R-111-POTASH

ATS-15-23

NM OIL CONSERVATION
ARTESIA DISTRICT
JUN 15 2015
RECEIVED

Form 3160-3
(March 2012)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

BHL

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NM-86913 NMLC076207 -SHL

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.

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

8. Lease Name and Well No.
Rafter BJI Federal Com #3H

2. Name of Operator Yates Petroleum Corporation

9. API Well No.
30-015-43228

3a. Address 105 S. Fourth St.
Artesia, NM 88210

3b. Phone No. *(include area code)*
575-748-4120

10. Field and Pool, or Exploratory
Wildcat 2nd Bone Spring sand

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface 290' FSL & 2170' FEL
At proposed prod. zone 330' FNL & 1980' FEL

Non-Standard Location

11. Sec., T. R. M. or Blk. and Survey or Area
Section 11, T20S - R30E

14. Distance in miles and direction from nearest town or post office*
15 miles northeast of Carlsbad

12. County or Parish
Eddy County

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 290'

16. No. of acres in lease
1040 acres

17. Spacing Unit dedicated to this well
W2E2
160 acres

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1700'

19. Proposed Depth
8619' TVD
13077' TD

20. BLM/BIA Bond No. on file
NMB 000434
NMB 000920

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3253'

22. Approximate date work will start*

23. Estimated duration
30 days

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
Name *(Printed/Typed)* Travis Hahn
Date 09/02/2014

Title
Land Regulatory Agent

Approved by *(Signature)*
Name *(Printed/Typed)*
Date JUN 10 2015

Title FIELD MANAGER
Office CARLSBAD FIELD OFFICE

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.

APPROVAL FOR TWO YEARS

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)

KPD 2/17/15

Carlsbad Controlled Water Basin

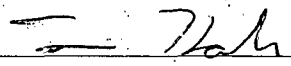
Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

CERTIFICATION
YATES PETROLEUM CORPORATION
Rafter BJI Federal Com #3H

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; and an someone under employment of Yates Petroleum Corporation has full knowledge of state and federal laws applicable to the 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 2 day of September 2014

Signature 

Name Travis Hahn

Position Title Land Regulatory Agent

Address 105 South Fourth Street, Artesia, New Mexico 88210

Telephone (575) 748-4120

Field Representative (if not above signatory) Tim Bussell, Drilling Supervisor

Address (if different from above) