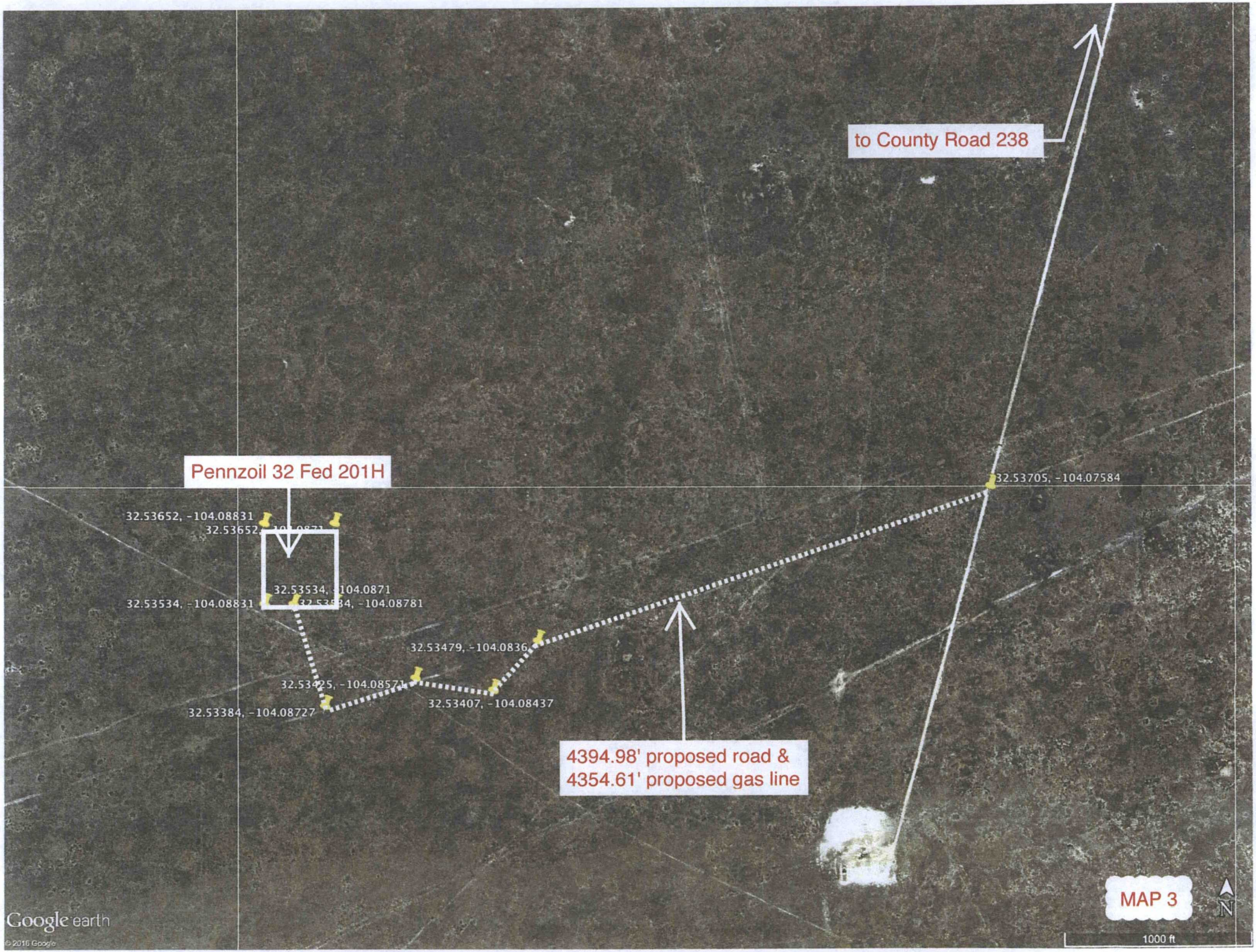
NATIONAL GEOGRAPHIC

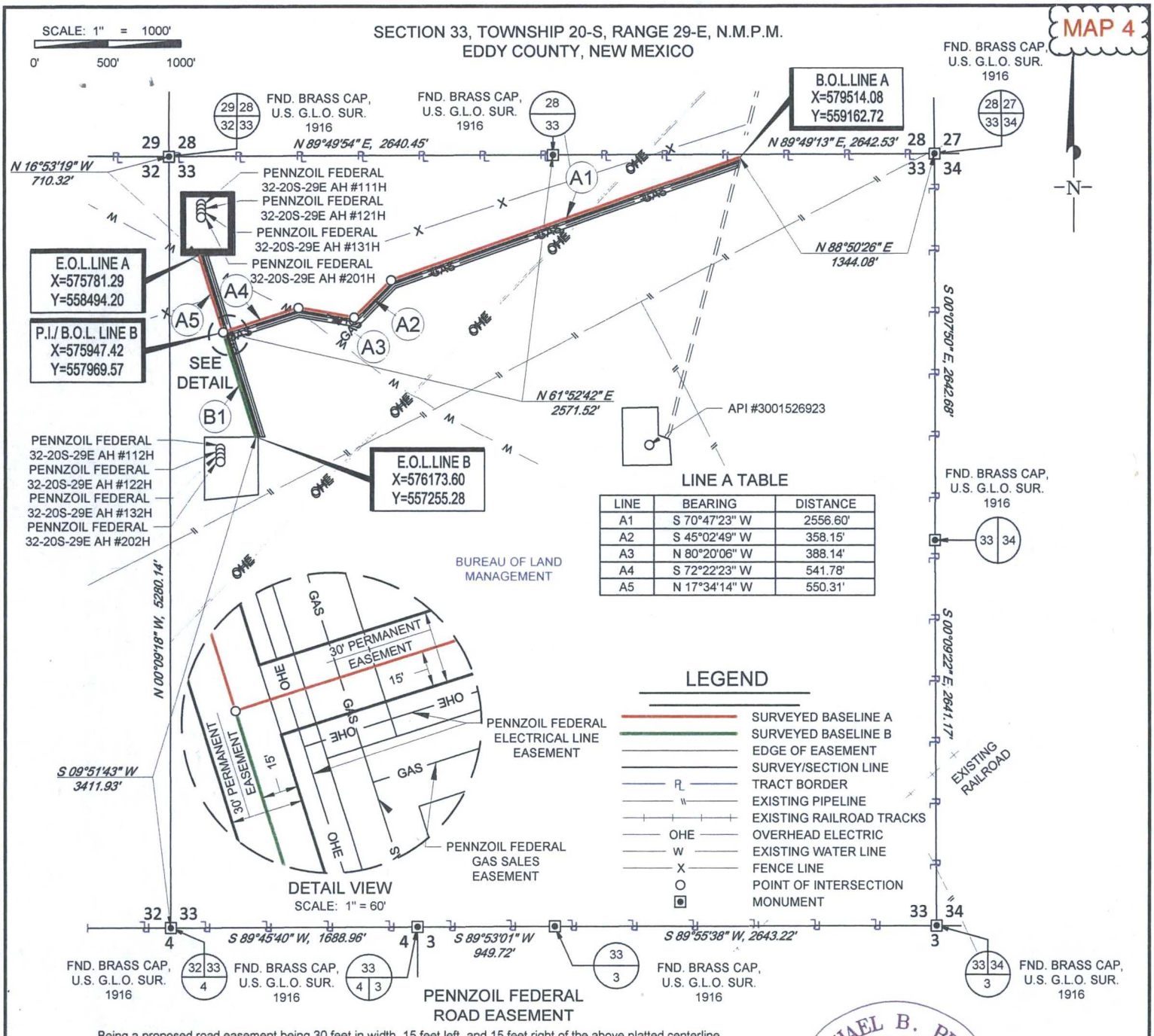
0.0 0.5 1.0 1.5 2.0 2.5 3.0 miles
0 1 2 3 4 5 km

MAP 1

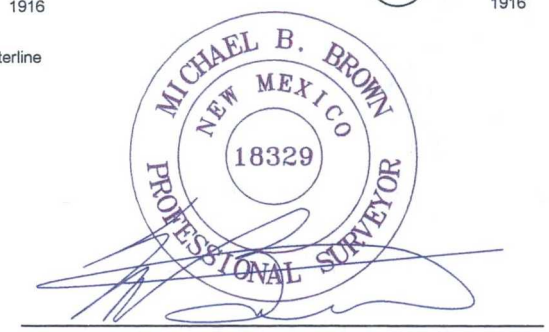
TN ⋆ MN
7°
11/08/16


MAP 2
existing caliche road
BHL
SHL
proposed road & gas line
BLM O&G lease NMNM-129261
1 mile radius
1 mile radius
Magnum-Road
Hobbs-Highway
Fenton
Draw
Tree
DWPL
UPL
LEGEND
New
Active
P&A
INJ
SWD
Water
N
Quad: ILLINOIS CAMP SE
Scale: 1 inch = 2,000 ft.


to County Road 238
Pennzoil 32 Fed 201H
32.53705, -104.07584
32.53652, -104.08831
32.53534, -104.0871
32.53534, -104.08831
32.53534, -104.08781
32.53479, -104.0836
32.53425, -104.08571
32.53407, -104.08437
32.53384, -104.08727
4394.98' proposed road &
4354.61' proposed gas line
MAP 3
N
1000 ft
Google earth
© 2016 Google



Being a proposed road easement being 30 feet in width, 15 feet left, and 15 feet right of the above platted centerline total line footage containing 5144.22 feet or 311.77 rods, containing 3.54 acres more or less.



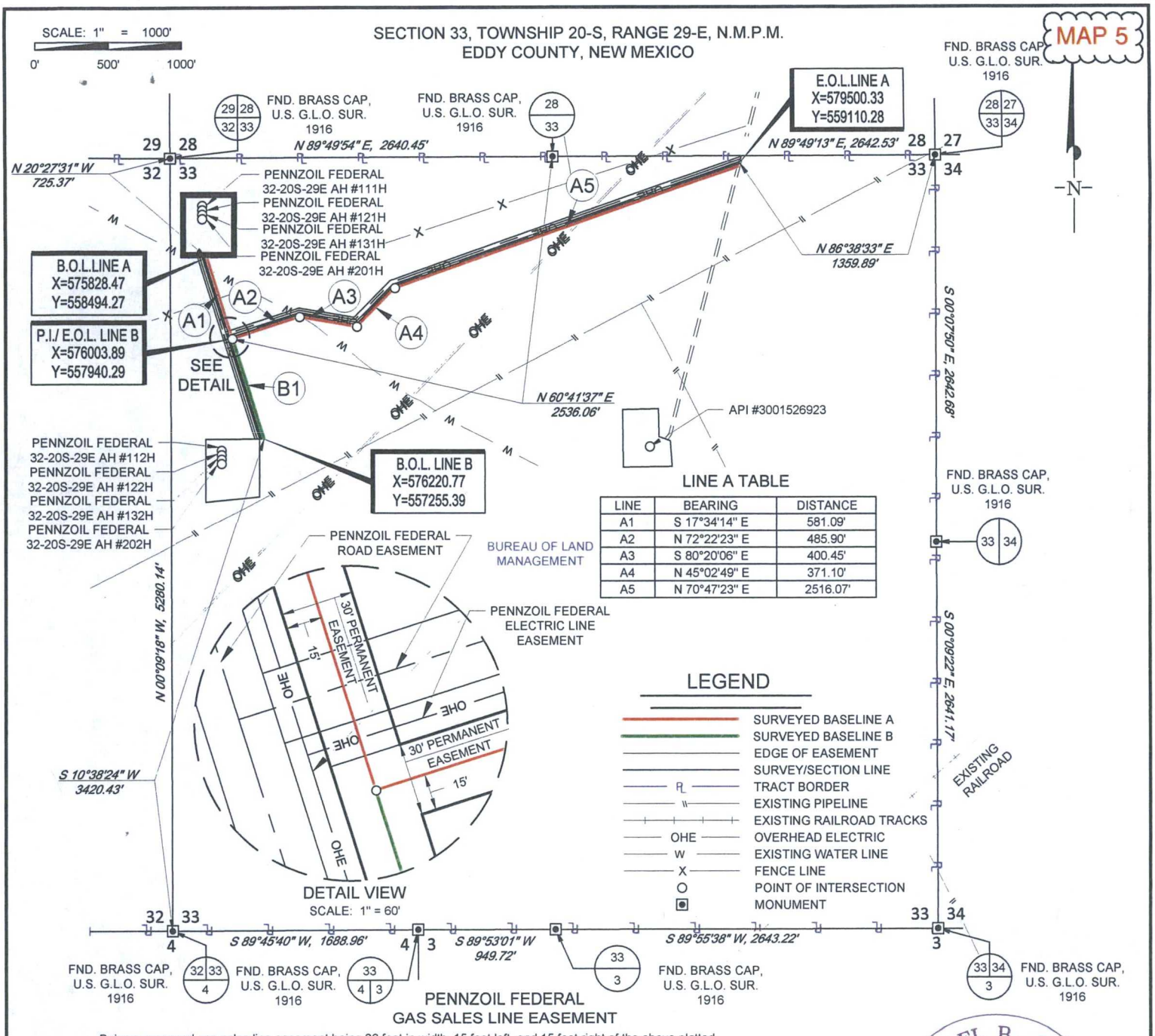
Matador PRODUCTION COMPANY

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 197 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7548
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

Michael Blake Brown, P.S. No. 18329
AUGUST 01, 2016

PENNZOIL FEDERAL ROAD EASEMENT	REVISION:	
	INT	DATE
DATE: 08/01/16		
FILE: EP_PENNZOIL_FEDERAL_ROAD_REV1		
DRAWN BY: MML		
SHEET: 1 OF 1		

NOTES:
1. ORIGINAL DOCUMENT SIZE: 8.5" X 11"
2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, U.S. SURVEY FEET, NORTH AMERICAN DATUM 1927.
3. CERTIFICATION IS MADE ONLY TO THE LOCATION OF THIS EASEMENT, IN RELATION TO THE EVIDENCE FOUND DURING A FIELD SURVEY, MADE ON THE GROUND, UNDER MY SUPERVISION, AND USING DOCUMENTATION PROVIDED BY MATADOR PRODUCTION COMPANY. ONLY UTILITIES/EASEMENTS THAT WERE VISIBLE ON THE DATE OF THIS SURVEY, WITHIN/ADJOINING THIS EASEMENT, HAVE BEEN LOCATED AS SHOWN HEREON OF WHICH I HAVE KNOWLEDGE. THIS CERTIFICATION IS LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE, AND MADE FOR THIS TRANSACTION ONLY.
4. B.O.L. = BEGINNING OF LINE
5. E.O.L. = END OF LINE
6. P.I. = POINT OF INTERSECTION



PENNZOIL FEDERAL GAS SALES LINE EASEMENT

Being a proposed gas sales line easement being 30 feet in width, 15 feet left, and 15 feet right of the above platted centerline total line footage containing 5073.03 feet or 307.46 rods, containing 3.49 acres more or less.

MICHAEL B. BROWN
NEW MEXICO
18329
PROFESSIONAL SURVEYOR

Michael Blake Brown, P.S. No. 18329
AUGUST 01, 2016

Matador PRODUCTION COMPANY

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 197 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7548
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

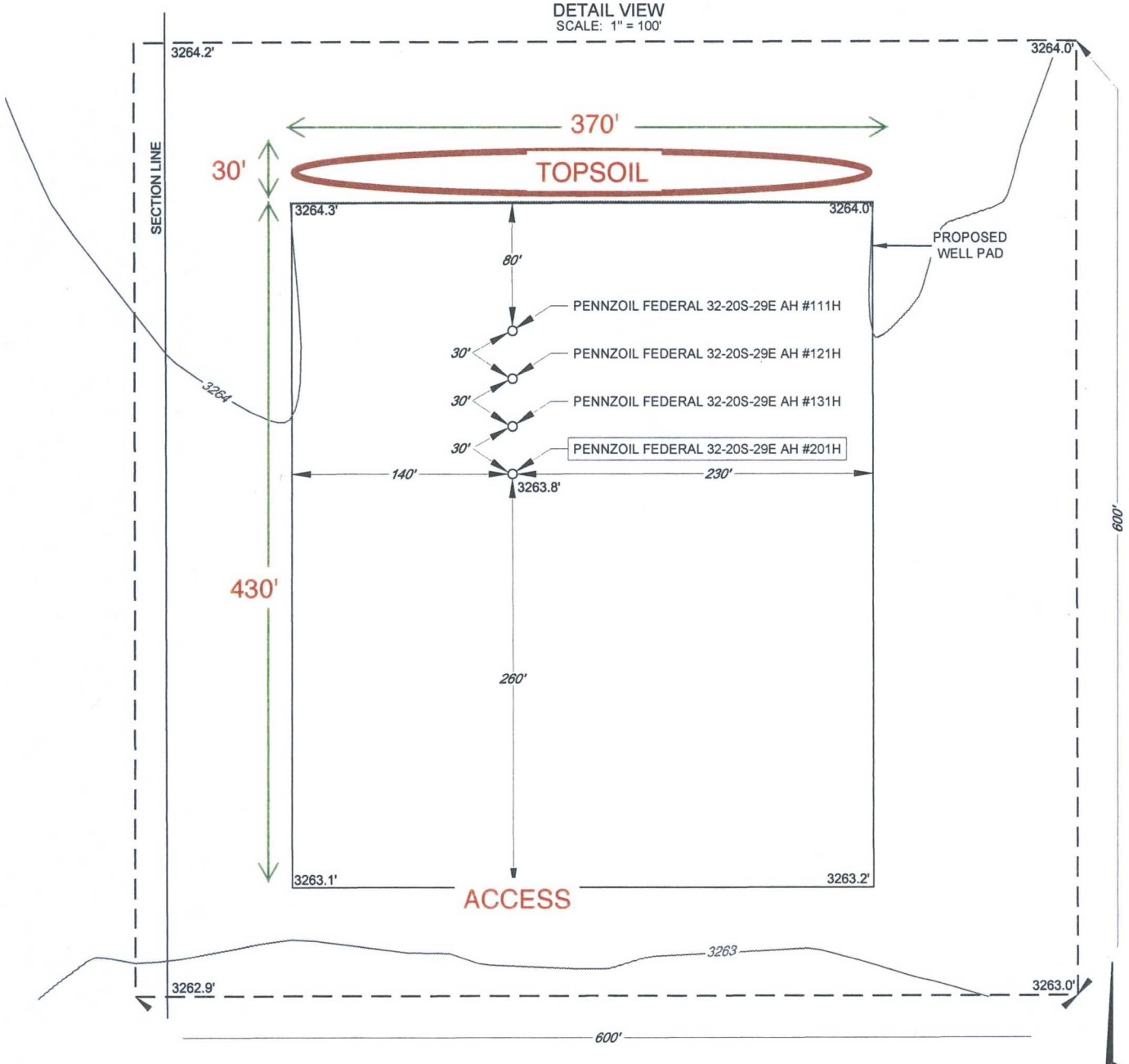
PENNZOIL FEDERAL GAS SALES LINE EASEMENT	REVISION:	
	INT	DATE
DATE: 08/01/16		
FILE: EP_PENNZOIL_FEDERAL_GAS_SALES_LINE_REV1		
DRAWN BY: MML		
SHEET : 1 OF 1		

NOTES:
1. ORIGINAL DOCUMENT SIZE: 8.5" X 11"
2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, U.S. SURVEY FEET, NORTH AMERICAN DATUM 1927.
3. CERTIFICATION IS MADE ONLY TO THE LOCATION OF THIS EASEMENT, IN RELATION TO THE EVIDENCE FOUND DURING A FIELD SURVEY, MADE ON THE GROUND, UNDER MY SUPERVISION, AND USING DOCUMENTATION PROVIDED BY MATADOR PRODUCTION COMPANY. ONLY UTILITIES/EASEMENTS THAT WERE VISIBLE ON THE DATE OF THIS SURVEY, WITHIN/ADJOINING THIS EASEMENT, HAVE BEEN LOCATED AS SHOWN HEREON OF WHICH I HAVE KNOWLEDGE. THIS CERTIFICATION IS LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE, AND MADE FOR THIS TRANSACTION ONLY.
4. B.O.L. = BEGINNING OF LINE
5. E.O.L. = END OF LINE
6. P.I. = POINT OF INTERSECTION

MAP 6

SECTION 33, TOWNSHIP 20-S, RANGE 29-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

DETAIL VIEW
SCALE: 1" = 100'



LEASE NAME & WELL NO.: PENNZOIL FEDERAL 32-20S-29E AH #201H

#201H LATITUDE N 32.5358835 #201H LONGITUDE W 104.0873849

LEGEND

SECTION LINE

ARCH SITE

N

SCALE: 1" = 100'

0' 50' 100'

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE OF THE NORTH AMERICAN DATUM 1927, U.S. SURVEY FEET

THIS PROPOSED PAD SITE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY MATADOR PRODUCTION COMPANY. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
WWW.TOPOGRAPHIC.COM

ORIGINAL DOCUMENT SIZE: 8.5" X 11"

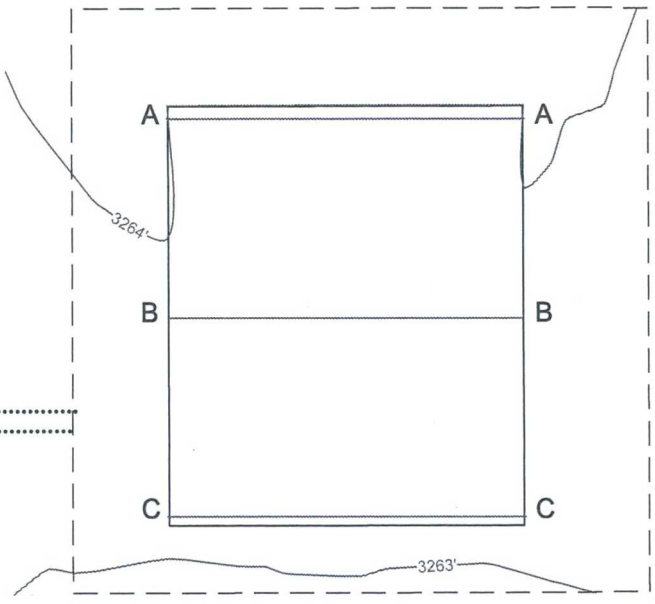
S:\SURVEY\MATADOR_RESOURCES\PENNZOIL_FEDERAL_32-20S-29E_AH_201H\FINAL_PRODUCTS\LO_PENNZOIL_FEDERAL_32-20S-29E_AH_201H_REV1.DWG 8/2/2016 11:59:09 AM aflores

MAP 7

SCALE: 1" = 200'

0' 100' 200'

N

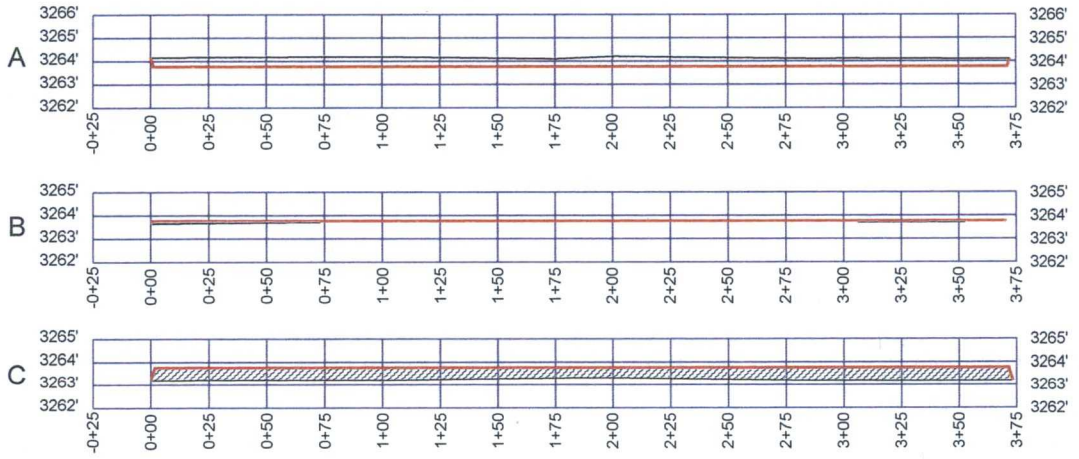


TOP OF PAD ELEVATION:
3263.76'

BALANCE TOLERANCE (C.Y.): 0.00
CUT SWELL FACTOR: 1.00
FILL SHRINK FACTOR: 1.00

PAD EARTHWORK VOLUMES
CUT : 20,320.5 C.F., 752.61 C.Y.
FILL: 20,320.5 C.F., 752.61 C.Y.
AREA: 160912.6 SQ.FT., 3.694 ACRES

MICHAEL B. BROWN
NEW MEXICO
18329
PROFESSIONAL SURVEYOR



Horizontal Scale = 1:50
Vertical Scale = 1:5

Matador PRODUCTION COMPANY

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY

Michael Blake Brown, P.S. No. 18329

AUGUST 2, 2016

TEXAS FIRM REGISTRATION NO. 10042504
WWW.TOPOGRAPHIC.COM

Field note description of even date accompanies this plat.

PENNZOIL FEDERAL 32-20S-29E AH 111H SURFACE PAD SITE PRO	REVISION:	
	A.V.F.	08/02/2016
DATE: 04/19/16		
FILE: CD_PENNZOIL_FEDERAL_32-20S-29E_AH_111H_SURFACE_PAD_SITE_PRO_REV1		
DRAWN BY: SRJ		
SHEET : 1 OF 1		

NOTES:
1. ORIGINAL DOCUMENT SIZE: 8.5" X 11"
2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, U.S. SURVEY FEET, NORTH AMERICAN DATUM 1927.
3. CERTIFICATION IS MADE ONLY TO THE LOCATION OF THIS EASEMENT, IN RELATION TO THE EVIDENCE FOUND DURING A FIELD SURVEY, MADE ON THE GROUND, UNDER MY SUPERVISION, AND USING DOCUMENTATION PROVIDED BY MATADOR RESOURCE COMPANY. ONLY UTILITIES/EASEMENTS THAT WERE VISIBLE ON THE DATE OF THIS SURVEY, WITHIN/ADJOINING THIS EASEMENT, HAVE BEEN LOCATED AS SHOWN HEREON OF WHICH I HAVE KNOWLEDGE. THIS CERTIFICATION IS LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE, AND MADE FOR THIS TRANSACTION ONLY.

S:\SURVEY\MATADOR_RESOURCES\PENNZOIL_FEDERAL_32-20S-29E_AH_111H_SURFACE_PAD_SITE\FINAL_PRODUCTS\CD_PENNZOIL_FEDERAL_32-20S-29E_AH_111H_SURFACE_PAD_SITE_PRO_REV1.DWG 8/8/2016 2:19:55 PM jstovall

Matador Production Company
Pennzoil 32 Fed 201H
SHL 420' FNL & 220' FWL Sec. 33
BHL 330' FNL & 240' FWL Sec. 32
T. 20 S., R. 29 E., Eddy County, NM

Drilling Program

1. ESTIMATED TOPS

Formation Name	TVD	Bearing
Rustler	Surface	silt., gyp., SS, dolo.
Yates	1065'	gypsum
Seven Rivers	1390'	dolomite
Capitan Reef	1400'	water
Cherry Canyon	3275'	hydrocarbons
Brushy Canyon	4520'	hydrocarbons
Bone Spring Lime	6005'	hydrocarbons
1st Bone Spring Carbonate	6665'	hydrocarbons
1st Bone Spring Sand	7020'	Hydrocarbons
2nd Bone Spring Carbonate	7330'	hydrocarbons
2nd Bone Spring Sand	7750'	hydrocarbons
3rd Bone Spring Carbonate	8150'	hydrocarbons
3rd Bone Spring Sand	8930'	hydrocarbons
Wolfcamp	9340'	hydrocarbons & goal
TD (MD = 14749')	9465'	hydrocarbons

2. NOTABLE ZONES

Wolfcamp is the goal. Hole will extend west of the last perforation point to allow for pump installation. All perforations will be ≥330' from the dedication perimeter. Closest water well (CP 00759) is 5760' northeast. Depth to water is 90' in this 205' deep well.

3. PRESSURE CONTROL

Matador requests a variance for a speed head and for a 2000 psi annular to be installed after running 20" surface casing.

After 20" surface casing, a BOP stack consisting of 3 rams with 2 pipe rams, 1 blind ram, and 1 annular preventer will be installed. The BOP will be used below intermediate casing 1 to TD. See attached BOP and choke manifold diagrams.

An accumulator complying with Onshore Order 2 requirements for the BOP stack pressure rating will be present. Rotating head will be installed as needed.

Pressure tests will be conducted before drilling out from under all casing strings. BOP will be inspected and operated as required in Onshore Order 2. Kelly cock and sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the rig floor in the open position.

A third party company will test the BOPs.

Intermediate 1 casing pressure tests will be made to 250 psi low and 2000 psi high. Intermediate 2 casing pressure tests will be made to 250 psi low and 3000 psi high. Intermediate 3 casing pressure tests will be made to 250 psi low and 7500 psi high. Annular preventer will be tested to 250 psi low and 2500 psi high on the intermediate 1 casing and tested to 250 psi low and 2500 psi high on the intermediate 2 and 3 casing.

In the case of running a speed head with landing mandrel for 9-5/8" and 7-5/8" x 7" casing, initial intermediate 1 casing test pressures will be 250 psi low and 3000 psi high, with wellhead seals tested to 5000 psi once the 9-5/8" casing has been landed and cemented. BOP will then be lifted to install the D-section of the wellhead. BOP will be nippled back up and pressure tests will be made to 250 psi low and 7500 psi high. The annular will be tested to 250 psi low and 2500 psi high.

Matador requests a variance to drill this well using a co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached. Manufacturer does not require the hose to be anchored. If the specific hose is not available, then one of equal or higher rating will be used.

4. CASING & CEMENT

All casing will be new. Minimum safety factors are burst = 1.125, collapse = 1.125, and tension = 1.8.

Hole O. D.	Set @ (MD)	Name	Casing O. D.	TOC	Weight (lb/ft)	Grade	Thread Collar
26"	400'	Surface	20"	GL	94	K-55	BTC
17.5"	1200'	Intermediate 1	13.375"	GL	54.5	J-55	BTC
12.25"	3100'	Intermediate 2	9.625"	GL	40	J-55	BTC
8.75"	0'-3000'	Intermediate 3	7.625"	2100'	29.7	P-110	BTC
	3000'-8694'		7.625"		29.7	P-110	Hydril 513
	8694'-9594'		7"		29	P-110	BTC
6.125"	0'-8594'	Production	5.5"	8753'	20	P-110	Tenaris XP
	8594'-13586'		4.5"		13.5	P-110	Tenaris XP

Matador Production Company
Pennzoil 32 Fed 201H
SHL 420' FNL & 220' FWL Sec. 33
BHL 330' FNL & 240' FWL Sec. 32
T. 20 S., R. 29 E., Eddy County, NM

Casing Name	Type	Sacks	Yield	Cu. Ft.	Weight	Blend
Surface	Tail	873	1.38	1204	14.8	Class C + 5% NaCl + LCM
TOC = GL		100% Excess			Centralizers per Onshore Order 2.III.B.1f	
Intermediate 1	Lead	528	2.09	1103	12.6	Class C + Bentonite + 1% $CaCl_2$ + 8% NaCl + LCM
	Tail	302	1.38	416	14.8	Class C + 5% NaCl + LCM
TOC = GL		100% Excess			2 on btm jt, 1 on 2nd jt, 1 every 4th jt to GL	
Intermediate 2	Lead	499	2.48	1237	11.9	Class C + Bentonite + 2% $CaCl_2$ + 3% NaCl + LCM
	Tail	308	1.26	388	14.4	Class C + 5% NaCl +
TOC = GL		100% Excess			2 on btm jt, 1 on 2nd jt, 1 every 4th jt to GL	
Intermediate 3	Lead	641	2.36	1512	11.5	TXI + Fluid Loss + Dispersant + Retarder + LCM
	Tail	255	1.38	351	13.2	TXI + Fluid Loss + Dispersant + Retarder + LCM
TOC = 2100'		35% Excess			2 on btm jt, 1 on 2nd jt, 1 every other jt to top of tail cement (500' above TOC), 1 every 4th jt to GL	
Production	Tail	362	1.38	499	15.8	Class H + Fluid loss + Dispersant + Retarder +LCM
TOC = 8753'		10% excess			2 on btm jt, 1 on 2nd jt, 1 every 3rd jt to top of tail cement (1000' tie back)	

5. MUD PROGRAM

An electronic Pason mud monitoring system satisfying the requirements of Onshore Order 1 will be used. All necessary mud products for weight addition and fluid loss control will be on location at all times. Mud program is subject to change due to hole conditions.

Name	Hole Size	Mud Weight	Visc	Fluid Loss	Type Mud
Surface	26"	8.4	28	NC	FW Spud Mud
Intermediate 1	17.5"	10.0	30-32	NC	Brine Water
Intermediate 2	12.25"	8.4 - 8.6	28-30	NC	Fresh Water
Intermediate 3	8.75"	9.0	30-32	NC	FW/Cut Brine
Production	6.125"	12.5	50-60	<10 cc	OBM

6. CORES, TESTS, & LOGS

No core or drill stem test is planned.

A 2-person mud-logging program will be used from ≈1200' to TD.

No electric logs are planned at this time. GR will be collected through the MWD tools from intermediate 2 casing to TD. CBL with CCL will be run as far as gravity will let it fall to TOC.

7. DOWN HOLE CONDITIONS

No abnormal pressure or temperature is expected. Maximum expected bottom hole pressure is ≈7098 psi. Expected bottom hole temperature is ≈135° F.

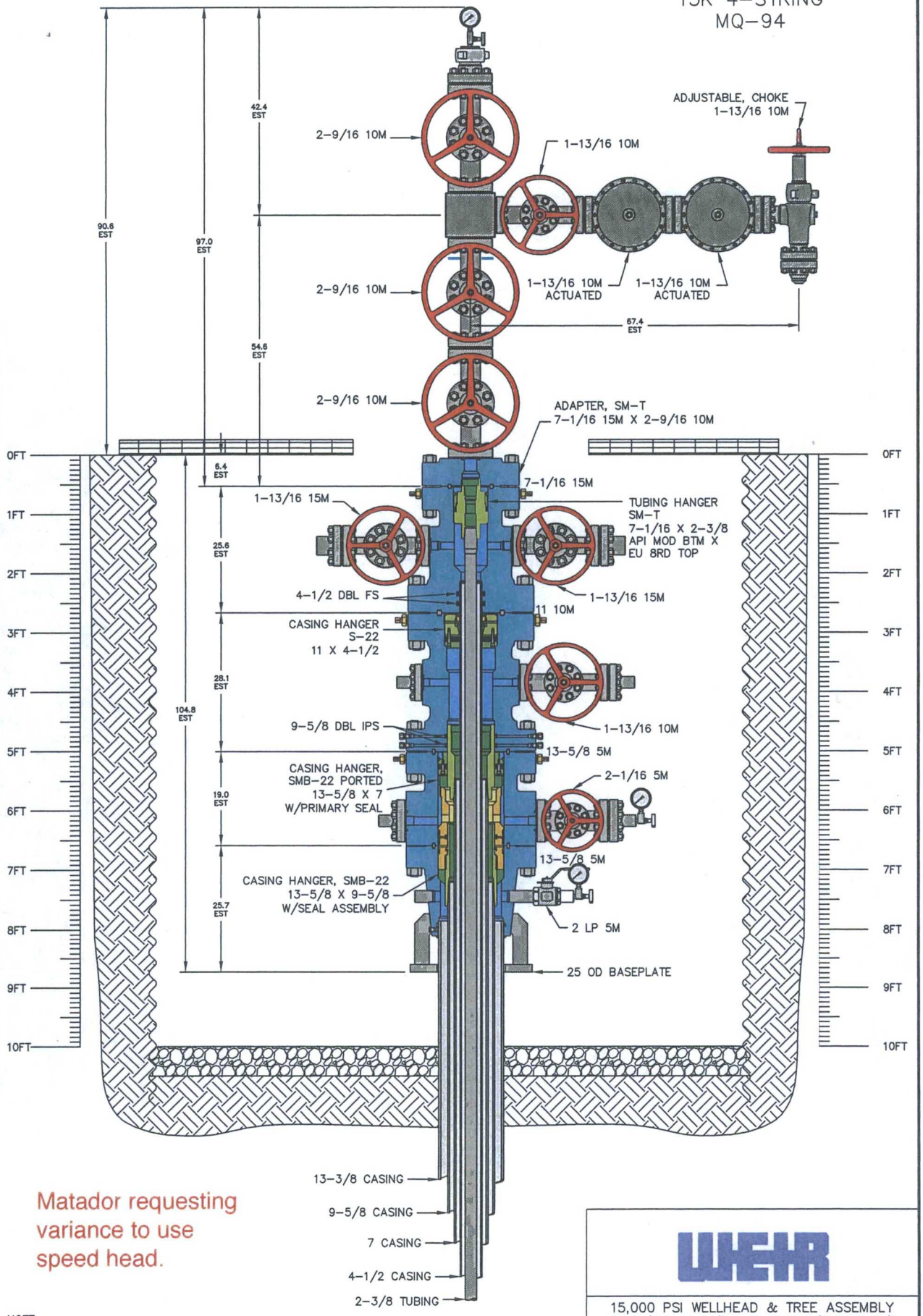
In accordance with Onshore Order 6, Matador does not anticipate that there will be enough H_2S from the surface to the Bone Spring to meet the BLM's minimum requirements for the submission of an "H_2S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. Since Matador has an H_2S safety package on all wells, an "H_2S Drilling Operations Plan" is attached. Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used.

8. OTHER INFORMATION

Anticipated spud date is upon approval. It is expected it will take ≈3 months to drill and complete the well.

Matador Production Company owns the majority working interest in this well. Per its discussions with its potential partners, Matador will be named operator upon execution of the final Operating Agreements signed by the partners or the issuance of a pooling order by the State.

MATADOR
15K 4-STRING
MQ-94



Matador requesting variance to use speed head.

NOTE:
DIMENSIONS SHOWN ON THIS DRAWING ARE ESTIMATES ONLY AND CAN VARY SIGNIFICANTLY DEPENDING ON RAW MATERIAL LENGTHS. NO GUARANTEE OF STACKUP HEIGHT IS IMPLIED. DIMENSIONS SHOWN SHOULD BE CONSIDERED FOR REFERENCE PURPOSES ONLY.

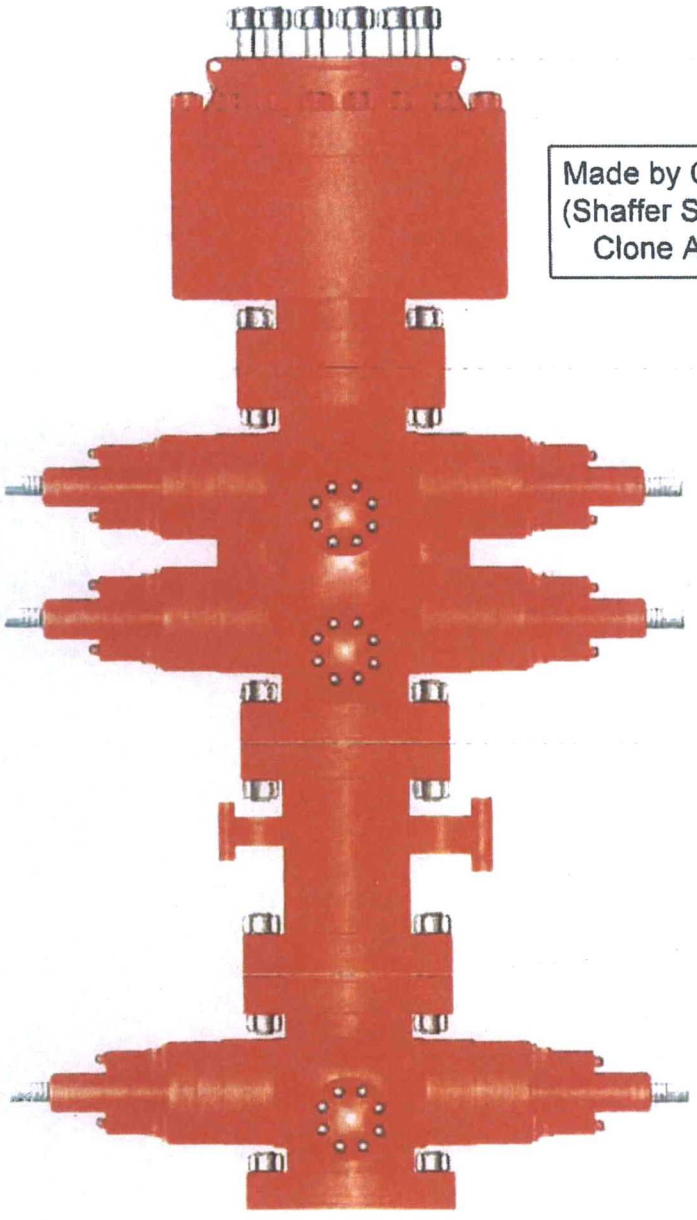
WEIR

15,000 PSI WELLHEAD & TREE ASSEMBLY
13-3/8 X 9-5/8 X 7 X 4-1/2 X 2-3/8

DRAWN BY: RPL	SCALE 1:10	DATE 18JAN16	REV
CHECKED BY:	DRAWING NO. P-20986		
APPROVED BY:			

PATTERSON-UTI
Well Control

RIG: 809



Made by Cameron
(Shaffer Spherical)
Clone Annular

PATTERSON-UTI # PS2-628
STYLE: New Shaffer Spherical
BORE 13 5/8" **PRESSURE** 5,000
HEIGHT: 48 ½" **WEIGHT:** 13,800 lbs

PATTERSON-UTI # PC2-128
STYLE: New Cameron Type U
BORE 13 5/8" **PRESSURE** 10,000
RAMS: TOP 5" Pipe BTM Blinds
HEIGHT: 66 5/8" **WEIGHT:** 24,000 lbs

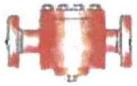
Length 40" **Outlets** 4" 10M
DSA 4" 10M x 2" 10M

PATTERSON-UTI # PC2-228
STYLE: New Cameron Type U
BORE 13 5/8" **PRESSURE** 10,000
RAMS: 5" Pipe
HEIGHT: 41 5/8" **WEIGHT:** 13,000 lbs

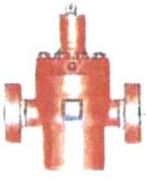
2" Minimum Kill Line

WING VALVES

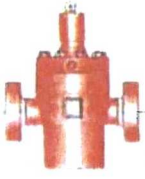
3" Minimum Choke Line



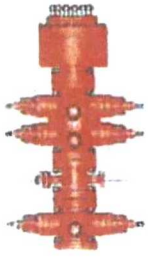
2" Check Valve



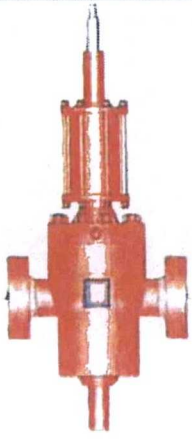
2" Manual Valve



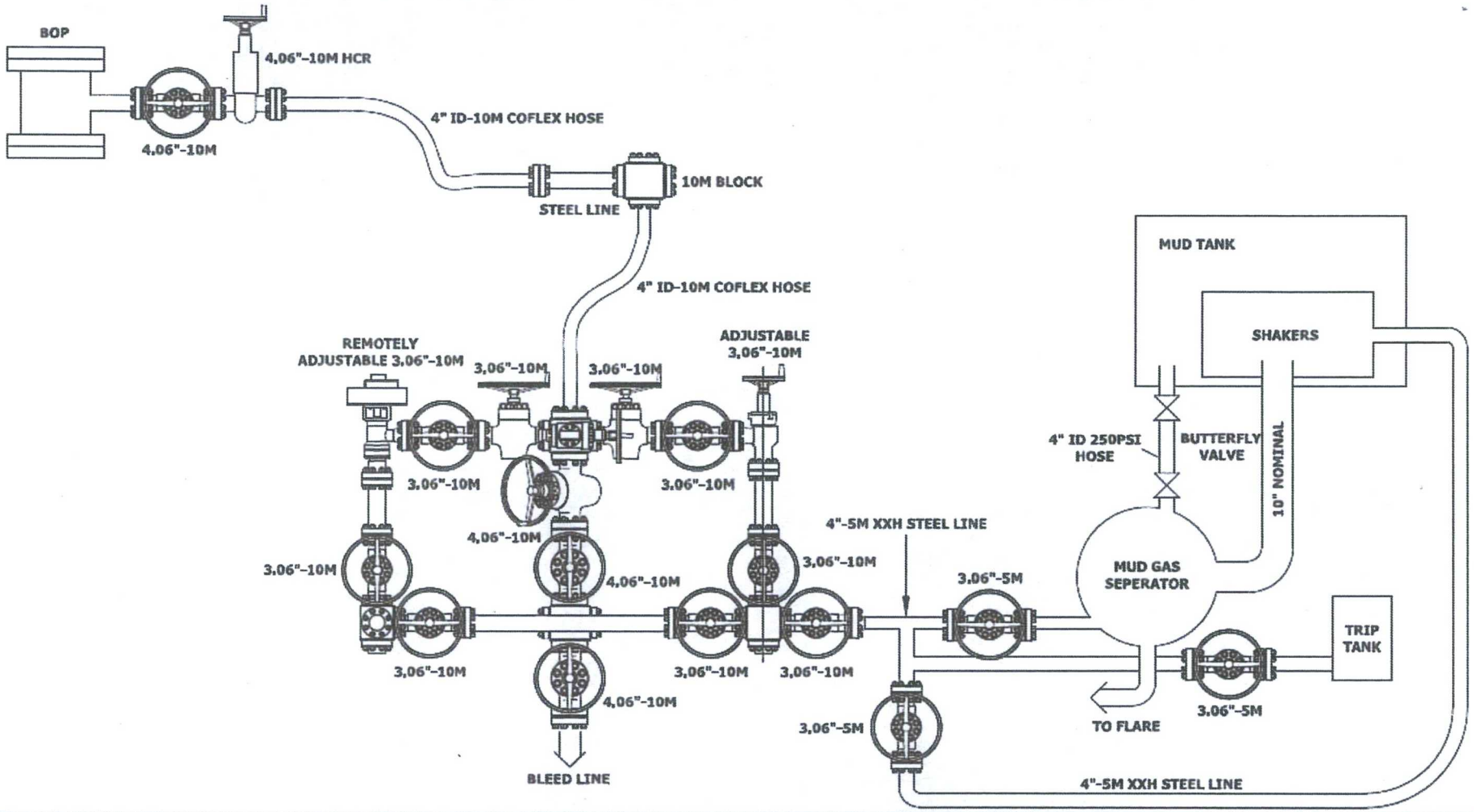
2" Manual Valve



4" Manual Valve



4" Hydraulic Valve



WELDING NOTE & TOLERANCES UNLESS OTHERWISE SPECIFIED,

GENERAL WELDING NOTE:
ALL ACCESSIBLE CONTACT SURFACES SHALL BE JOINED WITH CONTINOUS 45 DEGREE FILLET WELDS, WELD SIZE TO BE 1/16 INCH SMALLER THAN THINNER MEMBER JOINED UP TO 5/16 INCH THICKNESS AND 1/8 INCH SMALLER THAN THINNER MEMBER JOINED UP TO 3/4 INCH THICKNESS WELDMENT TOLERANCES ± 1/16

MACHINING TOLERANCES
1 PLACE DECIMAL ± .1
2 PLACE DECIMAL ± .01
3 PLACE DECIMAL ± .010
FRACTIONAL TOLERANCES ± 1/64
INSIDE MACHINED CORNER RADII ± .031
CHAMFER OUTSIDE CORNERS .03 X 45 DEG
ANGLE TOLERANCES ± 1 DEGREE
MACHINED SURFACE FINISH 125 RMS
ALL UNSPECIFIED DIMENSIONS ARE IN INCHES

REV	DATE	DESCRIPTION	DRWN BY	CHK BY	APRVD ENG.
02	6-3-19	ISSUED FOR INFORMATION	CP	CSL	
01	4-4-19	ISSUED FOR INFORMATION	CSL		

PATTERSON-UTI
DRILLING COMPANY LLC

CHOKE MANIFOLD
10M CHOKE ARRANGEMENT
RIG 297

DWG No. R0297-D.001.LAY.09
SHT 1 OF 1
REV. 02

R809

March 10, 2015

Midwest Hose & Specialty, Inc.

Internal Hydrostatic Test Graph

Customer: Patterson B&E

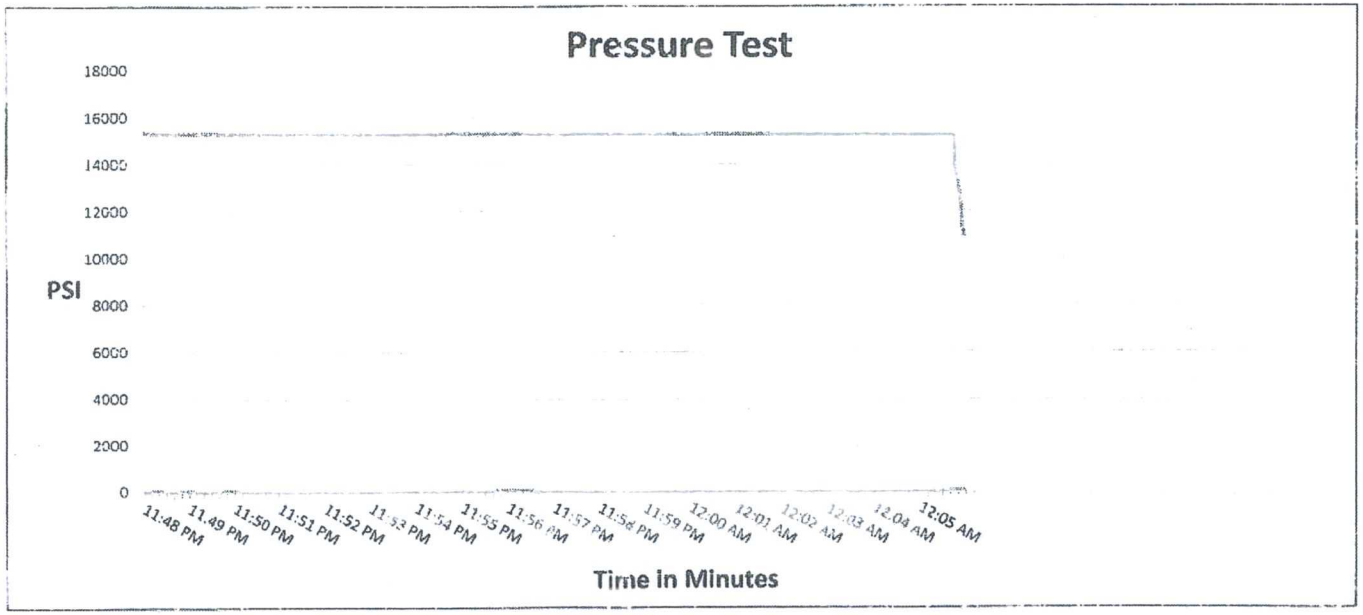
Pick Ticket #: 296283

Hose Specifications

Hose Type	Length
Mud	50'
I.D.	**O.D.**
2"	3.47"
Working Pressure	**Burst Pressure**
10000 PSI	Standard Safety Multiplier Applies

Verification

Type of Fitting	Coupling Method
2"1502	Swage
Die Size	**Final O.D.**
97MM	4.03"
Hose Serial #	**Hose Assembly Serial #**
11839	296283



Test Pressure	Time Held at Test Pressure	Actual Burst Pressure	Peak Pressure
15000 PSI	17 3/4 Minutes		15361 PSI

Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: *Richard Davis*

x

Approved By: *Ryan Adams*

x

Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Certificate

General Information		Hose Specifications	
Customer	PATTERSON B&E	Hose Assembly Type	Choke & Kill
MWH Sales Representative	AMY WHITE	Certification	API 7K/FSL Level 2
Date Assembled	3/10/2015	Hose Grade	MUD
Location Assembled	OKC	Hose Working Pressure	10000
Sales Order #	245805	Hose Lot # and Date Code	11839-11/14
Customer Purchase Order #	270590	Hose I.D. (Inches)	2"
Assembly Serial # (Pick Ticket #)	296283	Hose O.D. (Inches)	3.99"
Hose Assembly Length	50'	Armor (yes/no)	YES

Fittings			
End A		End B	
Stem (Part and Revision #)	R2.0X32M1502	Stem (Part and Revision #)	RF2.0 32F1502
Stem (Heat #)	14104546	Stem (Heat #)	A144853
Ferrule (Part and Revision #)	RF2.0 10K	Ferrule (Part and Revision #)	RF2.0 10K
Ferrule (Heat #)	41044	Ferrule (Heat #)	41044
Connection . Flange Hammer Union Part		Connection (Part #)	
Connection (Heat #)		Connection (Heat #)	
Nut (Part #)	2" 1502 H2S	Nut (Part #)	
Nut (Heat #)		Nut (Heat #)	
Dies Used	97MM	Dies Used	97MM

Hydrostatic Test Requirements		
Test Pressure (psi)	15,000	Hose assembly was tested with ambient water temperature.
Test Pressure Hold Time (minutes)	17 3/4	

Date Tested	Tested By	Approved By
3/10/2015		

Midwest Hose
& Specialty, Inc.

Certificate of Conformity

Customer: **PATTERSON B&E**	*Customer P.O.#* **270590**
Sales Order # **245805**	*Date Assembled:* **3/10/2015**

Specifications

Hose Assembly Type:	**Choke & Kill**		
Assembly Serial #	**296283**	*Hose Lot # and Date Code*	**11839-11/14**
Hose Working Pressure (psi)	**10000**	*Test Pressure (psi)*	**15000**

We hereby certify that the above material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards.

Supplier:
Midwest Hose & Specialty, Inc.
3312 S I-35 Service Rd
Oklahoma City, OK 73129

Comments:

Approved By	*Date*
	3/19/2015

R 809 · Check & Kelly Hoses

December 24, 2014

Midwest Hose & Specialty, Inc.

Internal Hydrostatic Test Graph

Customer: Patterson

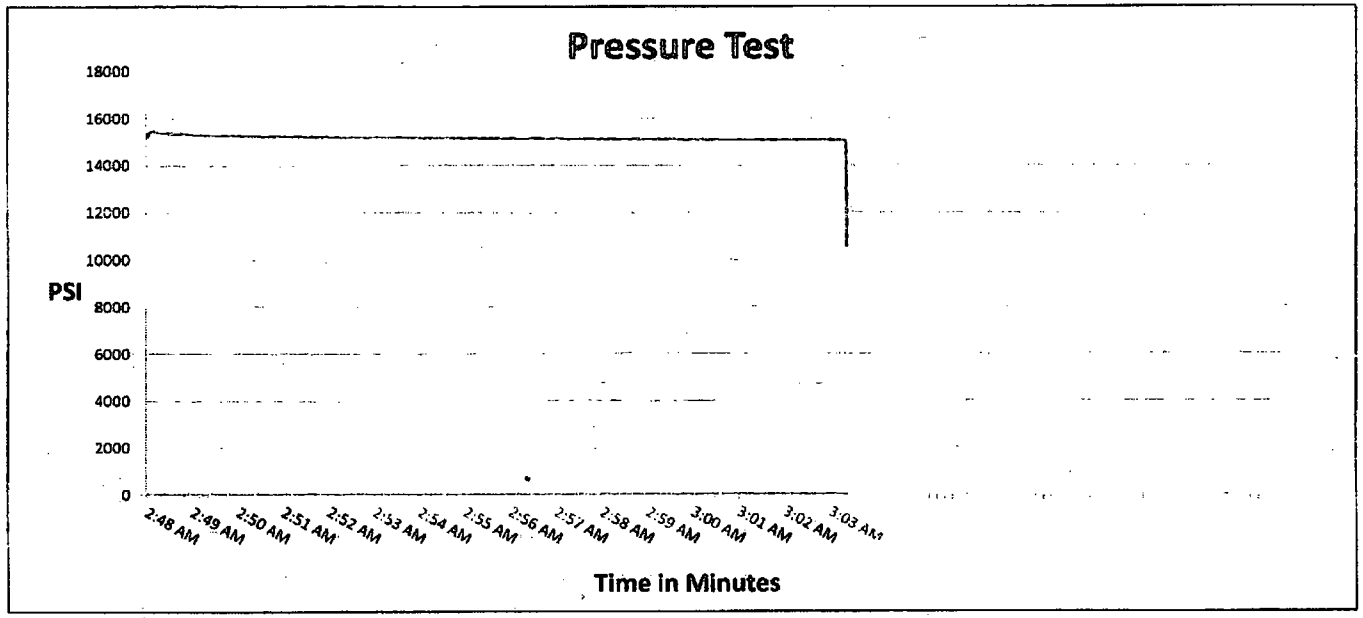
Pick Ticket #: 286159

Hose Specifications

Hose Type	Length
Ck	50'
I.D.	**O.D.**
2"	3.55"
Working Pressure	**Burst Pressure**
10000 PSI	Standard Safety Multiplier Applies

Verification

Type of Fitting	Coupling Method
2" 1502	Swage
Die Size	**Final O.D.**
97MM	3.98"
Hose Serial #	**Hose Assembly Serial #**
11784	286159



Test Pressure	Time Held at Test Pressure	Actual Burst Pressure	Peak Pressure
15000 PSI	15 1/4 Minutes		15410 PSI

Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: *Tyler Hill*

Approved By: *Ryan Adams*

Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Certificate

General Information		Hose Specifications	
Customer	PATTERSON B&E	Hose Assembly Type	Choke & Kill
MWH Sales Representative	AMY WHITE	Certification	API 7K/FSL Level 2
Date Assembled	12/23/2014	Hose Grade	MUD
Location Assembled	OKC	Hose Working Pressure	10000
Sales Order #	237566	Hose Lot # and Date Code	11784-10/14
Customer Purchase Order #	261581	Hose I.D. (Inches)	2"
Assembly Serial # (Pick Ticket #)	286159	Hose O.D. (Inches)	4.00"
Hose Assembly Length	50'	Armor (yes/no)	YES

Fittings			
End A		End B	
Stem (Part and Revision #)	R2.0X32M1502	Stem (Part and Revision #)	R2.0X32M1502
Stem (Heat #)	M14104546	Stem (Heat #)	M14101226
Ferrule (Part and Revision #)	RF2.0 10K	Ferrule (Part and Revision #)	RF2.0 10K
Ferrule (Heat #)	41044	Ferrule (Heat #)	41044
Connection . Flange Hammer Union Part	2"1502	Connection (Part #)	
Connection (Heat #)	2866	Connection (Heat #)	
Nut (Part #)		Nut (Part #)	
Nut (Heat #)		Nut (Heat #)	
Dies Used	97MM	Dies Used	97MM

Hydrostatic Test Requirements		
Test Pressure (psi)	15,000	***Hose assembly was tested with ambient water temperature.***
Test Pressure Hold Time (minutes)	15 1/4	

Date Tested	Tested By	Approved By
12/24/2014		

Midwest Hose
& Specialty, Inc.

Certificate of Conformity

Customer: **PATTERSON B&E**	*Customer P.O.#* **261581**
Sales Order # **237566**	*Date Assembled:* **12/23/2014**

Specifications

Hose Assembly Type:	**Choke & Kill**		
Assembly Serial #	**286159**	*Hose Lot # and Date Code*	**11784-10/14**
Hose Working Pressure (psi)	**10000**	*Test Pressure (psi)*	**15000**

We hereby certify that the above material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards.

Supplier:
Midwest Hose & Specialty, Inc.
3312 S I-35 Service Rd
Oklahoma City, OK 73129

Comments:

Approved By	***Date***
	12/29/2014

Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Certificate

General Information		Hose Specifications	
Customer	PATTERSON B&E	Hose Assembly Type	Choke & Kill
MWH Sales Representative	AMY WHITE	Certification	API 7K/FSL Level 2
Date Assembled	3/10/2015	Hose Grade	MUD
Location Assembled	OKC	Hose Working Pressure	10000
Sales Order #	245805	Hose Lot # and Date Code	11839-11/14
Customer Purchase Order #	270590	Hose I.D. (Inches)	2"
Assembly Serial # (Pick Ticket #)	296283	Hose O.D. (Inches)	3.99"
Hose Assembly Length	50'	Armor (yes/no)	YES

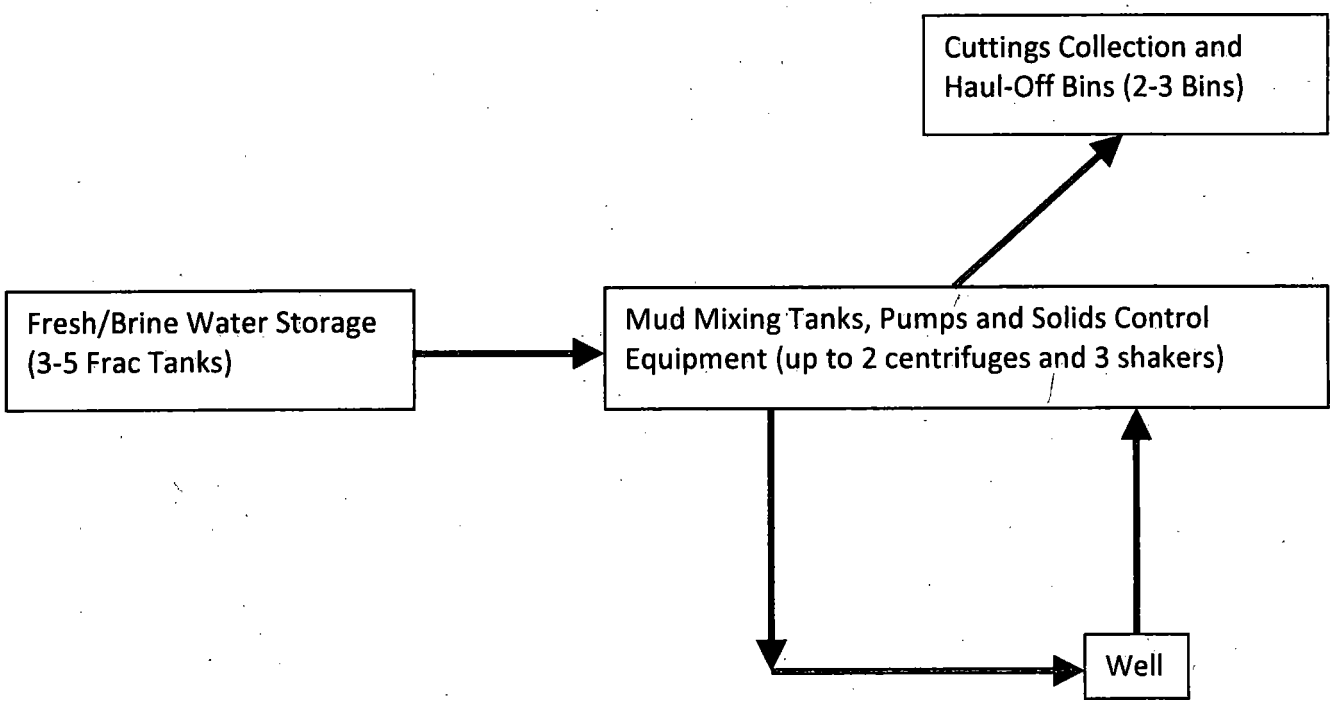
Fittings			
End A		End B	
Stem (Part and Revision #)	R2.0X32M1502	Stem (Part and Revision #)	RF2.0 32F1502
Stem (Heat #)	14104546	Stem (Heat #)	A144853
Ferrule (Part and Revision #)	RF2.0 10K	Ferrule (Part and Revision #)	RF2.0 10K
Ferrule (Heat #)	41044	Ferrule (Heat #)	41044
Connection . Flange Hammer Union Part		Connection (Part #)	
Connection (Heat #)		Connection (Heat #)	
Nut (Part #)	2" 1502 H2S	Nut (Part #)	
Nut (Heat #)		Nut (Heat #)	
Dies Used	97MM	Dies Used	97MM

Hydrostatic Test Requirements		
Test Pressure (psi)	15,000	Hose assembly was tested with ambient water temperature.
Test Pressure Hold Time (minutes)	17 3/4	

Date Tested	Tested By	Approved By
3/10/2015		

Closed-Loop System

Matador Resources Company
Pennzoil 32 Fed wells
SHL: 33-20S-29E
BHL: 32-20S-29E
Eddy County, NM

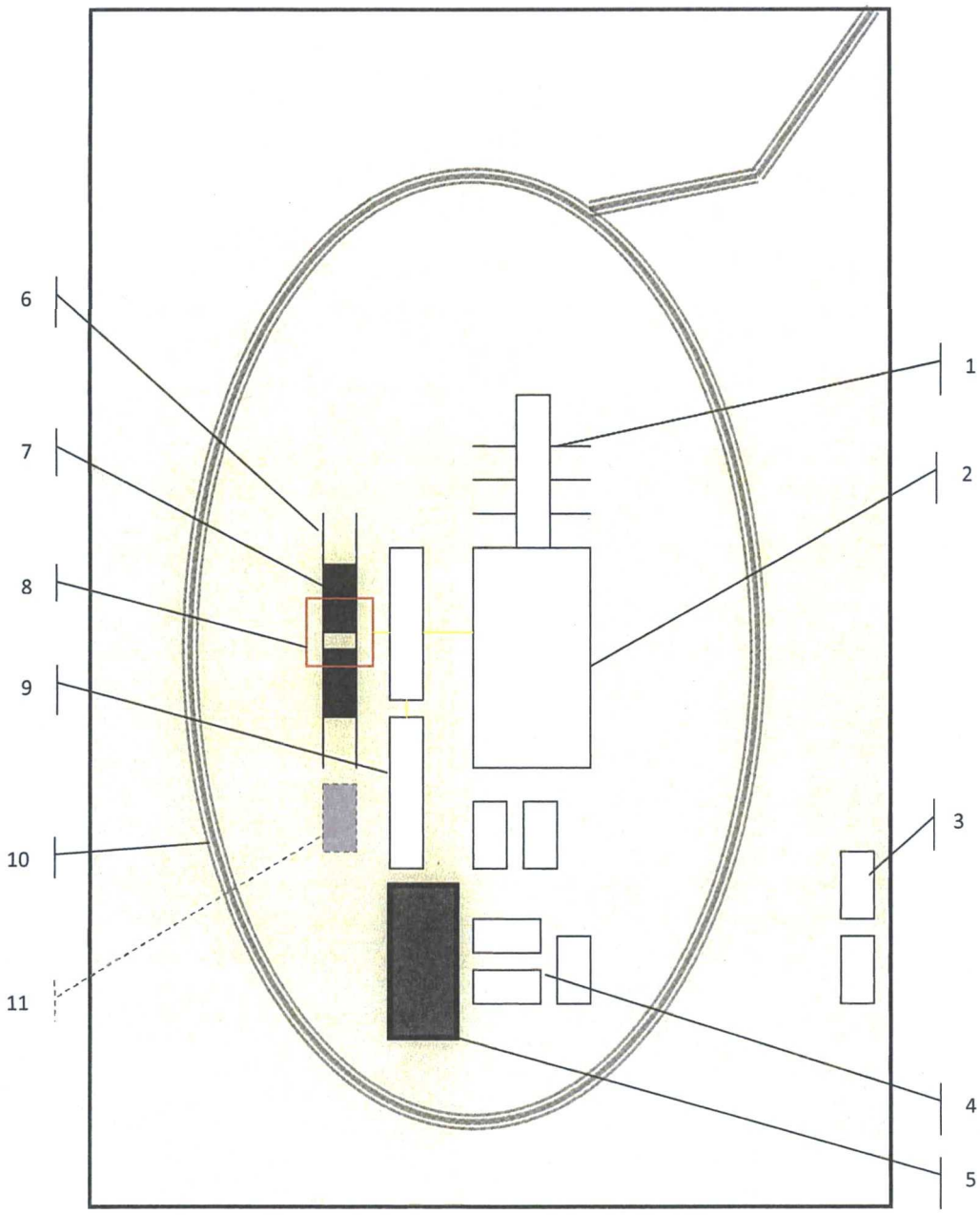


Operating and Maintenance Plan:

During drilling operations, third party service companies will utilize solids control equipment to remove cuttings from the drilling fluids and collect it in haul-off bins. Equipment will be closely monitored at all times while drilling by the derrick man and the service company employees.

Closure Plan:

During drilling operations, third party service companies will haul off drill solids and fluids to an approved disposal facility. At the end of the well, all closed loop equipment will be removed from the location.



Schematic Closed Loop Drilling Rig*

1. **Pipe Rack**
2. **Drill Rig**
3. **House Trailers/ Offices**
4. **Generator/Fuel/Storage**
5. **Overflow-Frac Tank**
6. **Skids**
7. **Roll Offs**
8. **Hopper or Centrifuge**
9. **Mud Tanks**
10. **Loop Drive**
11. Generator (only for use with centrifuge)

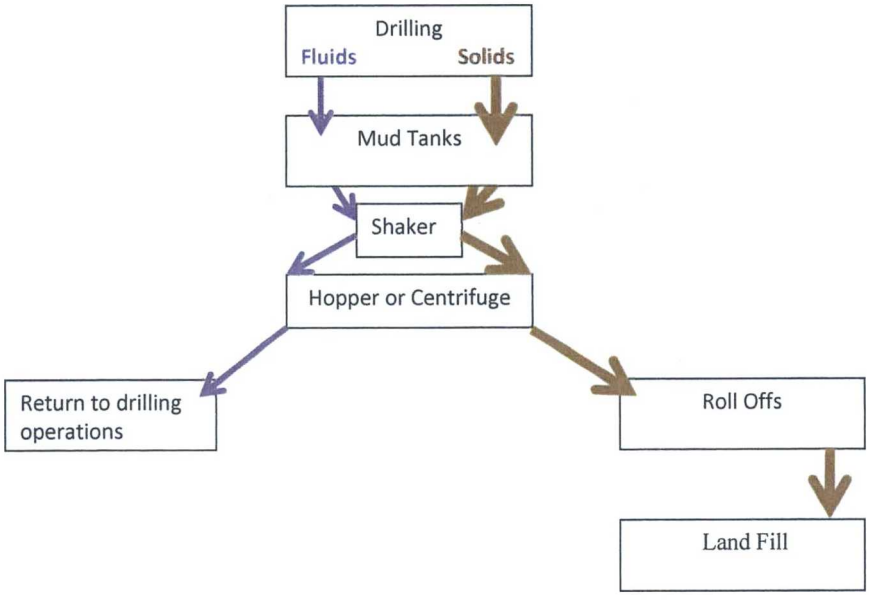
*Not drawn to scale: Closed loop system requires at least 30 feet beyond mud tanks. Ideally 60 feet would be available

Above: Centrifugal Closed Loop System

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

Closed Loop Drilling System: Mud tanks to right (1)
Hopper in air to settle out solids (2)
Water return pipe (3)
Shaker between hopper and mud tanks (4)
Roll offs on skids (5)

Flow Chart for Drilling Fluids and Solids

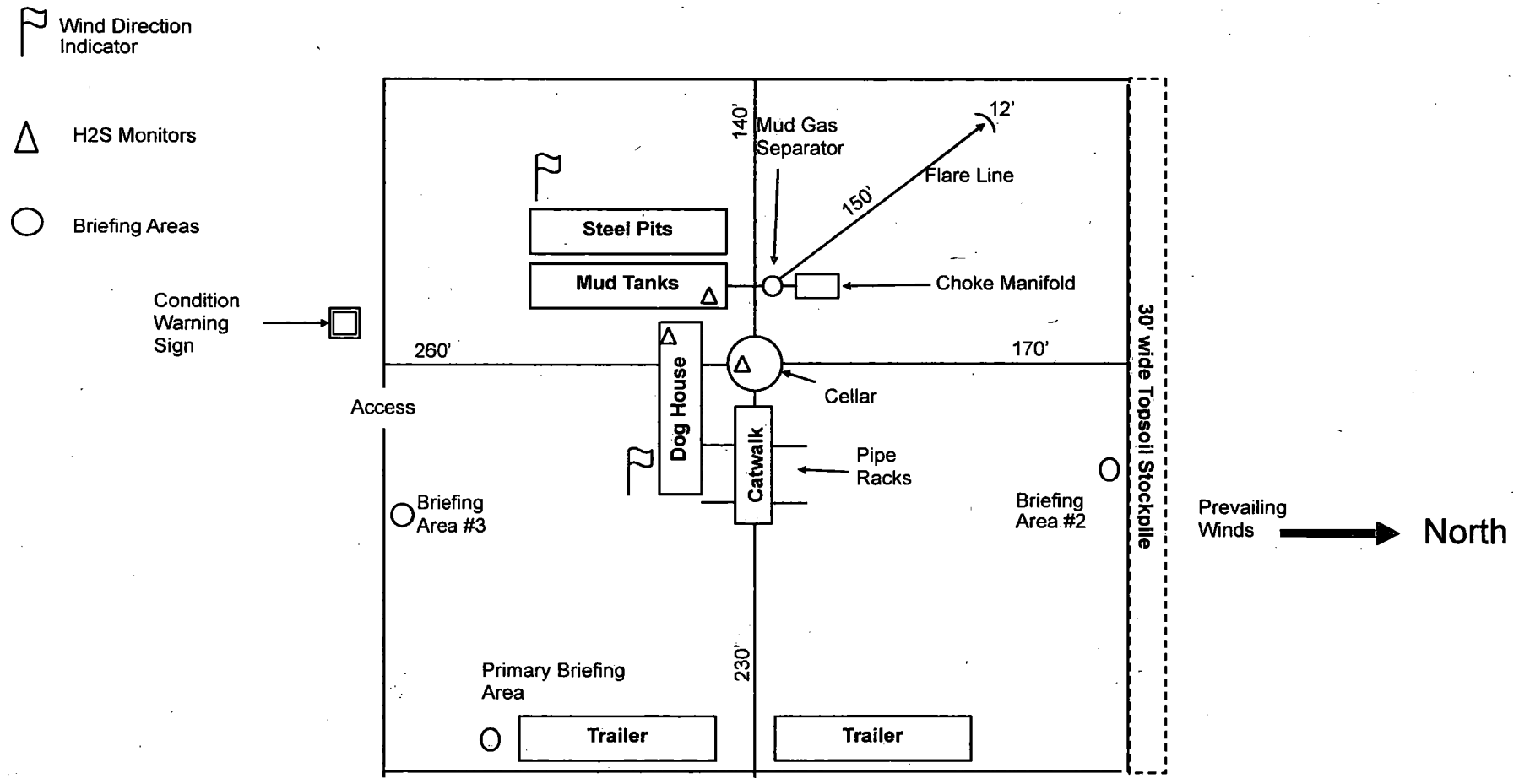


Photos Courtesy of Gandy Corporation Oil Field Service

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37 Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

Rig Layout

Pennzoil 32 Fed 201H
Eddy County, NM
(not to scale)



Matador RESOURCES COMPANY

Pen 21)

RKB Elevation:

	+N/-S	+E/-W	North'
	0.00	0.00	5587'

Sec
1
2
3

Azimuth Corrections

Total Magnetic Corr. (M to G): 7.33°

Declination (M to T): 7.47° East

T G M

Azimuths to Grid North
True North: -0.13°
Magnetic North: 7.33°

Magnetic Field
Strength: 48282.0snT
Dip Angle: 60.40°
Date: 8/30/2016
Model: HDGM

PRODIRECTIONAL

Pro Directional
Anticollision Report

Company:	Matador Resources	**Local Co-ordinate Reference:**	Well No. 201H
Project:	Eddy County, NM	**TVD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Reference Site:	Pennzoil Federal 32 (111-121-131-201)	**MD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	No. 201H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Well_Planner1
Reference Design:	Prelim Plan A	**Offset TVD Reference:**	Offset Datum

Reference	Prelim Plan A		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 2,000.00 usft	**Error Surface:**	Elliptical Conic
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 8/30/2016

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	2,000.00	Prelim Plan A (OH)	MWD - OWSG	MWD - OWSG
2,000.00	6,500.00	Prelim Plan A (OH)	MWD - OWSG	MWD - OWSG
6,500.00	14,749.20	Prelim Plan A (OH)	MWD - OWSG	MWD - OWSG

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Pennzoil Federal 32 (111-121-131-201)						
No. 111H - OH - Prelim Plan A	1,515.61	1,514.17	77.03	66.65	7.423	CC
No. 111H - OH - Prelim Plan A	1,600.00	1,598.23	77.38	66.39	7.042	ES
No. 111H - OH - Prelim Plan A	2,000.00	1,996.71	87.84	73.97	6.335	SF
No. 121H - OH - Prelim Plan A	2,324.14	2,323.09	51.35	36.80	3.529	CC, ES, SF
No. 131H - OH - Prelim Plan A	3,132.67	3,132.06	25.68	8.60	1.504	CC, ES, SF

Offset Design Pennzoil Federal 32 (111-121-131-201) - No. 111H - OH - Prelim Plan A

Offset Site Error: 0.00 usft

Survey Program: 0-MWD - OWSG, 2000-MWD - OWSG, 6500-MWD - OWSG

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	90.00				
100.00	100.00	100.00	100.00	0.13	0.13	0.00	90.00	0.00	90.00	89.74	0.26	351.141	
200.00	200.00	200.00	200.00	0.49	0.49	0.00	90.00	0.00	90.00	89.03	0.97	92.474	
300.00	300.00	300.00	300.00	0.85	0.85	0.00	90.00	0.00	90.00	88.31	1.69	53.248	
400.00	400.00	400.00	400.00	1.20	1.20	0.00	90.00	0.00	90.00	87.59	2.41	37.389	
500.00	500.00	500.00	500.00	1.56	1.56	0.00	90.00	0.00	90.00	86.88	3.12	28.808	
500.01	500.01	500.01	500.01	1.56	1.56	0.00	90.00	0.00	90.00	86.88	3.12	28.808	
600.00	600.00	599.96	599.94	1.92	1.91	1.11	90.00	1.74	90.02	86.18	3.83	23.484	
700.00	700.00	699.68	699.51	2.28	2.26	4.42	90.00	6.96	90.27	85.73	4.54	19.885	
800.00	800.00	799.42	798.95	2.64	2.62	9.35	90.00	14.82	91.22	85.96	5.25	17.359	
900.00	899.98	899.94	899.32	2.99	2.98	-58.27	90.00	20.17	91.31	85.34	5.97	15.300	
1,000.00	999.84	1,000.47	999.83	3.34	3.33	-60.04	90.00	22.00	88.96	82.29	6.68	13.325	
1,050.00	1,049.68	1,050.33	1,049.68	3.52	3.51	-62.31	90.00	22.00	87.07	80.03	7.03	12.384	
1,100.00	1,099.49	1,100.14	1,099.49	3.70	3.69	-64.90	90.00	22.00	85.12	77.74	7.39	11.525	
1,200.00	1,199.11	1,199.76	1,199.11	4.06	4.04	-70.42	90.00	22.00	81.79	73.69	8.10	10.098	
1,300.00	1,298.73	1,299.37	1,298.73	4.43	4.39	-76.34	90.00	22.00	79.29	70.47	8.82	8.991	
1,400.00	1,398.35	1,398.99	1,398.35	4.79	4.75	-82.58	90.00	22.00	77.69	68.14	9.54	8.142	
1,500.00	1,497.97	1,498.61	1,497.97	5.16	5.10	-88.99	90.00	22.00	77.04	66.78	10.26	7.506	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Matador Resources	**Local Co-ordinate Reference:**	Well No. 201H
Project:	Eddy County, NM	**TVD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Reference Site:	Pennzoil Federal 32 (111-121-131-201)	**MD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	No. 201H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Well_Planner1
Reference Design:	Prelim Plan A	**Offset TVD Reference:**	Offset Datum

Offset Design Pennzoil Federal 32 (111-121-131-201) - No. 111H - OH - Prelim Plan A — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD - OWSG, 2000-MWD - OWSG, 6500-MWD - OWSG — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
1,515.61	1,513.53	1,514.17	1,513.53	5.22	5.16	-90.00	90.00	22.00	77.03	66.65	10.38	7.423	CC
1,600.00	1,597.59	1,598.23	1,597.59	5.54	5.46	-95.43	90.00	22.00	77.38	66.39	10.99	7.042	ES
1,700.00	1,697.21	1,697.85	1,697.21	5.91	5.81	-101.74	90.00	22.00	78.69	66.98	11.71	6.719	
1,800.00	1,796.83	1,797.47	1,796.83	6.28	6.17	-107.77	90.00	22.00	80.92	68.49	12.43	6.509	
1,900.00	1,896.45	1,897.09	1,896.45	6.66	6.52	-113.43	90.00	22.00	84.00	70.85	13.15	6.388	
2,000.00	1,996.07	1,996.71	1,996.07	7.04	6.88	-118.63	90.00	22.00	87.84	73.97	13.87	6.335	SF
2,100.00	2,095.69	2,096.33	2,095.69	7.24	7.07	-123.37	90.00	22.00	92.35	78.11	14.24	6.486	
2,200.00	2,195.31	2,195.95	2,195.31	7.29	7.09	-127.65	90.00	22.00	97.42	83.14	14.28	6.820	
2,300.00	2,294.93	2,295.57	2,294.93	7.35	7.13	-131.48	90.00	22.00	102.99	88.63	14.36	7.172	
2,400.00	2,394.55	2,395.19	2,394.55	7.43	7.18	-134.91	90.00	22.00	108.97	94.50	14.47	7.532	
2,500.00	2,494.17	2,494.81	2,494.17	7.54	7.25	-137.97	90.00	22.00	115.30	100.69	14.61	7.891	
2,600.00	2,593.78	2,594.43	2,593.78	7.66	7.34	-140.71	90.00	22.00	121.93	107.14	14.79	8.245	
2,700.00	2,693.40	2,694.05	2,693.40	7.79	7.44	-143.16	90.00	22.00	128.80	113.80	15.00	8.589	
2,800.00	2,793.02	2,793.67	2,793.02	7.95	7.56	-145.37	90.00	22.00	135.88	120.65	15.23	8.920	
2,900.00	2,892.64	2,893.29	2,892.64	8.12	7.69	-147.35	90.00	22.00	143.15	127.65	15.50	9.234	
3,000.00	2,992.26	2,992.91	2,992.26	8.30	7.84	-149.13	90.00	22.00	150.57	134.77	15.80	9.531	
3,100.00	3,091.88	3,092.53	3,091.88	8.50	8.00	-150.75	90.00	22.00	158.12	142.00	16.12	9.808	
3,200.00	3,191.50	3,192.14	3,191.50	8.71	8.17	-152.22	90.00	22.00	165.79	149.32	16.47	10.067	
3,300.00	3,291.12	3,291.76	3,291.12	8.93	8.36	-153.56	90.00	22.00	173.55	156.71	16.84	10.306	
3,400.00	3,390.74	3,391.38	3,390.74	9.16	8.55	-154.79	90.00	22.00	181.40	164.17	17.23	10.526	
3,500.00	3,490.36	3,491.00	3,490.36	9.40	8.76	-155.91	90.00	22.00	189.33	171.68	17.65	10.729	
3,600.00	3,589.98	3,590.62	3,589.98	9.65	8.97	-156.94	90.00	22.00	197.32	179.24	18.08	10.914	
3,700.00	3,689.60	3,690.24	3,689.60	9.91	9.20	-157.90	90.00	22.00	205.37	186.84	18.53	11.083	
3,800.00	3,789.22	3,789.86	3,789.22	10.17	9.43	-158.78	90.00	22.00	213.48	194.48	19.00	11.237	
3,816.12	3,805.28	3,805.92	3,805.28	10.22	9.47	-158.91	90.00	22.00	214.79	195.72	19.07	11.260	
3,900.00	3,888.93	3,889.58	3,888.93	10.44	9.67	-159.52	90.00	22.00	220.48	201.00	19.48	11.319	
4,000.00	3,988.85	3,989.49	3,988.85	10.69	9.92	-159.91	90.00	22.00	224.28	204.31	19.97	11.229	
4,066.12	4,054.96	4,055.60	4,054.96	10.85	10.08	-90.00	90.00	22.00	225.00	204.70	20.30	11.081	
4,100.00	4,088.84	4,089.48	4,088.84	10.93	10.17	-90.00	90.00	22.00	225.00	204.53	20.47	10.990	
4,200.00	4,188.84	4,189.48	4,188.84	11.17	10.43	-90.00	90.00	22.00	225.00	204.02	20.98	10.723	
4,300.00	4,288.84	4,289.48	4,288.84	11.41	10.70	-90.00	90.00	22.00	225.00	203.50	21.50	10.463	
4,400.00	4,388.84	4,389.48	4,388.84	11.66	10.97	-90.00	90.00	22.00	225.00	202.96	22.04	10.211	
4,500.00	4,488.84	4,489.48	4,488.84	11.91	11.25	-90.00	90.00	22.00	225.00	202.42	22.58	9.965	
4,600.00	4,588.84	4,589.48	4,588.84	12.17	11.53	-90.00	90.00	22.00	225.00	201.87	23.13	9.728	
4,700.00	4,688.84	4,689.48	4,688.84	12.44	11.81	-90.00	90.00	22.00	225.00	201.31	23.69	9.497	
4,800.00	4,788.84	4,789.48	4,788.84	12.71	12.10	-90.00	90.00	22.00	225.00	200.74	24.26	9.275	
4,900.00	4,888.84	4,889.48	4,888.84	12.98	12.39	-90.00	90.00	22.00	225.00	200.16	24.84	9.059	
5,000.00	4,988.84	4,989.48	4,988.84	13.26	12.69	-90.00	90.00	22.00	225.00	199.58	25.42	8.851	
5,100.00	5,088.84	5,089.48	5,088.84	13.54	12.99	-90.00	90.00	22.00	225.00	198.99	26.01	8.650	
5,200.00	5,188.84	5,189.48	5,188.84	13.83	13.29	-90.00	90.00	22.00	225.00	198.39	26.61	8.456	
5,300.00	5,288.84	5,289.48	5,288.84	14.12	13.60	-90.00	90.00	22.00	225.00	197.79	27.21	8.269	
5,400.00	5,388.84	5,389.48	5,388.84	14.41	13.90	-90.00	90.00	22.00	225.00	197.18	27.82	8.089	
5,500.00	5,488.84	5,489.48	5,488.84	14.70	14.21	-90.00	90.00	22.00	225.00	196.57	28.43	7.914	
5,600.00	5,588.84	5,589.48	5,588.84	15.00	14.53	-90.00	90.00	22.00	225.00	195.95	29.05	7.746	
5,700.00	5,688.84	5,689.48	5,688.84	15.30	14.84	-90.00	90.00	22.00	225.00	195.33	29.67	7.583	
5,800.00	5,788.84	5,789.48	5,788.84	15.60	15.16	-90.00	90.00	22.00	225.00	194.70	30.30	7.427	
5,900.00	5,888.84	5,889.48	5,888.84	15.91	15.47	-90.00	90.00	22.00	225.00	194.07	30.93	7.275	
6,000.00	5,988.84	5,989.48	5,988.84	16.21	15.79	-90.00	90.00	22.00	225.00	193.44	31.56	7.129	
6,100.00	6,088.84	6,089.48	6,088.84	16.52	16.11	-90.00	90.00	22.00	225.00	192.80	32.20	6.988	
6,200.00	6,188.84	6,189.48	6,188.84	16.83	16.44	-90.00	90.00	22.00	225.00	192.16	32.84	6.852	
6,300.00	6,288.84	6,289.48	6,288.84	17.15	16.76	-90.00	90.00	22.00	225.00	191.52	33.48	6.720	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Matador Resources	**Local Co-ordinate Reference:**	Well No. 201H
Project:	Eddy County, NM	**TVD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Reference Site:	Pennzoil Federal 32 (111-121-131-201)	**MD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	No. 201H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Well_Planner1
Reference Design:	Prelim Plan A	**Offset TVD Reference:**	Offset Datum

Offset Design Pennzoil Federal 32 (111-121-131-201) - No. 111H - OH - Prelim Plan A — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD - OWSG, 2000-MWD - OWSG, 6500-MWD - OWSG — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
6,400.00	6,388.84	6,389.48	6,388.84	17.46	17.09	-90.00	90.00	22.00	225.00	190.87	34.13	6.593	
6,500.00	6,488.84	6,489.48	6,488.84	17.62	17.27	-90.00	90.00	22.00	225.00	190.53	34.47	6.527	
6,509.92	6,498.76	6,499.40	6,498.76	17.62	17.29	-90.00	90.00	22.00	225.00	190.51	34.49	6.524	
6,600.00	6,588.84	6,584.73	6,584.09	17.63	17.29	-90.00	90.00	21.87	225.18	190.70	34.48	6.530	
6,700.00	6,688.84	6,650.00	6,649.12	17.64	17.30	-90.00	90.00	16.79	233.62	199.65	33.96	6.879	
6,800.00	6,788.84	6,724.67	6,722.25	17.66	17.32	-90.00	90.01	1.95	253.94	220.63	33.31	7.624	
6,900.00	6,888.84	6,789.21	6,783.44	17.69	17.34	-90.00	90.02	-18.44	285.60	253.41	32.20	8.871	
7,000.00	6,988.84	6,850.00	6,838.65	17.73	17.37	-90.00	90.02	-43.83	327.32	296.36	30.96	10.573	
7,100.00	7,088.84	6,900.00	6,881.84	17.77	17.41	-89.99	90.03	-69.00	377.77	348.35	29.42	12.841	
7,200.00	7,188.84	6,950.00	6,922.66	17.82	17.49	-89.99	90.05	-97.84	435.62	407.47	28.15	15.476	
7,300.00	7,288.84	7,000.00	6,960.82	17.88	17.61	-89.99	90.06	-130.12	499.82	472.67	27.15	18.407	
7,400.00	7,388.84	7,029.34	6,981.85	17.94	17.71	-89.99	90.07	-150.58	568.95	543.31	25.64	22.188	
7,500.00	7,488.84	7,050.00	6,996.02	18.02	17.78	-89.99	90.07	-165.61	642.75	618.59	24.15	26.611	
7,600.00	7,588.84	7,100.00	7,027.99	18.09	18.02	-89.99	90.09	-204.04	719.71	695.81	23.90	30.111	
7,700.00	7,688.84	7,117.19	7,038.19	18.18	18.13	-89.99	90.09	-217.87	799.66	776.83	22.82	35.035	
7,800.00	7,788.84	7,150.00	7,056.49	18.27	18.34	-89.99	90.10	-245.10	882.32	859.94	22.39	39.415	
7,900.00	7,888.84	7,150.00	7,056.49	18.37	18.34	-89.99	90.10	-245.10	966.94	945.64	21.29	45.410	
8,000.00	7,988.84	7,178.76	7,071.23	18.47	18.57	-89.99	90.11	-269.80	1,053.13	1,032.08	21.05	50.020	
8,100.00	8,088.84	7,200.00	7,081.30	18.58	18.74	-89.99	90.12	-288.49	1,141.00	1,120.25	20.74	55.002	
8,200.00	8,188.84	7,200.00	7,081.30	18.70	18.74	-89.99	90.12	-288.49	1,230.20	1,210.06	20.14	61.088	
8,300.00	8,288.84	7,223.36	7,091.58	18.83	18.98	-89.99	90.13	-309.47	1,320.26	1,300.20	20.06	65.802	
8,400.00	8,388.84	7,250.00	7,102.24	18.95	19.24	-89.99	90.13	-333.88	1,411.65	1,391.56	20.09	70.267	
8,500.00	8,488.84	7,250.00	7,102.24	19.09	19.24	-89.99	90.13	-333.88	1,503.35	1,483.59	19.76	76.079	
8,600.00	8,588.84	7,250.00	7,102.24	19.23	19.24	-89.99	90.13	-333.88	1,596.05	1,576.54	19.51	81.789	
8,700.00	8,688.84	7,250.00	7,102.24	19.38	19.24	-89.99	90.13	-333.88	1,689.59	1,670.25	19.34	87.371	
8,800.00	8,788.84	7,274.68	7,111.10	19.53	19.54	-89.99	90.14	-356.91	1,783.12	1,763.60	19.53	91.313	
8,903.16	8,892.00	7,300.00	7,119.14	19.69	19.85	-89.99	90.15	-380.92	1,880.77	1,861.05	19.72	95.383	
8,950.00	8,938.79	7,300.00	7,119.14	19.76	19.85	-0.01	90.15	-380.92	1,924.31	1,904.65	19.66	97.865	
9,000.00	8,988.38	7,300.00	7,119.14	19.82	19.85	0.00	90.15	-380.92	1,969.30	1,949.72	19.58	100.597	

Company:	Matador Resources	**Local Co-ordinate Reference:**	Well No. 201H
Project:	Eddy County, NM	**TVD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Reference Site:	Pennzoil Federal 32 (111-121-131-201)	**MD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	No. 201H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Well_Planner1
Reference Design:	Prelim Plan A	**Offset TVD Reference:**	Offset Datum

Offset Design Pennzoil Federal 32 (111-121-131-201) - No. 121H - OH - Prelim Plan A — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD - OWSG, 2000-MWD - OWSG, 6500-MWD - OWSG — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.00	0.00	60.00				
100.00	100.00	100.00	100.00	0.13	0.13	0.00	60.00	0.00	60.00	59.74	0.26	234.094	
200.00	200.00	200.00	200.00	0.49	0.49	0.00	60.00	0.00	60.00	59.03	0.97	61.649	
300.00	300.00	300.00	300.00	0.85	0.85	0.00	60.00	0.00	60.00	58.31	1.69	35.499	
400.00	400.00	400.00	400.00	1.20	1.20	0.00	60.00	0.00	60.00	57.59	2.41	24.926	
500.00	500.00	500.00	500.00	1.56	1.56	0.00	60.00	0.00	60.00	56.88	3.12	19.206	
600.00	600.00	600.00	600.00	1.92	1.92	0.00	60.00	0.00	60.00	56.16	3.84	15.621	
700.00	700.00	699.35	699.33	2.28	2.27	1.56	60.51	1.65	60.54	55.98	4.55	13.303	
800.00	800.00	798.45	798.29	2.64	2.62	6.04	62.03	6.56	62.40	57.14	5.26	11.867	
900.00	899.98	897.76	897.26	2.99	2.98	-58.63	64.45	14.39	65.17	59.20	5.97	10.922	
1,000.00	999.84	997.70	996.82	3.34	3.34	-55.86	67.02	22.71	66.69	60.01	6.68	9.986	
1,050.00	1,049.68	1,047.69	1,046.62	3.52	3.52	-55.45	68.31	26.88	66.76	59.72	7.04	9.484	
1,100.00	1,099.49	1,097.69	1,096.43	3.70	3.71	-55.35	69.60	31.04	66.58	59.18	7.40	8.997	
1,200.00	1,199.11	1,197.69	1,196.05	4.06	4.08	-55.14	72.17	39.36	66.22	58.09	8.13	8.147	
1,300.00	1,298.73	1,297.69	1,295.67	4.43	4.45	-54.94	74.75	47.69	65.86	57.00	8.86	7.433	
1,400.00	1,398.35	1,397.69	1,395.29	4.79	4.83	-54.73	77.33	56.02	65.50	55.90	9.60	6.826	
1,500.00	1,497.97	1,497.69	1,494.91	5.16	5.20	-54.52	79.90	64.34	65.14	54.81	10.33	6.303	
1,600.00	1,597.59	1,597.69	1,594.53	5.54	5.58	-54.30	82.48	72.67	64.78	53.71	11.08	5.849	
1,700.00	1,697.21	1,697.69	1,694.14	5.91	5.96	-54.09	85.05	81.00	64.43	52.61	11.82	5.451	
1,800.00	1,796.83	1,798.09	1,794.18	6.28	6.34	-54.01	87.58	89.17	63.97	51.40	12.57	5.091	
1,900.00	1,896.45	1,899.24	1,895.15	6.66	6.71	-56.07	89.31	94.77	62.05	48.74	13.31	4.661	
2,000.00	1,996.07	2,000.05	1,995.94	7.04	7.07	-61.30	89.99	96.96	58.59	44.53	14.06	4.167	
2,100.00	2,095.69	2,099.80	2,095.69	7.24	7.10	-69.25	90.00	97.00	54.94	40.62	14.32	3.837	
2,200.00	2,195.31	2,199.42	2,195.31	7.29	7.13	-78.15	90.00	97.00	52.48	38.07	14.41	3.643	
2,300.00	2,294.93	2,299.04	2,294.93	7.35	7.17	-87.66	90.00	97.00	51.40	36.88	14.52	3.540	
2,324.14	2,318.98	2,323.09	2,318.98	7.37	7.18	-90.00	90.00	97.00	51.35	36.80	14.55	3.529	CC, ES, SF
2,400.00	2,394.55	2,398.66	2,394.55	7.43	7.23	-97.31	90.00	97.00	51.78	37.13	14.65	3.535	
2,500.00	2,494.17	2,498.28	2,494.17	7.54	7.31	-106.56	90.00	97.00	53.59	38.80	14.79	3.624	
2,600.00	2,593.78	2,597.90	2,593.78	7.66	7.40	-115.00	90.00	97.00	56.70	41.75	14.95	3.793	
2,700.00	2,693.40	2,697.52	2,693.40	7.79	7.51	-122.43	90.00	97.00	60.91	45.78	15.13	4.025	
2,800.00	2,793.02	2,797.14	2,793.02	7.95	7.64	-128.82	90.00	97.00	66.01	50.66	15.35	4.300	
2,900.00	2,892.64	2,896.76	2,892.64	8.12	7.78	-134.23	90.00	97.00	71.81	56.21	15.60	4.604	
3,000.00	2,992.26	2,996.38	2,992.26	8.30	7.93	-138.81	90.00	97.00	78.15	62.27	15.87	4.923	
3,100.00	3,091.88	3,096.00	3,091.88	8.50	8.10	-142.68	90.00	97.00	84.91	68.73	16.18	5.248	
3,200.00	3,191.50	3,195.62	3,191.50	8.71	8.27	-145.97	90.00	97.00	92.00	75.49	16.52	5.570	
3,300.00	3,291.12	3,295.24	3,291.12	8.93	8.46	-148.78	90.00	97.00	99.35	82.47	16.88	5.886	
3,400.00	3,390.74	3,394.86	3,390.74	9.16	8.66	-151.20	90.00	97.00	106.91	89.64	17.27	6.191	
3,500.00	3,490.36	3,494.48	3,490.36	9.40	8.87	-153.30	90.00	97.00	114.63	96.95	17.68	6.484	
3,600.00	3,589.98	3,594.09	3,589.98	9.65	9.09	-155.13	90.00	97.00	122.48	104.38	18.11	6.764	
3,700.00	3,689.60	3,693.71	3,689.60	9.91	9.32	-156.74	90.00	97.00	130.45	111.89	18.56	7.029	
3,800.00	3,789.22	3,793.33	3,789.22	10.17	9.55	-158.16	90.00	97.00	138.50	119.48	19.03	7.280	
3,816.12	3,805.28	3,809.39	3,805.28	10.22	9.59	-158.38	90.00	97.00	139.81	120.70	19.10	7.319	
3,900.00	3,888.93	3,893.05	3,888.93	10.44	9.80	-159.30	90.00	97.00	145.49	125.98	19.51	7.457	
4,000.00	3,988.85	3,992.96	3,988.85	10.69	10.05	-159.87	90.00	97.00	149.28	129.28	20.01	7.462	
4,066.12	4,054.96	4,059.07	4,054.96	10.85	10.22	-90.00	90.00	97.00	150.00	129.66	20.34	7.375	
4,100.00	4,088.84	4,092.96	4,088.84	10.93	10.31	-90.00	90.00	97.00	150.00	129.49	20.51	7.313	
4,200.00	4,188.84	4,192.96	4,188.84	11.17	10.57	-90.00	90.00	97.00	150.00	128.97	21.03	7.134	
4,300.00	4,288.84	4,292.96	4,288.84	11.41	10.84	-90.00	90.00	97.00	150.00	128.45	21.55	6.960	
4,400.00	4,388.84	4,392.96	4,388.84	11.66	11.11	-90.00	90.00	97.00	150.00	127.91	22.09	6.791	
4,500.00	4,488.84	4,492.96	4,488.84	11.91	11.39	-90.00	90.00	97.00	150.00	127.37	22.63	6.627	
4,600.00	4,588.84	4,592.96	4,588.84	12.17	11.67	-90.00	90.00	97.00	150.00	126.81	23.19	6.469	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Matador Resources	**Local Co-ordinate Reference:**	Well No. 201H
Project:	Eddy County, NM	**TVD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Reference Site:	Pennzoil Federal 32 (111-121-131-201)	**MD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	No. 201H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Well_Planner1
Reference Design:	Prelim Plan A	**Offset TVD Reference:**	Offset Datum

Offset Design Pennzoil Federal 32 (111-121-131-201) - No. 121H - OH - Prelim Plan A — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD - OWSG, 2000-MWD - OWSG, 6500-MWD - OWSG — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
4,700.00	4,688.84	4,692.96	4,688.84	12.44	11.96	-90.00	90.00	97.00	150.00	126.25	23.75	6.315	
4,800.00	4,788.84	4,792.96	4,788.84	12.71	12.25	-90.00	90.00	97.00	150.00	125.67	24.33	6.166	
4,900.00	4,888.84	4,892.96	4,888.84	12.98	12.54	-90.00	90.00	97.00	150.00	125.09	24.91	6.023	
5,000.00	4,988.84	4,992.96	4,988.84	13.26	12.84	-90.00	90.00	97.00	150.00	124.51	25.49	5.884	
5,100.00	5,088.84	5,092.96	5,088.84	13.54	13.14	-90.00	90.00	97.00	150.00	123.91	26.09	5.750	
5,200.00	5,188.84	5,192.96	5,188.84	13.83	13.44	-90.00	90.00	97.00	150.00	123.32	26.68	5.621	
5,300.00	5,288.84	5,292.96	5,288.84	14.12	13.75	-90.00	90.00	97.00	150.00	122.71	27.29	5.497	
5,400.00	5,388.84	5,392.96	5,388.84	14.41	14.06	-90.00	90.00	97.00	150.00	122.10	27.90	5.376	
5,500.00	5,488.84	5,492.96	5,488.84	14.70	14.37	-90.00	90.00	97.00	150.00	121.49	28.51	5.260	
5,600.00	5,588.84	5,592.96	5,588.84	15.00	14.68	-90.00	90.00	97.00	150.00	120.87	29.13	5.148	
5,700.00	5,688.84	5,692.96	5,688.84	15.30	15.00	-90.00	90.00	97.00	150.00	120.24	29.76	5.040	
5,800.00	5,788.84	5,792.96	5,788.84	15.60	15.31	-90.00	90.00	97.00	150.00	119.61	30.39	4.936	
5,900.00	5,888.84	5,892.96	5,888.84	15.91	15.63	-90.00	90.00	97.00	150.00	118.98	31.02	4.836	
6,000.00	5,988.84	5,992.96	5,988.84	16.21	15.95	-90.00	90.00	97.00	150.00	118.34	31.66	4.739	
6,100.00	6,088.84	6,092.96	6,088.84	16.52	16.27	-90.00	90.00	97.00	150.00	117.71	32.29	4.645	
6,200.00	6,188.84	6,192.96	6,188.84	16.83	16.60	-90.00	90.00	97.00	150.00	117.06	32.94	4.554	
6,300.00	6,288.84	6,292.96	6,288.84	17.15	16.92	-90.00	90.00	97.00	150.00	116.42	33.58	4.467	
6,400.00	6,388.84	6,392.96	6,388.84	17.46	17.25	-90.00	90.00	97.00	150.00	115.77	34.23	4.382	
6,500.00	6,488.84	6,492.96	6,488.84	17.62	17.42	-90.00	90.00	97.00	150.00	115.43	34.57	4.339	
6,600.00	6,588.84	6,592.96	6,588.84	17.63	17.44	-90.00	90.00	97.00	150.00	115.40	34.60	4.336	
6,700.00	6,688.84	6,692.96	6,688.84	17.64	17.46	-90.00	90.00	97.00	150.00	115.38	34.62	4.332	
6,800.00	6,788.84	6,792.96	6,788.84	17.66	17.48	-90.00	90.00	97.00	150.00	115.33	34.67	4.327	
6,900.00	6,888.84	6,892.96	6,888.84	17.69	17.51	-90.00	90.00	97.00	150.00	115.27	34.73	4.319	
7,000.00	6,988.84	6,992.96	6,988.84	17.73	17.54	-90.00	90.00	97.00	150.00	115.20	34.80	4.310	
7,100.00	7,088.84	7,092.96	7,088.84	17.77	17.59	-90.00	90.00	97.00	150.00	115.11	34.89	4.299	
7,200.00	7,188.84	7,192.96	7,188.84	17.82	17.64	-90.00	90.00	97.00	150.00	115.01	34.99	4.287	
7,300.00	7,288.84	7,292.96	7,288.84	17.88	17.69	-90.00	90.00	97.00	150.00	114.89	35.11	4.273	
7,400.00	7,388.84	7,374.61	7,370.33	17.94	17.74	-90.00	90.00	92.91	155.20	120.27	34.92	4.444	
7,500.00	7,488.84	7,450.00	7,444.38	18.02	17.78	-90.00	90.01	79.03	173.76	139.59	34.16	5.086	
7,600.00	7,588.84	7,522.53	7,513.30	18.09	17.81	-90.00	90.02	56.61	204.82	171.71	33.12	6.185	
7,700.00	7,688.84	7,587.62	7,572.31	18.18	17.86	-89.99	90.03	29.23	246.99	215.20	31.79	7.769	
7,800.00	7,788.84	7,650.00	7,625.61	18.27	17.92	-89.99	90.04	-3.14	298.69	268.06	30.62	9.754	
7,900.00	7,888.84	7,700.00	7,665.58	18.37	18.00	-89.99	90.05	-33.14	358.22	329.05	29.17	12.281	
8,000.00	7,988.84	7,750.00	7,702.80	18.47	18.12	-89.99	90.06	-66.51	424.40	396.28	28.12	15.093	
8,100.00	8,088.84	7,780.34	7,723.91	18.58	18.23	-89.99	90.07	-88.30	495.59	469.00	26.58	18.642	
8,200.00	8,188.84	7,814.24	7,746.09	18.70	18.36	-89.99	90.08	-113.93	571.22	545.63	25.59	22.321	
8,300.00	8,288.84	7,850.00	7,767.81	18.83	18.53	-89.99	90.09	-142.33	650.43	625.48	24.95	26.073	
8,400.00	8,388.84	7,869.80	7,779.05	18.95	18.66	-89.99	90.10	-158.62	732.37	708.33	24.04	30.465	
8,500.00	8,488.84	7,900.00	7,795.11	19.09	18.85	-89.99	90.10	-184.20	816.82	793.17	23.65	34.542	
8,600.00	8,588.84	7,900.00	7,795.11	19.23	18.85	-89.99	90.10	-184.20	903.29	880.61	22.69	39.817	
8,700.00	8,688.84	7,930.79	7,810.07	19.38	19.10	-89.99	90.11	-211.10	991.01	968.40	22.61	43.831	
8,800.00	8,788.84	7,950.00	7,818.66	19.53	19.25	-89.99	90.12	-228.29	1,080.34	1,057.97	22.38	48.279	
8,903.16	8,892.00	7,950.00	7,818.66	19.69	19.25	-89.99	90.12	-228.29	1,173.86	1,151.97	21.89	53.622	
8,950.00	8,938.79	7,968.37	7,826.34	19.76	19.44	-0.01	90.13	-244.98	1,215.61	1,193.62	21.99	55.282	
9,000.00	8,988.38	7,976.41	7,829.53	19.82	19.52	0.00	90.13	-252.36	1,258.65	1,236.80	21.85	57.595	
9,050.00	9,037.24	8,000.00	7,838.28	19.87	19.75	0.00	90.14	-274.26	1,300.02	1,278.09	21.92	59.296	
9,100.00	9,084.99	8,000.00	7,838.28	19.92	19.75	0.00	90.14	-274.26	1,338.73	1,317.12	21.61	61.945	
9,150.00	9,131.27	8,000.00	7,838.28	19.96	19.75	0.00	90.14	-274.26	1,375.39	1,354.10	21.30	64.584	
9,200.00	9,175.74	8,000.00	7,838.28	20.00	19.75	0.00	90.14	-274.26	1,409.88	1,388.90	20.98	67.187	
9,250.00	9,218.04	8,026.50	7,847.03	20.05	20.07	0.00	90.15	-299.27	1,441.25	1,420.24	21.01	68.597	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Matador Resources	**Local Co-ordinate Reference:**	Well No. 201H
Project:	Eddy County, NM	**TVD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Reference Site:	Pennzoil Federal 32 (111-121-131-201)	**MD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	No. 201H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Well_Planner1
Reference Design:	Prelim Plan A	**Offset TVD Reference:**	Offset Datum

Offset Design Pennzoil Federal 32 (111-121-131-201) - No. 121H - OH - Prelim Plan A — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD - OWSG, 2000-MWD - OWSG, 6500-MWD - OWSG — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,300.00	9,257.86	8,050.00	7,853.82	20.11	20.35	0.00	90.16	-321.77	1,470.40	1,449.42	20.98	70.093	
9,350.00	9,294.90	8,050.00	7,853.82	20.19	20.35	0.00	90.16	-321.77	1,496.42	1,475.75	20.67	72.403	
9,400.00	9,328.87	8,050.00	7,853.82	20.33	20.35	0.00	90.16	-321.77	1,519.91	1,499.52	20.38	74.565	
9,450.00	9,359.52	8,074.48	7,859.90	20.52	20.69	0.00	90.16	-345.47	1,540.09	1,519.71	20.38	75.579	
9,500.00	9,386.61	8,100.00	7,865.16	20.77	21.04	0.00	90.17	-370.45	1,557.61	1,537.24	20.38	76.441	
9,550.00	9,409.93	8,100.00	7,865.16	21.10	21.04	0.00	90.17	-370.45	1,571.67	1,551.51	20.16	77.971	
9,600.00	9,429.32	8,100.00	7,865.16	21.52	21.04	0.00	90.17	-370.45	1,582.98	1,563.00	19.98	79.213	
9,650.00	9,444.61	8,126.06	7,869.37	22.02	21.44	0.00	90.18	-396.16	1,590.74	1,570.69	20.05	79.339	
9,700.00	9,455.70	8,150.00	7,872.21	22.61	21.81	0.00	90.19	-419.93	1,595.64	1,575.52	20.12	79.313	
9,750.00	9,462.49	8,150.00	7,872.21	23.27	21.81	0.00	90.19	-419.93	1,597.07	1,577.01	20.05	79.636	
9,803.16	9,464.96	8,150.00	7,872.21	24.06	21.81	0.00	90.19	-419.93	1,595.52	1,575.47	20.05	79.576	
9,900.00	9,464.96	8,200.00	7,874.93	25.68	22.66	0.00	90.21	-469.84	1,590.73	1,570.33	20.40	77.986	
10,000.00	9,464.96	8,252.97	7,874.96	27.56	23.65	0.00	90.23	-522.81	1,590.00	1,569.13	20.87	76.181	
10,016.17	9,464.96	8,269.14	7,874.96	27.90	23.96	0.00	90.24	-538.98	1,590.00	1,569.02	20.98	75.769	
10,100.00	9,464.96	8,352.97	7,874.96	29.63	25.64	0.00	90.27	-622.81	1,590.00	1,568.40	21.60	73.608	
10,200.00	9,464.96	8,452.97	7,874.96	31.84	27.80	0.00	90.31	-722.81	1,590.00	1,567.58	22.42	70.925	
10,300.00	9,464.96	8,552.97	7,874.96	34.16	30.10	0.00	90.34	-822.81	1,590.00	1,566.69	23.31	68.201	
10,400.00	9,464.96	8,652.97	7,874.96	36.58	32.50	0.00	90.38	-922.81	1,590.00	1,565.72	24.28	65.491	
10,500.00	9,464.96	8,752.97	7,874.96	39.07	35.00	0.00	90.42	-1,022.81	1,590.00	1,564.70	25.30	62.836	
10,600.00	9,464.96	8,852.97	7,874.96	41.63	37.56	0.00	90.45	-1,122.81	1,590.00	1,563.62	26.38	60.266	
10,700.00	9,464.97	8,952.97	7,874.96	44.24	40.19	0.00	90.49	-1,222.81	1,590.00	1,562.49	27.51	57.799	
10,800.00	9,464.97	9,052.97	7,874.97	46.89	42.85	0.00	90.53	-1,322.81	1,590.00	1,561.32	28.68	55.445	
10,900.00	9,464.97	9,152.97	7,874.97	49.58	45.56	0.00	90.57	-1,422.81	1,590.00	1,560.12	29.88	53.211	
11,000.00	9,464.97	9,252.97	7,874.97	52.30	48.30	0.00	90.60	-1,522.81	1,590.00	1,558.88	31.12	51.097	
11,100.00	9,464.97	9,352.97	7,874.97	55.04	51.06	0.00	90.64	-1,622.81	1,590.00	1,557.62	32.38	49.101	
11,200.00	9,464.97	9,452.97	7,874.97	57.81	53.84	0.00	90.68	-1,722.81	1,590.00	1,556.33	33.67	47.219	
11,300.00	9,464.97	9,552.97	7,874.97	60.60	56.65	0.00	90.72	-1,822.81	1,590.00	1,555.02	34.99	45.448	
11,400.00	9,464.97	9,652.97	7,874.97	63.40	59.47	0.00	90.75	-1,922.81	1,590.00	1,553.68	36.32	43.780	
11,500.00	9,464.97	9,752.97	7,874.97	66.22	62.30	0.00	90.79	-2,022.81	1,590.00	1,552.33	37.67	42.210	
11,600.00	9,464.97	9,852.97	7,874.97	69.05	65.15	0.00	90.83	-2,122.81	1,590.00	1,550.97	39.04	40.732	
11,700.00	9,464.97	9,952.97	7,874.97	71.90	68.01	0.00	90.86	-2,222.81	1,590.00	1,549.58	40.42	39.340	
11,800.00	9,464.98	10,052.97	7,874.97	74.75	70.88	0.00	90.90	-2,322.81	1,590.00	1,548.19	41.81	38.028	
11,900.00	9,464.98	10,152.97	7,874.98	77.61	73.75	0.00	90.94	-2,422.81	1,590.00	1,546.78	43.22	36.791	
12,000.00	9,464.98	10,252.97	7,874.98	80.48	76.63	0.00	90.98	-2,522.81	1,590.00	1,545.37	44.63	35.623	
12,100.00	9,464.98	10,352.97	7,874.98	83.36	79.52	0.00	91.01	-2,622.81	1,590.00	1,543.94	46.06	34.519	
12,200.00	9,464.98	10,452.97	7,874.98	86.24	82.42	0.00	91.05	-2,722.81	1,590.00	1,542.50	47.50	33.476	
12,300.00	9,464.98	10,552.97	7,874.98	89.13	85.32	0.00	91.09	-2,822.81	1,590.00	1,541.06	48.94	32.488	
12,400.00	9,464.98	10,652.97	7,874.98	92.03	88.22	0.00	91.12	-2,922.81	1,590.00	1,539.61	50.39	31.553	
12,500.00	9,464.98	10,752.97	7,874.98	94.92	91.13	0.00	91.16	-3,022.81	1,590.00	1,538.15	51.85	30.666	
12,600.00	9,464.98	10,852.97	7,874.98	97.83	94.05	0.00	91.20	-3,122.81	1,590.00	1,536.69	53.31	29.824	
12,700.00	9,464.98	10,952.97	7,874.98	100.74	96.96	0.00	91.24	-3,222.81	1,590.00	1,535.22	54.78	29.023	
12,800.00	9,464.98	11,052.97	7,874.98	103.65	99.88	0.00	91.27	-3,322.81	1,590.00	1,533.74	56.26	28.262	
12,900.00	9,464.98	11,152.97	7,874.98	106.56	102.81	0.00	91.31	-3,422.81	1,590.00	1,532.26	57.74	27.538	
13,000.00	9,464.99	11,252.97	7,874.98	109.48	105.73	0.00	91.35	-3,522.81	1,590.00	1,530.78	59.22	26.848	
13,100.00	9,464.99	11,352.97	7,874.99	112.40	108.66	0.00	91.39	-3,622.81	1,590.00	1,529.29	60.71	26.189	
13,200.00	9,464.99	11,452.97	7,874.99	115.32	111.59	0.00	91.42	-3,722.81	1,590.00	1,527.80	62.21	25.561	
13,300.00	9,464.99	11,552.97	7,874.99	118.25	114.53	0.00	91.46	-3,822.81	1,590.00	1,526.30	63.70	24.960	
13,400.00	9,464.99	11,652.97	7,874.99	121.18	117.46	0.00	91.50	-3,922.81	1,590.00	1,524.80	65.20	24.386	
13,500.00	9,464.99	11,752.97	7,874.99	124.11	120.40	0.00	91.53	-4,022.81	1,590.00	1,523.30	66.70	23.837	
13,600.00	9,464.99	11,852.97	7,874.99	127.04	123.34	0.00	91.57	-4,122.81	1,590.00	1,521.79	68.21	23.310	
13,700.00	9,464.99	11,952.97	7,874.99	129.97	126.28	0.00	91.61	-4,222.81	1,590.00	1,520.28	69.72	22.806	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Matador Resources	**Local Co-ordinate Reference:**	Well No. 201H
Project:	Eddy County, NM	**TVD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Reference Site:	Pennzoil Federal 32 (111-121-131-201)	**MD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	No. 201H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Well_Planner1
Reference Design:	Prelim Plan A	**Offset TVD Reference:**	Offset Datum

Offset Design Pennzoil Federal 32 (111-121-131-201) - No. 121H - OH - Prelim Plan A — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD - OWSG, 2000-MWD - OWSG, 6500-MWD - OWSG — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
13,800.00	9,464.99	12,052.97	7,874.99	132.91	129.22	0.00	91.65	-4,322.81	1,590.00	1,518.77	71.23	22.322	
13,900.00	9,464.99	12,152.97	7,874.99	135.85	132.16	0.00	91.68	-4,422.81	1,590.00	1,517.26	72.74	21.857	
14,000.00	9,464.99	12,252.97	7,874.99	138.78	135.11	0.00	91.72	-4,522.81	1,590.00	1,515.74	74.26	21.411	
14,100.00	9,464.99	12,352.97	7,874.99	141.72	138.05	0.00	91.76	-4,622.81	1,590.00	1,514.22	75.78	20.982	
14,200.00	9,465.00	12,452.97	7,875.00	144.67	141.00	0.00	91.80	-4,722.81	1,590.00	1,512.70	77.30	20.570	
14,300.00	9,465.00	12,552.97	7,875.00	147.61	143.94	0.00	91.83	-4,822.81	1,590.00	1,511.18	78.82	20.172	
14,400.00	9,465.00	12,652.97	7,875.00	150.55	146.89	0.00	91.87	-4,922.81	1,590.00	1,509.66	80.34	19.790	
14,500.00	9,465.00	12,752.97	7,875.00	153.50	149.84	0.00	91.91	-5,022.81	1,590.00	1,508.13	81.87	19.421	
14,600.00	9,465.00	12,852.97	7,875.00	156.44	152.79	0.00	91.94	-5,122.81	1,590.00	1,506.60	83.40	19.065	
14,700.00	9,465.00	12,952.97	7,875.00	159.39	155.74	0.00	91.98	-5,222.81	1,590.00	1,505.07	84.93	18.722	
14,733.53	9,465.00	12,986.50	7,875.00	160.38	156.73	0.00	91.99	-5,256.34	1,590.00	1,504.56	85.44	18.610	
14,749.20	9,465.00	13,002.16	7,875.00	160.84	157.20	0.00	92.00	-5,272.00	1,590.00	1,504.32	85.68	18.558	

Company:	Matador Resources	**Local Co-ordinate Reference:**	Well No. 201H
Project:	Eddy County, NM	**TVD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Reference Site:	Pennzoil Federal 32 (111-121-131-201)	**MD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	No. 201H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Well_Planner1
Reference Design:	Prelim Plan A	**Offset TVD Reference:**	Offset Datum

Offset Design Pennzoil Federal 32 (111-121-131-201) - No. 131H - OH - Prelim Plan A — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD - OWSG, 2000-MWD - OWSG, 6500-MWD - OWSG — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00	0.00	30.00				
100.00	100.00	100.00	100.00	0.13	0.13	0.00	30.00	0.00	30.00	29.74	0.26	117.047	
200.00	200.00	200.00	200.00	0.49	0.49	0.00	30.00	0.00	30.00	29.03	0.97	30.825	
300.00	300.00	300.00	300.00	0.85	0.85	0.00	30.00	0.00	30.00	28.31	1.69	17.749	
400.00	400.00	400.00	400.00	1.20	1.20	0.00	30.00	0.00	30.00	27.59	2.41	12.463	
500.00	500.00	500.00	500.00	1.56	1.56	0.00	30.00	0.00	30.00	26.88	3.12	9.603	
600.00	600.00	600.00	600.00	1.92	1.92	0.00	30.00	0.00	30.00	26.16	3.84	7.810	
700.00	700.00	700.00	700.00	2.28	2.28	0.00	30.00	0.00	30.00	25.44	4.56	6.582	
800.00	800.00	799.62	799.60	2.64	2.63	3.06	30.57	1.64	30.62	25.35	5.27	5.811	
900.00	899.98	899.09	898.93	2.99	2.98	-61.16	32.28	6.53	32.07	26.10	5.97	5.371	
1,000.00	999.84	998.76	998.26	3.34	3.34	-56.52	34.99	14.31	33.55	26.87	6.68	5.024	
1,050.00	1,049.68	1,048.76	1,048.07	3.52	3.52	-55.84	36.43	18.42	33.74	26.70	7.03	4.796	
1,100.00	1,099.49	1,098.76	1,097.87	3.70	3.70	-55.78	37.86	22.53	33.69	26.30	7.39	4.557	
1,200.00	1,199.11	1,198.76	1,197.49	4.06	4.07	-55.67	40.73	30.76	33.59	25.47	8.12	4.138	
1,300.00	1,298.73	1,298.76	1,297.11	4.43	4.44	-55.55	43.60	38.99	33.49	24.64	8.85	3.786	
1,400.00	1,398.35	1,398.76	1,396.73	4.79	4.81	-55.44	46.47	47.22	33.39	23.81	9.58	3.485	
1,500.00	1,497.97	1,498.76	1,496.35	5.16	5.18	-55.32	49.34	55.45	33.29	22.97	10.32	3.227	
1,600.00	1,597.59	1,598.76	1,595.97	5.54	5.56	-55.21	52.21	63.68	33.19	22.14	11.06	3.002	
1,700.00	1,697.21	1,698.76	1,695.59	5.91	5.93	-55.09	55.08	71.91	33.09	21.30	11.80	2.805	
1,800.00	1,796.83	1,798.76	1,795.21	6.28	6.31	-54.97	57.96	80.14	32.99	20.45	12.54	2.631	
1,900.00	1,896.45	1,898.76	1,894.83	6.66	6.69	-54.85	60.83	88.37	32.90	19.61	13.28	2.476	
2,000.00	1,996.07	1,998.76	1,994.45	7.04	7.06	-54.73	63.70	96.60	32.80	18.77	14.03	2.338	
2,100.00	2,095.69	2,098.76	2,094.07	7.24	7.27	-54.61	66.57	104.83	32.70	18.27	14.43	2.266	
2,200.00	2,195.31	2,198.76	2,193.69	7.29	7.32	-54.49	69.44	113.06	32.60	18.10	14.50	2.248	
2,300.00	2,294.93	2,298.76	2,293.31	7.35	7.39	-54.37	72.31	121.29	32.50	17.89	14.62	2.224	
2,400.00	2,394.55	2,398.76	2,392.93	7.43	7.47	-54.25	75.18	129.51	32.40	17.64	14.77	2.195	
2,500.00	2,494.17	2,498.76	2,492.55	7.54	7.58	-54.12	78.05	137.74	32.31	17.35	14.95	2.161	
2,600.00	2,593.78	2,598.76	2,592.17	7.66	7.70	-54.00	80.92	145.97	32.21	17.03	15.17	2.123	
2,700.00	2,693.40	2,698.76	2,691.79	7.79	7.84	-53.87	83.79	154.20	32.11	16.68	15.43	2.081	
2,800.00	2,793.02	2,798.81	2,791.46	7.95	7.99	-53.77	86.66	162.42	32.01	16.29	15.72	2.036	
2,900.00	2,892.64	2,899.41	2,891.83	8.12	8.15	-56.79	88.86	168.75	30.75	14.69	16.07	1.914	
3,000.00	2,992.26	2,999.74	2,992.11	8.30	8.31	-66.34	89.91	171.73	28.05	11.55	16.50	1.700	
3,100.00	3,091.88	3,099.52	3,091.88	8.50	8.46	-83.70	90.00	172.00	25.83	8.88	16.95	1.524	
3,132.67	3,124.43	3,132.06	3,124.43	8.56	8.51	-90.00	90.00	172.00	25.68	8.60	17.07	1.504	CC, ES, SF
3,200.00	3,191.50	3,199.14	3,191.50	8.71	8.62	-102.83	90.00	172.00	26.34	9.08	17.26	1.526	
3,300.00	3,291.12	3,298.76	3,291.12	8.93	8.79	-119.50	90.00	172.00	29.53	12.07	17.46	1.692	
3,400.00	3,390.74	3,398.38	3,390.74	9.16	8.97	-132.11	90.00	172.00	34.67	17.01	17.66	1.963	
3,500.00	3,490.36	3,498.00	3,490.36	9.40	9.16	-141.16	90.00	172.00	41.04	23.11	17.93	2.289	
3,600.00	3,589.98	3,597.62	3,589.98	9.65	9.37	-147.67	90.00	172.00	48.15	29.88	18.27	2.636	
3,700.00	3,689.60	3,697.23	3,689.60	9.91	9.58	-152.47	90.00	172.00	55.72	37.07	18.65	2.987	
3,800.00	3,789.22	3,796.85	3,789.22	10.17	9.80	-156.10	90.00	172.00	63.58	44.51	19.07	3.334	
3,816.12	3,805.28	3,812.91	3,805.28	10.22	9.84	-156.60	90.00	172.00	64.86	45.72	19.14	3.389	
3,900.00	3,888.93	3,896.57	3,888.93	10.44	10.03	-158.61	90.00	172.00	70.50	50.97	19.52	3.611	
4,000.00	3,988.85	3,996.48	3,988.85	10.69	10.26	-159.77	90.00	172.00	74.28	54.28	20.00	3.714	
4,066.12	4,054.96	4,062.59	4,054.96	10.85	10.42	-90.00	90.00	172.00	75.00	54.67	20.33	3.690	
4,100.00	4,088.84	4,096.48	4,088.84	10.93	10.51	-90.00	90.00	172.00	75.00	54.51	20.49	3.659	
4,200.00	4,188.84	4,196.48	4,188.84	11.17	10.76	-90.00	90.00	172.00	75.00	54.00	21.00	3.572	
4,300.00	4,288.84	4,296.48	4,288.84	11.41	11.01	-90.00	90.00	172.00	75.00	53.48	21.52	3.486	
4,400.00	4,388.84	4,396.48	4,388.84	11.66	11.27	-90.00	90.00	172.00	75.00	52.96	22.04	3.402	
4,500.00	4,488.84	4,496.48	4,488.84	11.91	11.54	-90.00	90.00	172.00	75.00	52.42	22.58	3.321	
4,600.00	4,588.84	4,596.48	4,588.84	12.17	11.81	-90.00	90.00	172.00	75.00	51.87	23.13	3.242	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Matador Resources	**Local Co-ordinate Reference:**	Well No. 201H
Project:	Eddy County, NM	**TVD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Reference Site:	Pennzoil Federal 32 (111-121-131-201)	**MD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	No. 201H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Well_Planner1
Reference Design:	Prelim Plan A	**Offset TVD Reference:**	Offset Datum

Offset Design Pennzoil Federal 32 (111-121-131-201) - No. 131H - OH - Prelim Plan A — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD - OWSG, 2000-MWD - OWSG, 6500-MWD - OWSG — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
4,700.00	4,688.84	4,696.48	4,688.84	12.44	12.09	-90.00	90.00	172.00	75.00	51.31	23.69	3.166	
4,800.00	4,788.84	4,796.48	4,788.84	12.71	12.37	-90.00	90.00	172.00	75.00	50.75	24.25	3.092	
4,900.00	4,888.84	4,896.48	4,888.84	12.98	12.65	-90.00	90.00	172.00	75.00	50.17	24.83	3.021	
5,000.00	4,988.84	4,996.48	4,988.84	13.26	12.94	-90.00	90.00	172.00	75.00	49.59	25.41	2.952	
5,100.00	5,088.84	5,096.48	5,088.84	13.54	13.23	-90.00	90.00	172.00	75.00	49.01	25.99	2.885	
5,200.00	5,188.84	5,196.48	5,188.84	13.83	13.52	-90.00	90.00	172.00	75.00	48.41	26.59	2.821	
5,300.00	5,288.84	5,296.48	5,288.84	14.12	13.82	-90.00	90.00	172.00	75.00	47.81	27.19	2.759	
5,400.00	5,388.84	5,396.48	5,388.84	14.41	14.12	-90.00	90.00	172.00	75.00	47.21	27.79	2.699	
5,500.00	5,488.84	5,496.48	5,488.84	14.70	14.42	-90.00	90.00	172.00	75.00	46.60	28.40	2.641	
5,600.00	5,588.84	5,596.48	5,588.84	15.00	14.73	-90.00	90.00	172.00	75.00	45.98	29.02	2.585	
5,700.00	5,688.84	5,696.48	5,688.84	15.30	15.04	-90.00	90.00	172.00	75.00	45.36	29.64	2.531	
5,800.00	5,788.84	5,796.48	5,788.84	15.60	15.35	-90.00	90.00	172.00	75.00	44.74	30.26	2.478	
5,900.00	5,888.84	5,896.48	5,888.84	15.91	15.66	-90.00	90.00	172.00	75.00	44.11	30.89	2.428	
6,000.00	5,988.84	5,996.48	5,988.84	16.21	15.97	-90.00	90.00	172.00	75.00	43.48	31.52	2.379	
6,100.00	6,088.84	6,096.48	6,088.84	16.52	16.29	-90.00	90.00	172.00	75.00	42.84	32.16	2.332	
6,200.00	6,188.84	6,196.48	6,188.84	16.83	16.61	-90.00	90.00	172.00	75.00	42.20	32.80	2.287	
6,300.00	6,288.84	6,296.48	6,288.84	17.15	16.93	-90.00	90.00	172.00	75.00	41.56	33.44	2.243	
6,400.00	6,388.84	6,396.48	6,388.84	17.46	17.25	-90.00	90.00	172.00	75.00	40.92	34.08	2.200	
6,500.00	6,488.84	6,496.48	6,488.84	17.62	17.41	-90.00	90.00	172.00	75.00	40.58	34.42	2.179	
6,600.00	6,588.84	6,596.48	6,588.84	17.63	17.43	-90.00	90.00	172.00	75.00	40.56	34.44	2.178	
6,700.00	6,688.84	6,696.48	6,688.84	17.64	17.44	-90.00	90.00	172.00	75.00	40.53	34.47	2.176	
6,800.00	6,788.84	6,796.48	6,788.84	17.66	17.46	-90.00	90.00	172.00	75.00	40.49	34.51	2.173	
6,900.00	6,888.84	6,896.48	6,888.84	17.69	17.49	-90.00	90.00	172.00	75.00	40.43	34.57	2.170	
7,000.00	6,988.84	6,996.48	6,988.84	17.73	17.53	-90.00	90.00	172.00	75.00	40.36	34.64	2.165	
7,100.00	7,088.84	7,096.48	7,088.84	17.77	17.57	-90.00	90.00	172.00	75.00	40.27	34.73	2.159	
7,200.00	7,188.84	7,196.48	7,188.84	17.82	17.62	-90.00	90.00	172.00	75.00	40.17	34.83	2.153	
7,300.00	7,288.84	7,296.48	7,288.84	17.88	17.68	-90.00	90.00	172.00	75.00	40.05	34.95	2.146	
7,400.00	7,388.84	7,396.48	7,388.84	17.94	17.75	-90.00	90.00	172.00	75.00	39.92	35.08	2.138	
7,500.00	7,488.84	7,496.48	7,488.84	18.02	17.82	-90.00	90.00	172.00	75.00	39.77	35.23	2.129	
7,600.00	7,588.84	7,596.48	7,588.84	18.09	17.90	-90.00	90.00	172.00	75.00	39.61	35.39	2.119	
7,700.00	7,688.84	7,696.48	7,688.84	18.18	17.98	-90.00	90.00	172.00	75.00	39.44	35.56	2.109	
7,800.00	7,788.84	7,796.48	7,788.84	18.27	18.08	-90.00	90.00	172.00	75.00	39.25	35.75	2.098	
7,900.00	7,888.84	7,896.48	7,888.84	18.37	18.17	-90.00	90.00	172.00	75.00	39.05	35.95	2.086	
8,000.00	7,988.84	7,996.48	7,988.84	18.47	18.28	-90.00	90.00	172.00	75.00	38.84	36.16	2.074	
8,100.00	8,088.84	8,096.48	8,088.84	18.58	18.39	-90.00	90.00	172.00	75.00	38.61	36.39	2.061	
8,200.00	8,188.84	8,196.48	8,188.84	18.70	18.51	-90.00	90.00	172.00	75.00	38.37	36.63	2.047	
8,300.00	8,288.84	8,296.48	8,288.84	18.83	18.63	-90.00	90.00	172.00	75.00	38.12	36.88	2.034	
8,400.00	8,388.84	8,396.48	8,388.84	18.95	18.76	-90.00	90.00	172.00	75.00	37.85	37.15	2.019	
8,500.00	8,488.84	8,496.48	8,488.84	19.09	18.90	-90.00	90.00	172.00	75.00	37.58	37.42	2.004	
8,600.00	8,588.84	8,596.48	8,588.84	19.23	19.04	-90.00	90.00	172.00	75.00	37.29	37.71	1.989	
8,601.09	8,589.93	8,597.57	8,589.93	19.23	19.04	-90.00	90.00	172.00	75.00	37.29	37.71	1.989	
8,700.00	8,688.84	8,692.77	8,685.12	19.38	19.18	-90.00	90.00	171.31	75.78	37.86	37.92	1.998	
8,800.00	8,788.84	8,779.65	8,771.24	19.53	19.29	-90.00	90.00	160.50	88.28	50.74	37.54	2.352	
8,903.16	8,892.00	8,863.98	8,852.35	19.69	19.38	-89.99	90.01	137.67	116.30	79.70	36.60	3.178	
8,950.00	8,938.79	8,900.00	8,885.80	19.76	19.41	-0.01	90.02	124.33	131.87	95.87	36.00	3.663	
9,000.00	8,988.38	8,938.45	8,920.51	19.82	19.45	-0.01	90.02	107.81	147.56	112.24	35.33	4.177	
9,050.00	9,037.24	8,976.07	8,953.33	19.87	19.50	-0.01	90.03	89.42	162.25	127.70	34.55	4.697	
9,100.00	9,084.99	9,013.21	8,984.47	19.92	19.55	-0.01	90.04	69.20	175.88	142.18	33.70	5.219	
9,150.00	9,131.27	9,050.00	9,013.96	19.96	19.61	-0.01	90.05	47.22	188.41	155.61	32.80	5.744	
9,200.00	9,175.74	9,086.30	9,041.62	20.00	19.68	-0.01	90.05	23.72	199.80	167.95	31.85	6.274	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Matador Resources	**Local Co-ordinate Reference:**	Well No. 201H
Project:	Eddy County, NM	**TVD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Reference Site:	Pennzoil Federal 32 (111-121-131-201)	**MD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	No. 201H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Well_Planner1
Reference Design:	Prelim Plan A	**Offset TVD Reference:**	Offset Datum

Offset Design Pennzoil Federal 32 (111-121-131-201) - No. 131H - OH - Prelim Plan A — **Offset Site Error:** 0.00 usft

Survey Program: 0-MWD - OWSG, 2000-MWD - OWSG, 6500-MWD - OWSG — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,250.00	9,218.04	9,122.34	9,067.56	20.05	19.78	-0.01	90.06	-1.30	210.01	179.14	30.87	6.803	
9,300.00	9,257.86	9,158.12	9,091.70	20.11	19.90	-0.01	90.07	-27.70	219.02	189.14	29.88	7.331	
9,350.00	9,294.90	9,200.00	9,117.79	20.19	20.07	-0.01	90.09	-60.44	226.92	197.52	29.40	7.718	
9,400.00	9,328.87	9,229.04	9,134.45	20.33	20.23	-0.01	90.09	-84.23	233.31	205.41	27.90	8.362	
9,450.00	9,359.52	9,264.26	9,153.01	20.52	20.44	-0.01	90.11	-114.15	238.55	211.59	26.96	8.849	
9,500.00	9,386.61	9,300.00	9,169.92	20.77	20.69	-0.01	90.12	-145.63	242.51	216.39	26.11	9.287	
9,550.00	9,409.93	9,334.38	9,184.31	21.10	20.99	-0.01	90.13	-176.85	245.16	219.90	25.25	9.708	
9,600.00	9,429.32	9,369.35	9,197.00	21.52	21.33	-0.01	90.14	-209.43	246.50	221.96	24.53	10.047	
9,650.00	9,444.61	9,400.00	9,206.47	22.02	21.64	-0.01	90.15	-238.58	246.58	222.85	23.73	10.391	
9,700.00	9,455.70	9,439.27	9,216.30	22.61	22.12	-0.01	90.16	-276.59	245.25	221.77	23.48	10.445	
9,750.00	9,462.49	9,474.28	9,222.85	23.27	22.59	-0.01	90.18	-310.98	242.66	219.47	23.18	10.468	
9,803.16	9,464.96	9,511.60	9,227.50	24.06	23.12	-0.01	90.19	-348.00	238.47	215.42	23.05	10.345	
9,900.00	9,464.96	9,586.48	9,229.96	25.68	24.30	-0.01	90.22	-422.80	235.00	211.65	23.35	10.066	
10,000.00	9,464.96	9,686.48	9,229.96	27.56	26.10	-0.01	90.26	-522.80	235.00	211.07	23.93	9.820	
10,100.00	9,464.96	9,786.48	9,229.96	29.63	28.09	-0.01	90.29	-622.80	235.00	210.40	24.60	9.553	
10,200.00	9,464.96	9,886.48	9,229.96	31.84	30.24	-0.01	90.33	-722.80	235.00	209.65	25.35	9.271	
10,300.00	9,464.96	9,986.48	9,229.96	34.16	32.53	-0.01	90.37	-822.80	235.00	208.83	26.17	8.980	
10,400.00	9,464.96	10,086.48	9,229.96	36.58	34.91	-0.01	90.40	-922.80	235.00	207.94	27.06	8.686	
10,500.00	9,464.96	10,186.48	9,229.96	39.07	37.38	-0.01	90.44	-1,022.80	235.00	207.00	28.00	8.392	
10,600.00	9,464.96	10,286.48	9,229.96	41.63	39.92	-0.01	90.48	-1,122.80	235.00	205.99	29.01	8.102	
10,700.00	9,464.97	10,386.48	9,229.97	44.24	42.52	0.00	90.51	-1,222.80	235.00	204.94	30.06	7.819	
10,800.00	9,464.97	10,486.48	9,229.97	46.89	45.16	0.00	90.55	-1,322.80	235.00	203.85	31.15	7.544	
10,900.00	9,464.97	10,586.48	9,229.97	49.58	47.84	0.00	90.59	-1,422.80	235.00	202.72	32.28	7.279	
11,000.00	9,464.97	10,686.48	9,229.97	52.30	50.55	0.00	90.62	-1,522.80	235.00	201.55	33.45	7.025	
11,100.00	9,464.97	10,786.48	9,229.97	55.04	53.29	0.00	90.66	-1,622.80	235.00	200.35	34.65	6.781	
11,200.00	9,464.97	10,886.48	9,229.97	57.81	56.06	0.00	90.70	-1,722.80	235.00	199.12	35.88	6.549	
11,300.00	9,464.97	10,986.48	9,229.97	60.60	58.84	0.00	90.73	-1,822.80	235.00	197.86	37.14	6.328	
11,400.00	9,464.97	11,086.48	9,229.97	63.40	61.64	0.00	90.77	-1,922.80	235.00	196.59	38.41	6.117	
11,500.00	9,464.97	11,186.48	9,229.97	66.22	64.46	0.00	90.81	-2,022.80	235.00	195.29	39.71	5.917	
11,600.00	9,464.97	11,286.48	9,229.97	69.05	67.29	0.00	90.84	-2,122.80	235.00	193.97	41.03	5.727	
11,700.00	9,464.97	11,386.48	9,229.97	71.90	70.13	0.00	90.88	-2,222.80	235.00	192.63	42.37	5.547	
11,800.00	9,464.98	11,486.48	9,229.97	74.75	72.99	0.00	90.92	-2,322.80	235.00	191.28	43.72	5.376	
11,900.00	9,464.98	11,586.48	9,229.98	77.61	75.85	0.00	90.95	-2,422.80	235.00	189.92	45.08	5.213	
12,000.00	9,464.98	11,686.48	9,229.98	80.48	78.72	0.00	90.99	-2,522.80	235.00	188.54	46.46	5.058	
12,100.00	9,464.98	11,786.48	9,229.98	83.36	81.60	0.00	91.03	-2,622.80	235.00	187.15	47.85	4.911	
12,200.00	9,464.98	11,886.48	9,229.98	86.24	84.48	0.00	91.06	-2,722.80	235.00	185.75	49.25	4.772	
12,300.00	9,464.98	11,986.48	9,229.98	89.13	87.37	0.00	91.10	-2,822.80	235.00	184.34	50.66	4.639	
12,400.00	9,464.98	12,086.48	9,229.98	92.03	90.26	0.00	91.14	-2,922.80	235.00	182.92	52.08	4.512	
12,500.00	9,464.98	12,186.48	9,229.98	94.92	93.16	0.00	91.17	-3,022.80	235.00	181.49	53.51	4.392	
12,600.00	9,464.98	12,286.48	9,229.98	97.83	96.07	0.00	91.21	-3,122.80	235.00	180.06	54.94	4.277	
12,700.00	9,464.98	12,386.48	9,229.98	100.74	98.98	0.00	91.25	-3,222.80	235.00	178.62	56.38	4.168	
12,800.00	9,464.98	12,486.48	9,229.98	103.65	101.89	0.00	91.28	-3,322.80	235.00	177.17	57.83	4.063	
12,900.00	9,464.98	12,586.48	9,229.98	106.56	104.81	0.00	91.32	-3,422.80	235.00	175.71	59.29	3.964	
13,000.00	9,464.99	12,686.48	9,229.99	109.48	107.72	0.00	91.36	-3,522.80	235.00	174.25	60.75	3.868	
13,100.00	9,464.99	12,786.48	9,229.99	112.40	110.65	0.00	91.39	-3,622.80	235.00	172.78	62.22	3.777	
13,200.00	9,464.99	12,886.48	9,229.99	115.32	113.57	0.00	91.43	-3,722.80	235.00	171.31	63.69	3.690	
13,300.00	9,464.99	12,986.48	9,229.99	118.25	116.50	0.00	91.47	-3,822.80	235.00	169.84	65.16	3.606	
13,400.00	9,464.99	13,086.48	9,229.99	121.18	119.42	0.00	91.50	-3,922.80	235.00	168.36	66.64	3.526	
13,500.00	9,464.99	13,186.48	9,229.99	124.11	122.36	0.00	91.54	-4,022.80	235.00	166.87	68.13	3.449	
13,600.00	9,464.99	13,286.48	9,229.99	127.04	125.29	0.00	91.58	-4,122.80	235.00	165.39	69.61	3.376	
13,700.00	9,464.99	13,386.48	9,229.99	129.97	128.22	0.00	91.61	-4,222.80	235.00	163.89	71.11	3.305	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Matador Resources	**Local Co-ordinate Reference:**	Well No. 201H
Project:	Eddy County, NM	**TVD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Reference Site:	Pennzoil Federal 32 (111-121-131-201)	**MD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	No. 201H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Well_Planner1
Reference Design:	Prelim Plan A	**Offset TVD Reference:**	Offset Datum

Offset Design Pennzoil Federal 32 (111-121-131-201) - No. 131H - OH - Prelim Plan A — **Offset Site Error:** 0.00 usft

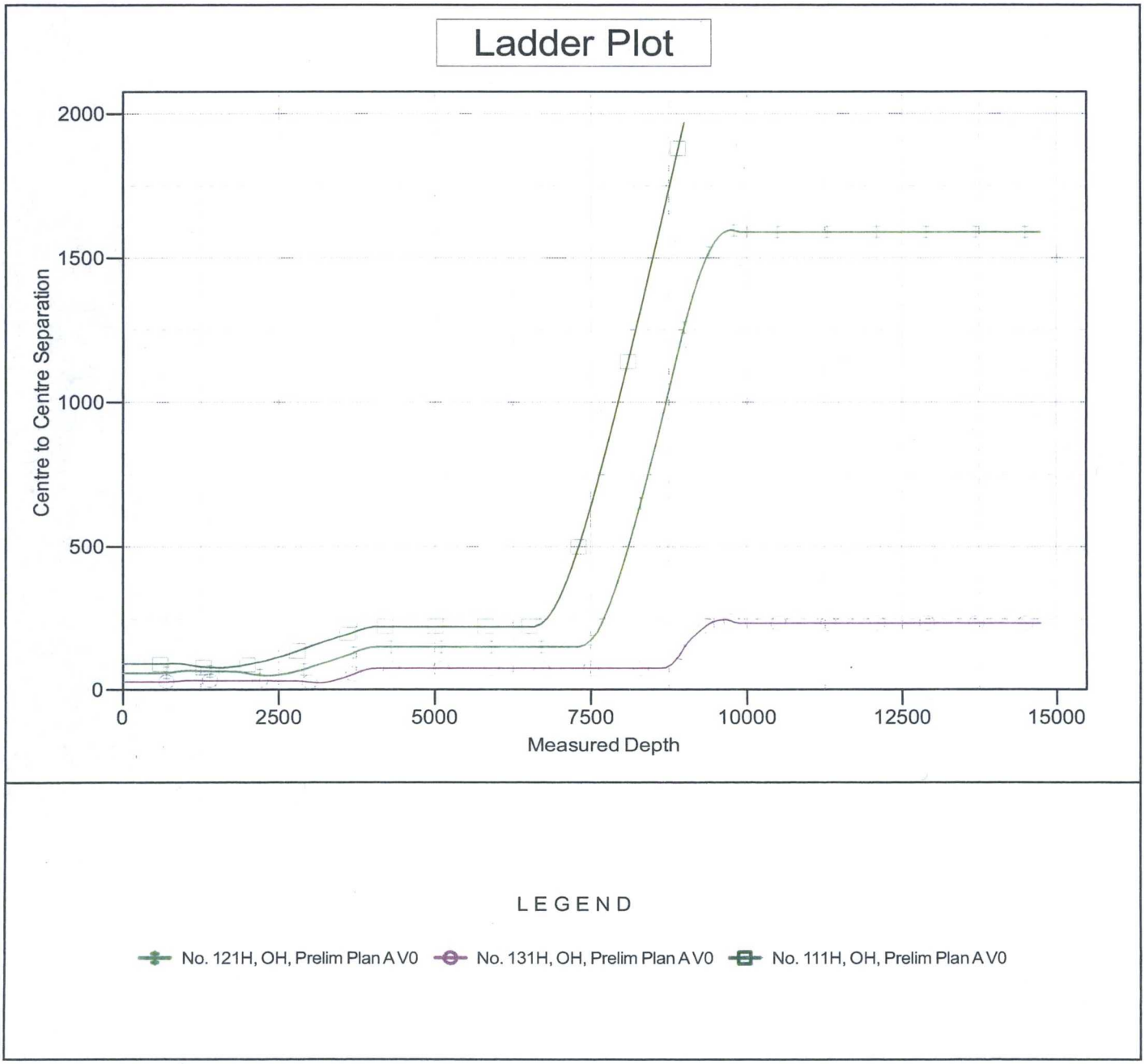
Survey Program: 0-MWD - OWSG, 2000-MWD - OWSG, 6500-MWD - OWSG — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
13,800.00	9,464.99	13,486.48	9,229.99	132.91	131.16	0.00	91.65	-4,322.80	235.00	162.40	72.60	3.237	
13,900.00	9,464.99	13,586.48	9,229.99	135.85	134.10	0.00	91.69	-4,422.80	235.00	160.90	74.10	3.171	
14,000.00	9,464.99	13,686.48	9,229.99	138.78	137.04	0.00	91.72	-4,522.80	235.00	159.40	75.60	3.109	
14,100.00	9,464.99	13,786.48	9,229.99	141.72	139.98	0.00	91.76	-4,622.80	235.00	157.90	77.10	3.048	
14,200.00	9,465.00	13,886.48	9,230.00	144.67	142.92	0.00	91.80	-4,722.80	235.00	156.39	78.61	2.990	
14,300.00	9,465.00	13,986.48	9,230.00	147.61	145.86	0.00	91.83	-4,822.80	235.00	154.88	80.12	2.933	
14,400.00	9,465.00	14,086.48	9,230.00	150.55	148.81	0.00	91.87	-4,922.80	235.00	153.37	81.63	2.879	
14,500.00	9,465.00	14,186.48	9,230.00	153.50	151.75	0.00	91.91	-5,022.80	235.00	151.86	83.14	2.827	
14,600.00	9,465.00	14,286.48	9,230.00	156.44	154.70	0.00	91.95	-5,122.80	235.00	150.34	84.66	2.776	
14,700.00	9,465.00	14,386.48	9,230.00	159.39	157.65	0.00	91.98	-5,222.80	235.00	148.83	86.17	2.727	
14,733.17	9,465.00	14,419.65	9,230.00	160.37	158.62	0.00	91.99	-5,255.97	235.00	148.32	86.68	2.711	
14,749.20	9,465.00	14,435.68	9,230.00	160.84	159.10	0.00	92.00	-5,272.00	235.00	148.08	86.92	2.704	

Company:	Matador Resources	**Local Co-ordinate Reference:**	Well No. 201H
Project:	Eddy County, NM	**TVD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Reference Site:	Pennzoil Federal 32 (111-121-131-201)	**MD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	No. 201H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Well_Planner1
Reference Design:	Prelim Plan A	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to Well @ 3292.50usft (GL: 3264' + KB:
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

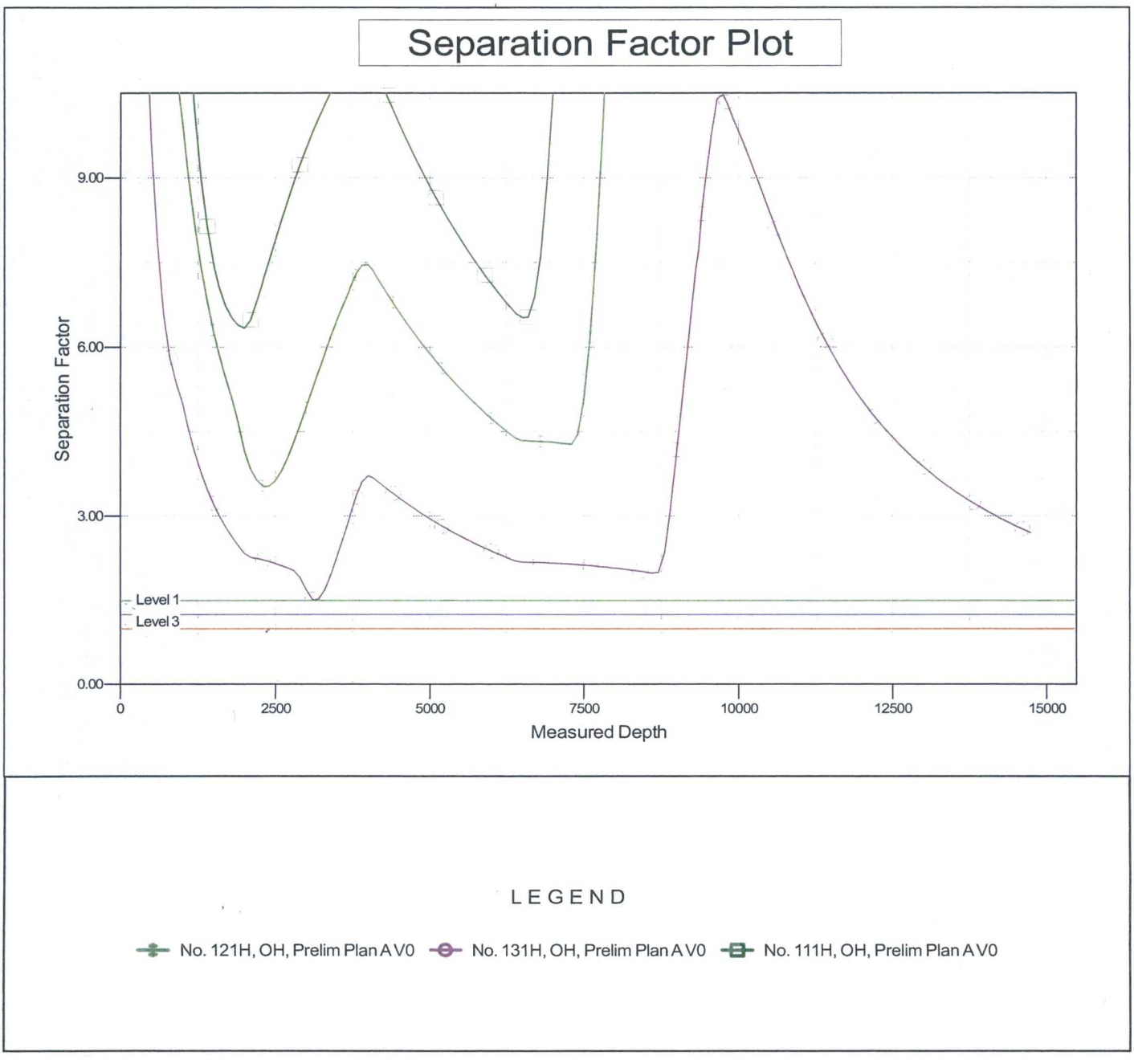
Coordinates are relative to: No. 201H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.13°



Company:	Matador Resources	**Local Co-ordinate Reference:**	Well No. 201H
Project:	Eddy County, NM	**TVD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Reference Site:	Pennzoil Federal 32 (111-121-131-201)	**MD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	No. 201H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Well_Planner1
Reference Design:	Prelim Plan A	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to Well @ 3292.50usft (GL: 3264' + KB:
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: No. 201H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.13°



CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Pro Directional
Survey Report

Company:	Matador Resources	**Local Co-ordinate Reference:**	Well No. 201H
Project:	Eddy County, NM	**TVD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Site:	Pennzoil Federal 32 (111-121-131-201)	**MD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Well:	No. 201H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Prelim Plan A	**Database:**	Well_Planner1

Project	Eddy County, NM		
Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Pennzoil Federal 32 (111-121-131-201)				
Site Position:		**Northing:**	558,844.00 usft	**Latitude:**	32° 32' 10.069 N
From:	Map	**Easting:**	575,796.00 usft	**Longitude:**	104° 5' 14.584 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.13 °

Well	No. 201H					
Well Position	**+N/-S**	0.00 usft	**Northing:**	558,754.00 usft	**Latitude:**	32° 32' 9.179 N
	+E/-W	0.00 usft	**Easting:**	575,796.00 usft	**Longitude:**	104° 5' 14.586 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,264.00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	8/30/2016	7.47	60.40	48,282

Design Prelim Plan A

Audit Notes:

Version:	**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	271.00

Survey Tool Program **Date** 8/30/2016

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	2,000.00	Prelim Plan A (OH)	MWD - OWSG	MWD - OWSG
2,000.00	6,500.00	Prelim Plan A (OH)	MWD - OWSG	MWD - OWSG
6,500.00	14,749.20	Prelim Plan A (OH)	MWD - OWSG	MWD - OWSG

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
[PennZFed32#201H]LPP - [PennZFed32#201H]FPP									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00

Company:	Matador Resources	**Local Co-ordinate Reference:**	Well No. 201H
Project:	Eddy County, NM	**TVD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Site:	Pennzoil Federal 32 (111-121-131-201)	**MD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Well:	No. 201H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Prelim Plan A	**Database:**	Well_Planner1

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
900.00	2.00	69.98	899.98	0.60	1.64	-1.63	2.00	2.00	0.00
1,000.00	4.00	69.98	999.84	2.39	6.56	-6.51	2.00	2.00	0.00
1,050.00	5.00	69.98	1,049.68	3.73	10.24	-10.18	2.00	2.00	0.00
Start 2766.12 hold at 1050.00 MD									
1,100.00	5.00	69.98	1,099.49	5.22	14.34	-14.24	0.00	0.00	0.00
1,200.00	5.00	69.98	1,199.11	8.21	22.53	-22.38	0.00	0.00	0.00
1,300.00	5.00	69.98	1,298.73	11.19	30.71	-30.51	0.00	0.00	0.00
1,400.00	5.00	69.98	1,398.35	14.18	38.90	-38.65	0.00	0.00	0.00
1,500.00	5.00	69.98	1,497.97	17.16	47.09	-46.79	0.00	0.00	0.00
1,600.00	5.00	69.98	1,597.59	20.14	55.28	-54.92	0.00	0.00	0.00
1,700.00	5.00	69.98	1,697.21	23.13	63.47	-63.06	0.00	0.00	0.00
1,800.00	5.00	69.98	1,796.83	26.11	71.66	-71.19	0.00	0.00	0.00
1,900.00	5.00	69.98	1,896.45	29.09	79.85	-79.33	0.00	0.00	0.00
2,000.00	5.00	69.98	1,996.07	32.08	88.04	-87.46	0.00	0.00	0.00
2,100.00	5.00	69.98	2,095.69	35.06	96.23	-95.60	0.00	0.00	0.00
2,200.00	5.00	69.98	2,195.31	38.05	104.41	-103.74	0.00	0.00	0.00
2,300.00	5.00	69.98	2,294.93	41.03	112.60	-111.87	0.00	0.00	0.00
2,400.00	5.00	69.98	2,394.55	44.01	120.79	-120.01	0.00	0.00	0.00
2,500.00	5.00	69.98	2,494.17	47.00	128.98	-128.14	0.00	0.00	0.00
2,600.00	5.00	69.98	2,593.78	49.98	137.17	-136.28	0.00	0.00	0.00
2,700.00	5.00	69.98	2,693.40	52.97	145.36	-144.41	0.00	0.00	0.00
2,800.00	5.00	69.98	2,793.02	55.95	153.55	-152.55	0.00	0.00	0.00
2,900.00	5.00	69.98	2,892.64	58.93	161.74	-160.68	0.00	0.00	0.00
3,000.00	5.00	69.98	2,992.26	61.92	169.93	-168.82	0.00	0.00	0.00
3,100.00	5.00	69.98	3,091.88	64.90	178.12	-176.96	0.00	0.00	0.00
3,200.00	5.00	69.98	3,191.50	67.88	186.30	-185.09	0.00	0.00	0.00
3,300.00	5.00	69.98	3,291.12	70.87	194.49	-193.23	0.00	0.00	0.00
3,400.00	5.00	69.98	3,390.74	73.85	202.68	-201.36	0.00	0.00	0.00
3,500.00	5.00	69.98	3,490.36	76.84	210.87	-209.50	0.00	0.00	0.00
3,600.00	5.00	69.98	3,589.98	79.82	219.06	-217.63	0.00	0.00	0.00
3,700.00	5.00	69.98	3,689.60	82.80	227.25	-225.77	0.00	0.00	0.00
3,800.00	5.00	69.98	3,789.22	85.79	235.44	-233.90	0.00	0.00	0.00
3,816.12	5.00	69.98	3,805.28	86.27	236.76	-235.22	0.00	0.00	0.00
Start Drop -2.00									
3,900.00	3.32	69.98	3,888.93	88.35	242.48	-240.90	2.00	-2.00	0.00
4,000.00	1.32	69.98	3,988.85	89.74	246.28	-244.68	2.00	-2.00	0.00
4,066.12	0.00	0.00	4,054.96	90.00	247.00	-245.39	2.00	-2.00	0.00
Start 4837.04 hold at 4066.12 MD									
4,100.00	0.00	0.00	4,088.84	90.00	247.00	-245.39	0.00	0.00	0.00

Company:	Matador Resources	**Local Co-ordinate Reference:**	Well No. 201H
Project:	Eddy County, NM	**TVD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Site:	Pennzoil Federal 32 (111-121-131-201)	**MD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Well:	No. 201H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Prelim Plan A	**Database:**	Well_Planner1

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,200.00	0.00	0.00	4,188.84	90.00	247.00	-245.39	0.00	0.00	0.00
4,300.00	0.00	0.00	4,288.84	90.00	247.00	-245.39	0.00	0.00	0.00
4,400.00	0.00	0.00	4,388.84	90.00	247.00	-245.39	0.00	0.00	0.00
4,500.00	0.00	0.00	4,488.84	90.00	247.00	-245.39	0.00	0.00	0.00
4,600.00	0.00	0.00	4,588.84	90.00	247.00	-245.39	0.00	0.00	0.00
4,700.00	0.00	0.00	4,688.84	90.00	247.00	-245.39	0.00	0.00	0.00
4,800.00	0.00	0.00	4,788.84	90.00	247.00	-245.39	0.00	0.00	0.00
4,900.00	0.00	0.00	4,888.84	90.00	247.00	-245.39	0.00	0.00	0.00
5,000.00	0.00	0.00	4,988.84	90.00	247.00	-245.39	0.00	0.00	0.00
5,100.00	0.00	0.00	5,088.84	90.00	247.00	-245.39	0.00	0.00	0.00
5,200.00	0.00	0.00	5,188.84	90.00	247.00	-245.39	0.00	0.00	0.00
5,300.00	0.00	0.00	5,288.84	90.00	247.00	-245.39	0.00	0.00	0.00
5,400.00	0.00	0.00	5,388.84	90.00	247.00	-245.39	0.00	0.00	0.00
5,500.00	0.00	0.00	5,488.84	90.00	247.00	-245.39	0.00	0.00	0.00
5,600.00	0.00	0.00	5,588.84	90.00	247.00	-245.39	0.00	0.00	0.00
5,700.00	0.00	0.00	5,688.84	90.00	247.00	-245.39	0.00	0.00	0.00
5,800.00	0.00	0.00	5,788.84	90.00	247.00	-245.39	0.00	0.00	0.00
5,900.00	0.00	0.00	5,888.84	90.00	247.00	-245.39	0.00	0.00	0.00
6,000.00	0.00	0.00	5,988.84	90.00	247.00	-245.39	0.00	0.00	0.00
6,100.00	0.00	0.00	6,088.84	90.00	247.00	-245.39	0.00	0.00	0.00
6,200.00	0.00	0.00	6,188.84	90.00	247.00	-245.39	0.00	0.00	0.00
6,300.00	0.00	0.00	6,288.84	90.00	247.00	-245.39	0.00	0.00	0.00
6,400.00	0.00	0.00	6,388.84	90.00	247.00	-245.39	0.00	0.00	0.00
6,500.00	0.00	0.00	6,488.84	90.00	247.00	-245.39	0.00	0.00	0.00
6,600.00	0.00	0.00	6,588.84	90.00	247.00	-245.39	0.00	0.00	0.00
6,700.00	0.00	0.00	6,688.84	90.00	247.00	-245.39	0.00	0.00	0.00
6,800.00	0.00	0.00	6,788.84	90.00	247.00	-245.39	0.00	0.00	0.00
6,900.00	0.00	0.00	6,888.84	90.00	247.00	-245.39	0.00	0.00	0.00
7,000.00	0.00	0.00	6,988.84	90.00	247.00	-245.39	0.00	0.00	0.00
7,100.00	0.00	0.00	7,088.84	90.00	247.00	-245.39	0.00	0.00	0.00
7,200.00	0.00	0.00	7,188.84	90.00	247.00	-245.39	0.00	0.00	0.00
7,300.00	0.00	0.00	7,288.84	90.00	247.00	-245.39	0.00	0.00	0.00
7,400.00	0.00	0.00	7,388.84	90.00	247.00	-245.39	0.00	0.00	0.00
7,500.00	0.00	0.00	7,488.84	90.00	247.00	-245.39	0.00	0.00	0.00
7,600.00	0.00	0.00	7,588.84	90.00	247.00	-245.39	0.00	0.00	0.00
7,700.00	0.00	0.00	7,688.84	90.00	247.00	-245.39	0.00	0.00	0.00
7,800.00	0.00	0.00	7,788.84	90.00	247.00	-245.39	0.00	0.00	0.00
7,900.00	0.00	0.00	7,888.84	90.00	247.00	-245.39	0.00	0.00	0.00
8,000.00	0.00	0.00	7,988.84	90.00	247.00	-245.39	0.00	0.00	0.00
8,100.00	0.00	0.00	8,088.84	90.00	247.00	-245.39	0.00	0.00	0.00
8,200.00	0.00	0.00	8,188.84	90.00	247.00	-245.39	0.00	0.00	0.00
8,300.00	0.00	0.00	8,288.84	90.00	247.00	-245.39	0.00	0.00	0.00

Company:	Matador Resources	**Local Co-ordinate Reference:**	Well No. 201H
Project:	Eddy County, NM	**TVD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Site:	Pennzoil Federal 32 (111-121-131-201)	**MD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Well:	No. 201H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Prelim Plan A	**Database:**	Well_Planner1

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,400.00	0.00	0.00	8,388.84	90.00	247.00	-245.39	0.00	0.00	0.00
8,500.00	0.00	0.00	8,488.84	90.00	247.00	-245.39	0.00	0.00	0.00
8,600.00	0.00	0.00	8,588.84	90.00	247.00	-245.39	0.00	0.00	0.00
8,700.00	0.00	0.00	8,688.84	90.00	247.00	-245.39	0.00	0.00	0.00
8,800.00	0.00	0.00	8,788.84	90.00	247.00	-245.39	0.00	0.00	0.00
8,903.16	0.00	0.00	8,892.00	90.00	247.00	-245.39	0.00	0.00	0.00
Start DLS 10.00 TFO 270.02									
8,950.00	4.68	270.02	8,938.79	90.00	245.09	-243.48	10.00	10.00	0.00
9,000.00	9.68	270.02	8,988.38	90.00	238.84	-237.23	10.00	10.00	0.00
9,050.00	14.68	270.02	9,037.24	90.01	228.29	-226.68	10.00	10.00	0.00
9,100.00	19.68	270.02	9,084.99	90.01	213.52	-211.92	10.00	10.00	0.00
9,150.00	24.68	270.02	9,131.27	90.02	194.65	-193.05	10.00	10.00	0.00
9,200.00	29.68	270.02	9,175.74	90.03	171.81	-170.21	10.00	10.00	0.00
9,250.00	34.68	270.02	9,218.04	90.04	145.19	-143.59	10.00	10.00	0.00
9,300.00	39.68	270.02	9,257.86	90.05	114.98	-113.39	10.00	10.00	0.00
9,350.00	44.68	270.02	9,294.90	90.06	81.41	-79.83	10.00	10.00	0.00
9,400.00	49.68	270.02	9,328.87	90.07	44.75	-43.17	10.00	10.00	0.00
9,450.00	54.68	270.02	9,359.52	90.09	5.26	-3.69	10.00	10.00	0.00
9,500.00	59.68	270.02	9,386.61	90.10	-36.75	38.31	10.00	10.00	0.00
9,550.00	64.68	270.02	9,409.93	90.12	-80.95	82.51	10.00	10.00	0.00
9,600.00	69.68	270.02	9,429.32	90.14	-127.03	128.58	10.00	10.00	0.00
9,650.00	74.68	270.02	9,444.61	90.15	-174.62	176.16	10.00	10.00	0.00
9,700.00	79.68	270.02	9,455.70	90.17	-223.35	224.89	10.00	10.00	0.00
9,750.00	84.68	270.02	9,462.49	90.19	-272.87	274.41	10.00	10.00	0.00
9,803.16	90.00	270.02	9,464.96	90.21	-325.95	327.48	10.00	10.00	0.00
LP									
9,900.00	90.00	270.02	9,464.96	90.24	-422.80	424.31	0.00	0.00	0.00
10,000.00	90.00	270.02	9,464.96	90.28	-522.80	524.29	0.00	0.00	0.00
10,100.00	90.00	270.02	9,464.96	90.32	-622.80	624.28	0.00	0.00	0.00
10,200.00	90.00	270.02	9,464.96	90.35	-722.80	724.26	0.00	0.00	0.00
10,300.00	90.00	270.02	9,464.96	90.39	-822.80	824.25	0.00	0.00	0.00
10,400.00	90.00	270.02	9,464.96	90.42	-922.80	924.23	0.00	0.00	0.00
10,500.00	90.00	270.02	9,464.96	90.46	-1,022.80	1,024.22	0.00	0.00	0.00
10,600.00	90.00	270.02	9,464.96	90.50	-1,122.80	1,124.21	0.00	0.00	0.00
10,700.00	90.00	270.02	9,464.97	90.53	-1,222.80	1,224.19	0.00	0.00	0.00
10,800.00	90.00	270.02	9,464.97	90.57	-1,322.80	1,324.18	0.00	0.00	0.00
10,900.00	90.00	270.02	9,464.97	90.61	-1,422.80	1,424.16	0.00	0.00	0.00
11,000.00	90.00	270.02	9,464.97	90.64	-1,522.80	1,524.15	0.00	0.00	0.00
11,100.00	90.00	270.02	9,464.97	90.68	-1,622.80	1,624.13	0.00	0.00	0.00
11,200.00	90.00	270.02	9,464.97	90.71	-1,722.80	1,724.12	0.00	0.00	0.00
11,300.00	90.00	270.02	9,464.97	90.75	-1,822.80	1,824.10	0.00	0.00	0.00
11,400.00	90.00	270.02	9,464.97	90.79	-1,922.80	1,924.09	0.00	0.00	0.00

Company:	Matador Resources	**Local Co-ordinate Reference:**	Well No. 201H
Project:	Eddy County, NM	**TVD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Site:	Pennzoil Federal 32 (111-121-131-201)	**MD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Well:	No. 201H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Prelim Plan A	**Database:**	Well_Planner1

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,500.00	90.00	270.02	9,464.97	90.82	-2,022.80	2,024.07	0.00	0.00	0.00
11,600.00	90.00	270.02	9,464.97	90.86	-2,122.80	2,124.06	0.00	0.00	0.00
11,700.00	90.00	270.02	9,464.97	90.90	-2,222.80	2,224.04	0.00	0.00	0.00
11,800.00	90.00	270.02	9,464.98	90.93	-2,322.80	2,324.03	0.00	0.00	0.00
11,900.00	90.00	270.02	9,464.98	90.97	-2,422.80	2,424.02	0.00	0.00	0.00
12,000.00	90.00	270.02	9,464.98	91.00	-2,522.80	2,524.00	0.00	0.00	0.00
12,100.00	90.00	270.02	9,464.98	91.04	-2,622.80	2,623.99	0.00	0.00	0.00
12,200.00	90.00	270.02	9,464.98	91.08	-2,722.80	2,723.97	0.00	0.00	0.00
12,300.00	90.00	270.02	9,464.98	91.11	-2,822.80	2,823.96	0.00	0.00	0.00
12,400.00	90.00	270.02	9,464.98	91.15	-2,922.80	2,923.94	0.00	0.00	0.00
12,500.00	90.00	270.02	9,464.98	91.18	-3,022.80	3,023.93	0.00	0.00	0.00
12,600.00	90.00	270.02	9,464.98	91.22	-3,122.80	3,123.91	0.00	0.00	0.00
12,700.00	90.00	270.02	9,464.98	91.26	-3,222.80	3,223.90	0.00	0.00	0.00
12,800.00	90.00	270.02	9,464.98	91.29	-3,322.80	3,323.88	0.00	0.00	0.00
12,900.00	90.00	270.02	9,464.98	91.33	-3,422.80	3,423.87	0.00	0.00	0.00
13,000.00	90.00	270.02	9,464.99	91.37	-3,522.80	3,523.86	0.00	0.00	0.00
13,100.00	90.00	270.02	9,464.99	91.40	-3,622.80	3,623.84	0.00	0.00	0.00
13,200.00	90.00	270.02	9,464.99	91.44	-3,722.80	3,723.83	0.00	0.00	0.00
13,300.00	90.00	270.02	9,464.99	91.47	-3,822.80	3,823.81	0.00	0.00	0.00
13,400.00	90.00	270.02	9,464.99	91.51	-3,922.80	3,923.80	0.00	0.00	0.00
13,500.00	90.00	270.02	9,464.99	91.55	-4,022.80	4,023.78	0.00	0.00	0.00
13,600.00	90.00	270.02	9,464.99	91.58	-4,122.80	4,123.77	0.00	0.00	0.00
13,700.00	90.00	270.02	9,464.99	91.62	-4,222.80	4,223.75	0.00	0.00	0.00
13,800.00	90.00	270.02	9,464.99	91.66	-4,322.80	4,323.74	0.00	0.00	0.00
13,900.00	90.00	270.02	9,464.99	91.69	-4,422.80	4,423.72	0.00	0.00	0.00
14,000.00	90.00	270.02	9,464.99	91.73	-4,522.80	4,523.71	0.00	0.00	0.00
14,100.00	90.00	270.02	9,464.99	91.76	-4,622.80	4,623.69	0.00	0.00	0.00
14,200.00	90.00	270.02	9,465.00	91.80	-4,722.80	4,723.68	0.00	0.00	0.00
14,300.00	90.00	270.02	9,465.00	91.84	-4,822.80	4,823.67	0.00	0.00	0.00
14,400.00	90.00	270.02	9,465.00	91.87	-4,922.80	4,923.65	0.00	0.00	0.00
14,500.00	90.00	270.02	9,465.00	91.91	-5,022.80	5,023.64	0.00	0.00	0.00
14,600.00	90.00	270.02	9,465.00	91.95	-5,122.80	5,123.62	0.00	0.00	0.00
14,700.00	90.00	270.02	9,465.00	91.98	-5,222.80	5,223.61	0.00	0.00	0.00
14,749.20	90.00	270.02	9,465.00	92.00	-5,272.00	5,272.80	0.00	0.00	0.00

TD at 14749.20 - [PennZFed32#201H]BHL

Company:	Matador Resources	**Local Co-ordinate Reference:**	Well No. 201H
Project:	Eddy County, NM	**TVD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Site:	Pennzoil Federal 32 (111-121-131-201)	**MD Reference:**	Well @ 3292.50usft (GL: 3264' + KB: 28.5' (Patt809))
Well:	No. 201H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Prelim Plan A	**Database:**	Well_Planner1

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
[PennZFed32#201H]LPI	0.00	0.00	0.00	92.00	-5,182.00	558,846.00	570,614.00	32° 32' 10.204 N	104° 6' 15.117 W
- plan misses target center by 5182.82usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
[PennZFed32#201H]FPI	0.00	0.00	0.00	90.00	-550.00	558,844.00	575,246.00	32° 32' 10.082 N	104° 5' 21.009 W
- plan misses target center by 557.31usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
[PennZFed32#201H]BHI	0.00	0.00	9,465.00	92.00	-5,272.00	558,846.00	570,524.00	32° 32' 10.205 N	104° 6' 16.169 W
- plan hits target center									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
800	800	0	0	Start Build 2.00
1050	1050	4	10	Start 2766.12 hold at 1050.00 MD
3816	3805	86	237	Start Drop -2.00
4066	4055	90	247	Start 4837.04 hold at 4066.12 MD
8903	8892	90	247	Start DLS 10.00 TFO 270.02
9803	9465	90	-326	LP
14,749	9465	92	-5272	TD at 14749.20

Checked By: _____ Approved By: _____ Date: _____

Hydrogen Sulfide Drilling

Operations Plan

Matador Production Company

1 H2S safety instructions to the following:

- Characteristics of H2S
- Physical effects and hazards
- Principal and operation of H2S detectors, warning system, and briefing areas
- Evacuation procedures, routes, and first aid
- Proper use of safety equipment & life support systems
- Essential personnel meeting medical evaluation criteria will receive additional training on the proper use of 30-minute pressure demand air packs.

2 H2S Detection and Alarm Systems:

- H2S sensor/detectors will be located on the drilling rig floor, in the base of the sub structure / cellar area, and on the mud pits in the shale shaker area. Additional H2S detectors may be placed as deemed necessary.
- An audio alarm system will be installed on the derrick floor and in the doghouse.

3 Windsocks and /.Wind Streamers:

- Windsocks at mud pit area should be high enough to be visible.
- Windsock on the rig floor and / top of doghouse should be high enough to be visible.

4 Condition Flags and Signs:

- Warning sign on access road to location
- Flags to be displayed on sign at entrance to location
    - Green Flag – Normal Safe Operation Condition
    - Yellow Flag – Potential Pressure and Danger
    - Red Flag – Danger (H2S present in dangerous concentrations) Only H2S trained personnel admitted on location

5 Well Control Equipment:

- See APD

6 Communication:

- While working under masks, chalkboards will be used for communications.
- Hand signals will be used where chalkboard is inappropriate.
- Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.

7 Drill Stem Testing:

- No DST or cores are planned at this time.

8 Drilling contractor supervisor will be required to be familiar with the effects H2S has on tubulars good and other mechanical equipment.

9 If H2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H2S scavengers if necessary.

11 Emergency Contacts

- See APD

H2S Contingency Plan Emergency Contacts
Matador Production Company
T20S, R29E, Eddy County, NM

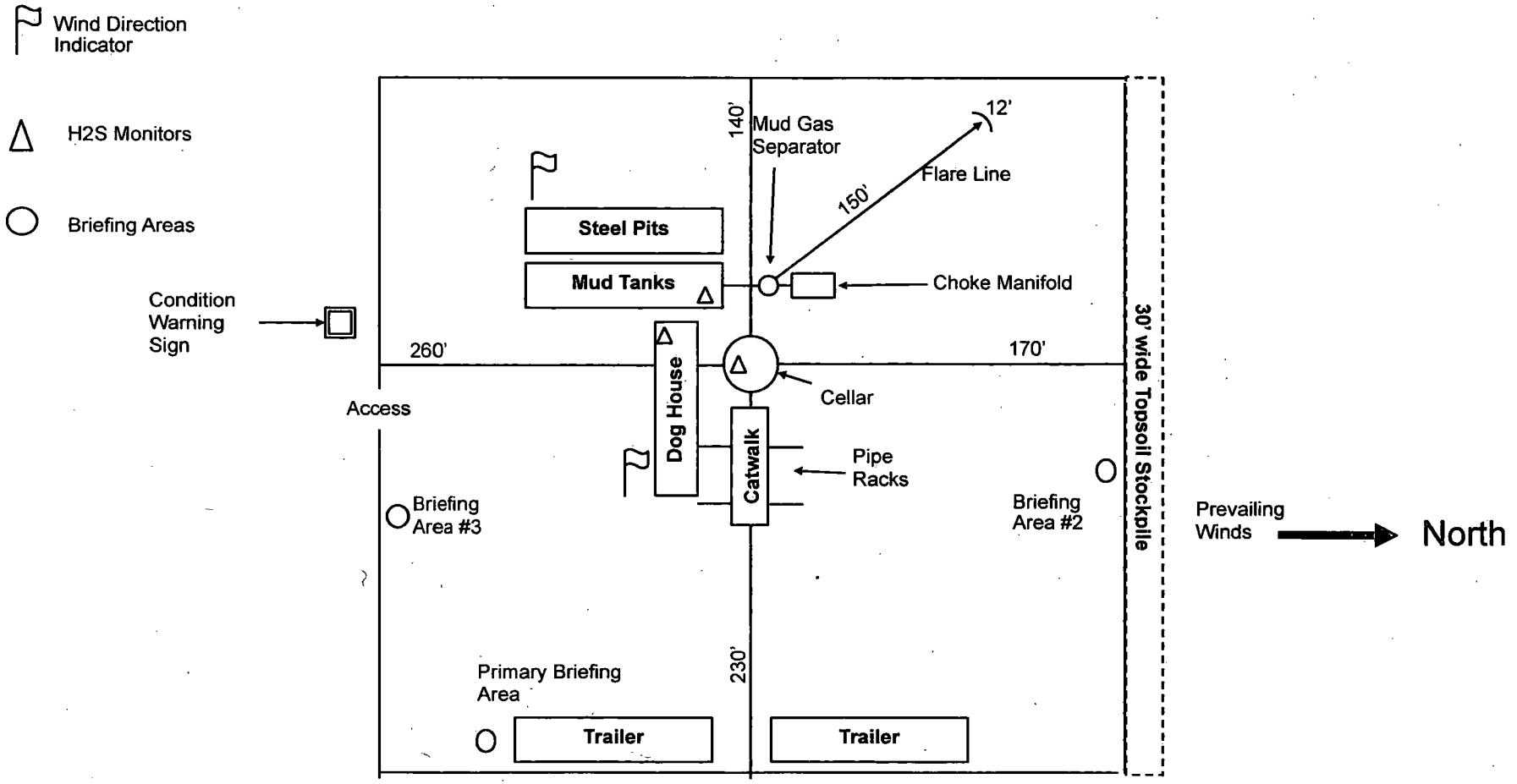
Company Office			
Matador Production Company	(972)-371-5200		
Key Personnel			
Name	**Title**	**Office**	**Mobile**
Billy Goodwin	Vice President Drilling	972-371-5210	817-522-2928
Gary Martin	Drilling Superintendent		601-669-1774
Dee Smith	Drilling Superintendent	972-371-5447	972-822-1010
Aaron Byrd	Drilling Engineer	972-371-5267	214-507-2333
	Construction Superintendent		
	Construction Superintendent		

Artesia	
Ambulance	911
State Police	575-746-2703
City Police	575-746-2703
Sheriff's Office	575-746-9888
Fire Department	575-746-2701
Local Emergency Planning Committee	575-746-2122
New Mexico Oil Conservation Division	575-748-1283
Carlsbad	
Ambulance	911
State Police	575-885-3137
City Police	575-885-2111
Sheriff's Office	575-887-7551
Fire Department	575-887-3798
Local Emergency Planning Committee	575-885-3581
Santa Fe	
New Mexico Emergency Response Commission (Santa Fe)	505-476-9600
New Mexico Emergency Response Commission (Santa Fe) 24 hrs	505-827-9126
New Mexico State Emergency Operations Center	505-476-9635
National	
Carlsbad BLM	575-234-5972
National Emergency Response Center (Washington, D.C.)	800-424-8802
Medical	
Flight for Life- 4000 24th St.; Lubbock, TX	806-743-9911
Aerocare- R3, Box 49F; Lubbock, TX	806-747-8923
Med Flight Air Ambulance- 2301 Yale Blvd S.E., D3; Albuquerque, NM	505-842-4433
SB Air Med Service- 2505 Clark Carr Loop S.E.; Albuquerque, NM	505-842-4949

Other		
Boots & Coots IWC	800-256-9688	or 281-931-8884
Cudd Pressure Control	432-699-0139	or 432-563-3356
Haliburton	575-746-2757	
B.J. Services	575-746-3569	

H2S Rig Layout

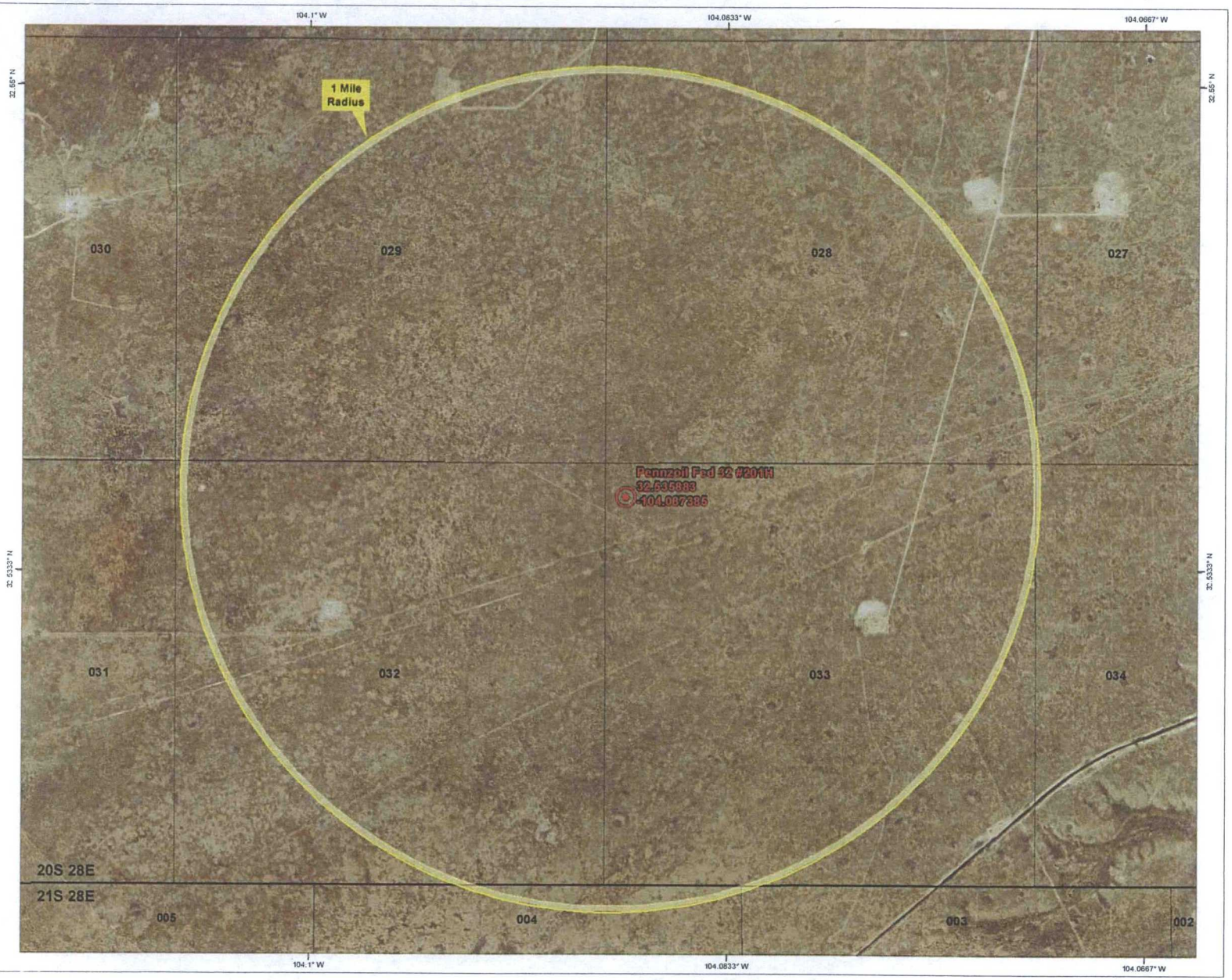
Pennzoil 32 Fed 201H
Eddy County, NM
(not to scale)



Matador Production Company

Pennzoil Fed 32 #201H
H_2S Contingency Plan:
1 Mile Radius Map

Section 33, Township 20S, Range 29E
Eddy County, New Mexico



Surface Hole Location

1:13,500

0 0.125 0.25 0.5

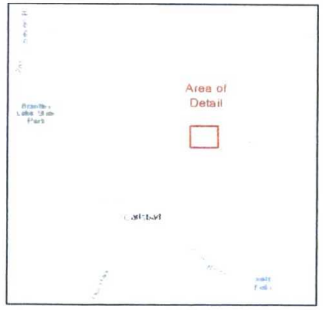
Miles

N

NAD 1927 New Mexico State Plane East
FIPS 3001 Feet

PERMITS WEST

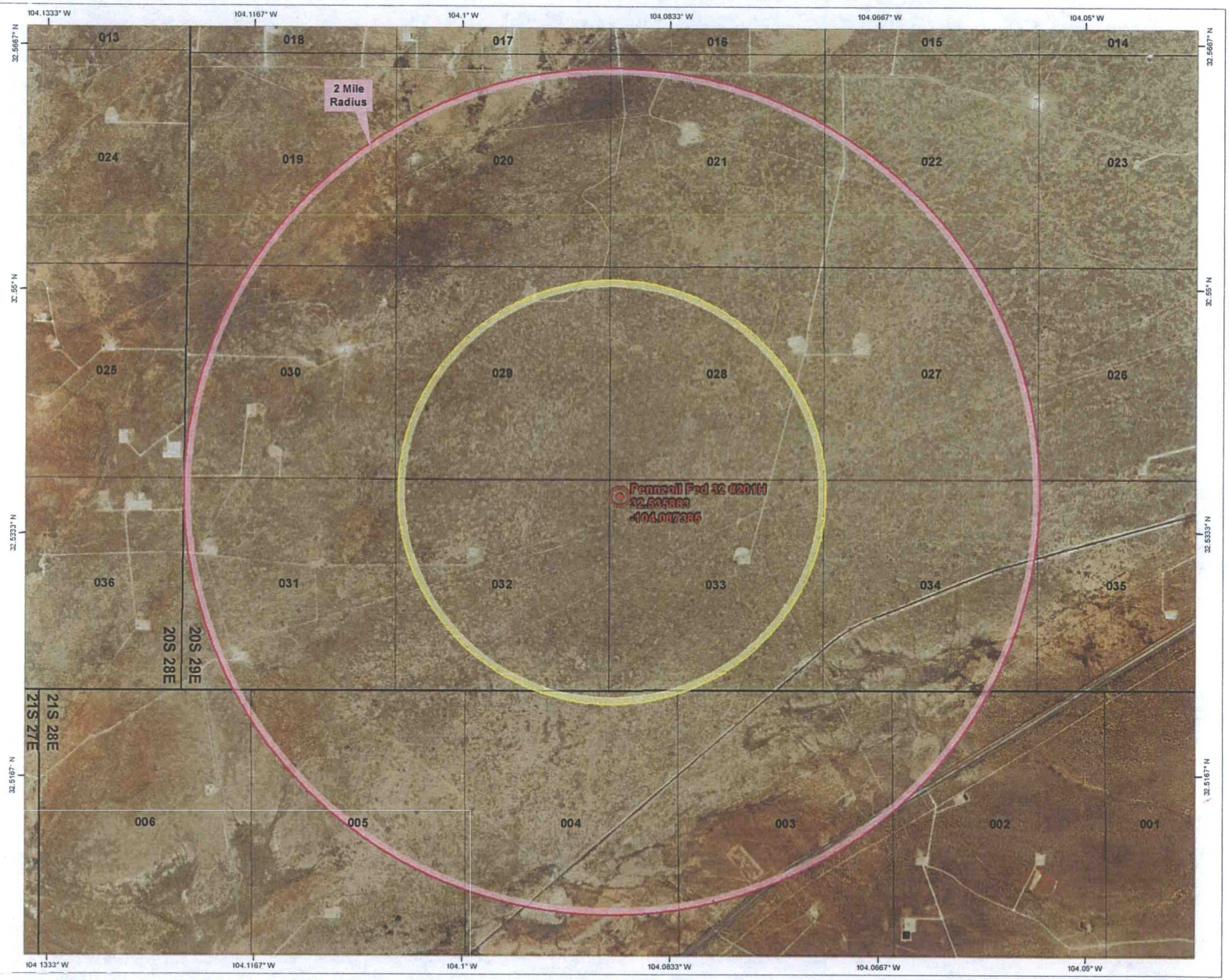
Prepared by Permits West, Inc., October 9, 2016
for Matador Production Company



Matador Production Company

Pennzoil Fed 32 #201H
H_2S Contingency Plan:
2 Mile Radius Map

Section 33, Township 20S, Range 29E
Eddy County, New Mexico



Surface Hole Location

1:27,000

0 0.25 0.5 1

Miles

N

NAD 1927 New Mexico State Plane East
FIPS 3001 Feet

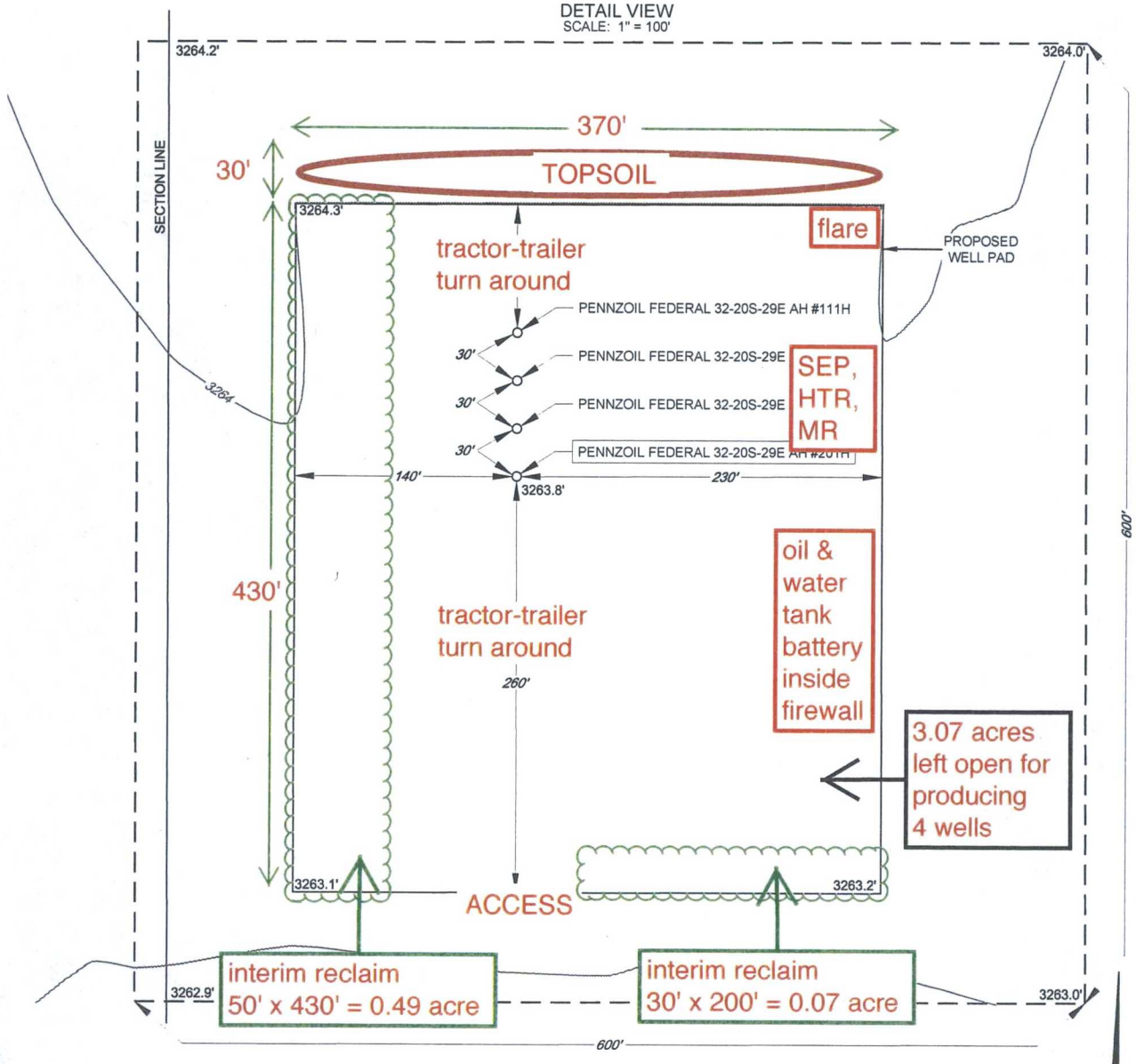
PERMITS WEST

Prepared by Permits West, Inc., October 9, 2016
for Matador Production Company

Matador PRODUCTION COMPANY

SECTION 33, TOWNSHIP 20-S, RANGE 29-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

DETAIL VIEW
SCALE: 1" = 100'



LEGEND

SECTION LINE

ARCH SITE

LEASE NAME & WELL NO.: PENNZOIL FEDERAL 32-20S-29E AH #201H

#201H LATITUDE N 32.5358835 #201H LONGITUDE W 104.0873849

SCALE: 1" = 100'
0' 50' 100'

PRODUCTION FACILITY & INTERIM RECLAMATION DIAGRAM

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE OF THE NORTH AMERICAN DATUM 1927, U.S. SURVEY FEET

THIS PROPOSED PAD SITE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY MATADOR PRODUCTION COMPANY. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
WWW.TOPOGRAPHIC.COM

ORIGINAL DOCUMENT SIZE: 8.5" X 11"

S:\SURVEY\MATADOR_RESOURCES\PENNZOIL_FEDERAL_32-20S-29E_AH_201H\FINAL_PRODUCTS\LO_PENNZOIL_FEDERAL_32-20S-29E_AH_201H_REV1.DWG 8/2/2016 11:59:09 AM aflores

Matador Production Company
Pennzoil 32 Fed 201H
SHL 420' FNL & 220' FWL Sec. 33
BHL 330' FNL & 240' FWL Sec. 32
T. 20 S., R. 29 E., Eddy County, NM

Surface Use Plan

1. ROAD DIRECTIONS & DESCRIPTIONS (See MAPS 1-4)

From the junction of US 285 and Us 62/180 in Carlsbad...
Go East 14.4 miles on paved US 62/180 to the equivalent of Mile Post 49.4
Then turn left and go North 2.1 miles on paved County Road 238
Then turn left and go West 1.95 mile on paved County Road 238
Then turn left and go South 1.95 mile on a caliche road.
Then turn right and go Southwest 3844.67' cross-country
Then turn right and go Northwest 550.31' cross-country to the proposed pad

Non-county roads will be maintained as needed to Gold Book standards. This includes pulling ditches, preserving the crown, and cleaning culverts. This will be done at least once a year, and more often as needed. Caliche will be hauled from the existing Constructors, Inc. pit on private land in NWNE 34-21s-27e.

2. ROAD TO BE BUILT OR UPGRADED (See MAPS 2-4)

The 4394.98' of new road to the well will be crowned and ditched, have a 14' wide driving surface, and be surfaced with caliche. Maximum disturbed width = 30'. Maximum grade = 1%. Maximum cut or fill = 2'.

A cattle guard and gate will be installed in the fence that is crossed (segment A5). Straw wattles will be installed on the north side of the road along segments A2 and A3. Borrow ditches will turn out every ≈500', except on the north side of Segments A2 and A3. No culvert or vehicle turn out is needed.

Upgrading of will consist of filling potholes with caliche on the existing road.

3. EXISTING WELLS (See MAP 2)

Gas and P & A wells are within a mile. No oil, injection, disposal, or water well is within a mile.

4. PROPOSED PRODUCTION FACILITIES (See MAPS 3 & 5)

A tank battery will be built on the east side of the pad. A ≈6" O. D. steel gas line will be buried 4354.61' parallel to the new road. Power line plans have not been finalized.

5. WATER SUPPLY (See MAPS 1-4)

Water will be trucked from existing water wells (C 0370 & C 03607) on private land in NENE 24-21s-27e.

6. CONSTRUCTION MATERIALS & METHODS (See MAPS 10 & 11)

NM One Call (811) will be notified before construction starts. Top ≈6" of soil and brush will be stockpiled north of the pad. Pipe racks will be to the east. A closed loop drilling system will be used. Caliche will be hauled from the existing Constructors, Inc. pit on private land in NWNE 34-21s-27e.

7. WASTE DISPOSAL

All trash will be placed in a portable trash cage. It will be hauled to the Eddy County landfill. There will be no trash burning. Contents (drill cuttings, mud, salts, and other chemicals) of the mud tanks will be hauled to CRI's state approved (NM-01-0006) disposal site. Human waste will be disposed of in chemical toilets and hauled to the Carlsbad wastewater treatment plant.

8. ANCILLARY FACILITIES

There will be no airstrip or camp. Camper trailers will be on location for the company man, tool pusher, or mud logger.

9. WELL SITE LAYOUT

See Rig Diagram for depictions of the well pad, trash cage, access onto the location, parking, living facilities, and rig orientation.

10. RECLAMATION

Interim reclamation will consist of shrinking the pad ≈16% by removing caliche and reclaiming the west side (30' x 430') and southeast corner (30' x 200'), leaving 3.07 acres around the production equipment. Disturbed areas will be contoured to match pre-construction grades. Soil and brush will be evenly spread over disturbed areas. Disturbed areas will be seeded in accordance with BLM requirements. Enough stockpiled topsoil will be retained to cover the remainder of the pad when the wells are plugged. Once the last well is plugged, then the remainder of the pad and new road will be similarly reclaimed. Noxious weeds will be controlled.

11. SURFACE OWNER

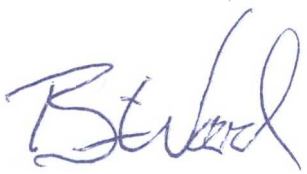
All construction will be on BLM

12. OTHER INFORMATION

On site inspection was held with Vance Wolf and Stan Allison (both BLM) on June 16, 2016. Matador will contribute to the archaeology fund.

CERTIFICATION

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U. S. C. 1001 for the filing of false statements. Executed this 10th day of November, 2016.



Brian Wood, Consultant
Permits West, Inc.
37 Verano Loop, Santa Fe, NM 87508
(505) 466-8120 FAX: (505) 466-9682 Cellular: (505) 699-2276

Field representative will be:

Sam Pryor, Senior Staff Landman
Matador Production Company
5400 LBJ Freeway, Suite 1500
Dallas TX 75240
Phone: (972) 371-5241
FAX: (214) 866-4841

PECOS DISTRICT
DRILLING OPERATIONS
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Matador Production Company
LEASE NO.:	NMNM04825
WELL NAME & NO.:	201H-Pennzoil 32 Fed
SURFACE HOLE FOOTAGE:	420'/N & 220'/W
BOTTOM HOLE FOOTAGE	330'/N & 240'/W, 32
LOCATION:	Section 33, T.20 S., R.29 E., NMPM
COUNTY:	Eddy County, New Mexico

Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	○ Low	○ Medium	◉ High
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	◉ Multibowl or Conventional	
Other	☒4 String Area	☒Capitan Reef	☐WIPP

A. Hydrogen Sulfide

1. Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

1. The **20** inch surface casing shall be set at approximately **520** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours

after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **13 3/8** inch first intermediate casing, which shall be set at approximately **970** feet, is:

   - Cement to surface. If cement does not circulate see B.1.a, c-d above. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.

❖ In **Medium/High Cave/Karst Areas** if cement does not circulate to surface on the first two casing strings , the cement on the 3rd casing string must come to surface.

3. The minimum required fill of cement behind the **9 5/8** inch second intermediate casing is:
   - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Capitan Reef.**

4. The minimum required fill of cement behind the **7 5/8 X 7** inch third intermediate casing is:
   - Cement should tie-back at least **50 feet above the Capitan Reef** (Top of Capitan Reef estimated at 1400'). **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Capitan Reef.**

5. The minimum required fill of cement behind the **5 1/2 X 4 1/2** inch production casing is:
   - Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Excess calculates to negative 41% - additional cement will be required.**

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M) annular**.

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13 3/8** inch first intermediate casing shoe shall be **2000 (2M)**.

Option 1:

i. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9 5/8** inch second intermediate casing shoe shall be **3000 (3M)** psi.

ii. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **7 5/8 X 7** inch third intermediate casing shoe shall be **5000 (5M)** psi.

Option 2:

i. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the second intermediate casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9 5/8** inch second intermediate casing shoe shall be **5000 (5M)** psi.

a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.

b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.

c. Manufacturer representative shall install the test plug for the initial BOP test.

d. <u>After the 9 5/8" casing has been landed and cemented, the operator will then lift up the BOP to install the 'D-section' of the wellhead. Therefore, per Onshore Oil and Has Order No. 2, the entire BOP/BOPE shall be tested prior to drilling out the second intermediate casing hole.</u>

e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

TMAK 03292018

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ Chaves and Roosevelt Counties
Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
During office hours call (575) 627-0272.
After office hours call (575)

☒ Eddy County
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. Operator shall perform the intermediate casing integrity test to 70% of the casing burst. This will test the multi-bowl seals.
    e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after

installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

e. The results of the test shall be reported to the appropriate BLM office.

f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Matador Production Company
LEASE NO.:	NMNM04825
WELL NAME & NO.:	201H-Pennzoil 32 Fed
SURFACE HOLE FOOTAGE:	420'/N & 220'/W
BOTTOM HOLE FOOTAGE	330'/N & 240'/W, 32
LOCATION:	Section 33, T.20 S., R.29 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Cave and Karst Conditions of Approval for APDs

** Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production.

Construction:
In the advent that any underground voids are opened up during construction activities, construction activities will be halted and the BLM will be notified immediately.

No Blasting:
No blasting will be utilized for pad construction. The pad will be constructed and leveled by adding the necessary fill and caliche.

Pad Berming:
The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.

- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g. caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised. (Any access road crossing the berm cannot be lower than the berm height.)

Tank Battery Liners and Berms:
Tank battery locations and all facilities will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing, or equivalent, to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Leak Detection System:
A method of detecting leaks is required. The method could incorporate gauges to measure loss, situating values and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

Automatic Shut-off Systems:
Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and ground water concerns:

Rotary Drilling with Fresh Water:
Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Directional Drilling:
Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

Lost Circulation:
ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported in the drilling report.

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:
Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:
Annual pressure monitoring will be performed by the operator on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

MITIGATING MEASURES for ROADS:

- A two (2) foot sand bag berm will be constructed along the north side of the road at segments A and B reroute around a sinkhole. The berm will be maintained for the life of the project.
- Roads will be routed around sinkholes and other karst features to avoid or lessen the possibility of encountering near surface voids and to minimize changes to runoff or possible leaks and spills from entering karst systems.
- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction and no further construction will be done until clearance has been issued by the Authorized Officer.
- Turnout ditches and drainage leadoffs will not be constructed in such a manner as to increase or decrease the natural flow of water into or out of cave or karst features.
- Special restoration stipulations or realignment may be required.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

Watershed

- The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The berm shall be maintained through the life of the well and after interim reclamation has been completed.
- Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching
Ditching shall be required on both sides of the road.

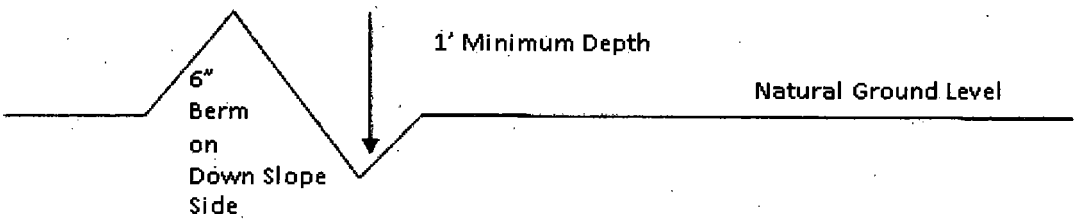
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ lead-off ditch interval

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

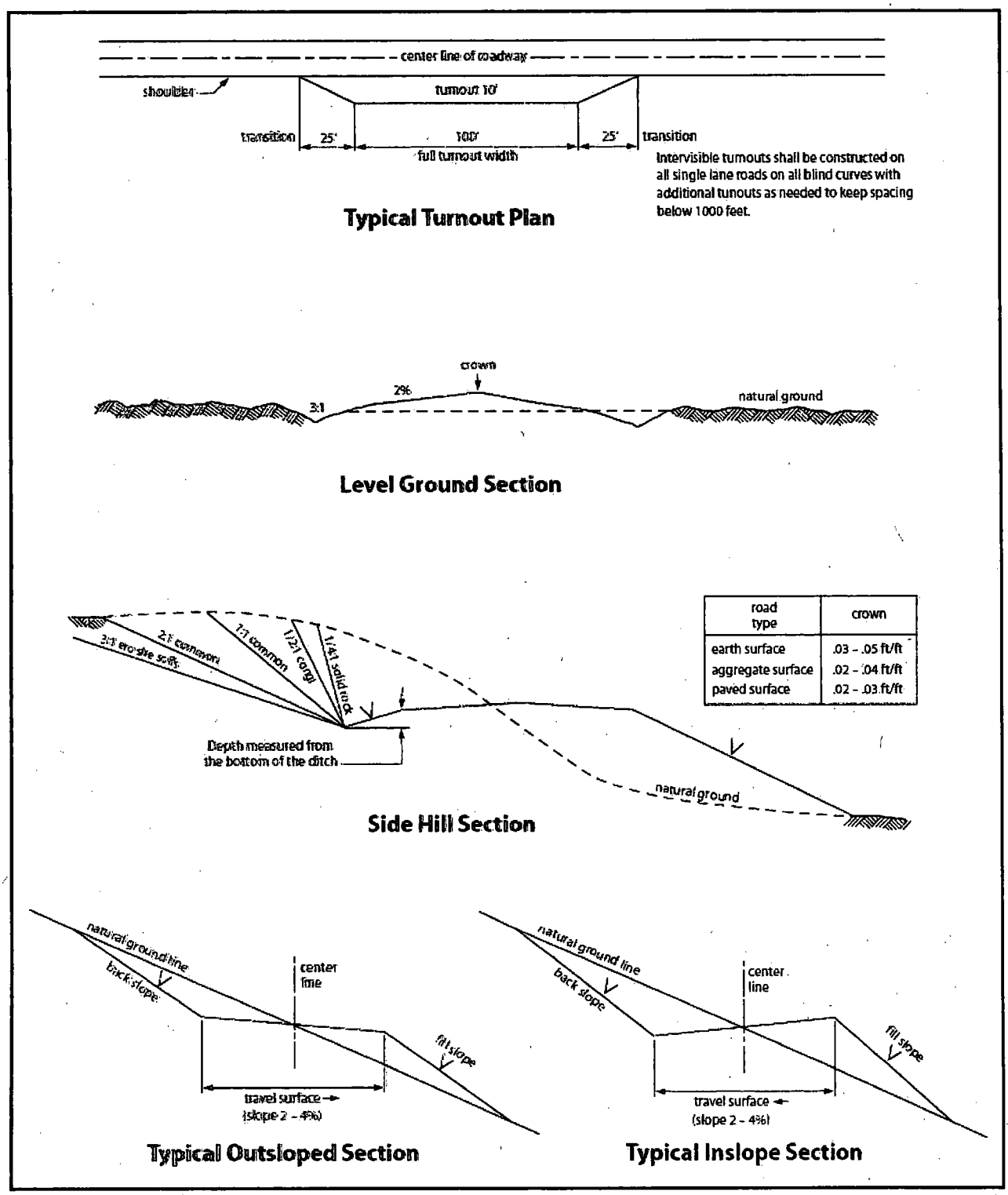


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of

the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of **36** inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be **30** feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed **20** feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation.*)

- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed **30** feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)

- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

( ) seed mixture 1 ( ) seed mixture 3

() seed mixture 2 (X) seed mixture 4

( ) seed mixture 2/LPC ( ) Aplomado Falcon Mixture

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

17. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes associated roads, pipeline corridor and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

18. Escape Ramps - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

VIII. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

IX. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Mixture 4, for Gypsum Sites

The holder shall seed all the disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Alkli Sacaton (*Sporobolus airoides*)	1.5
DWS~ Four-wing saltbush (*Atriplex canescens*)	8.0

~DWS: DeWinged Seed

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed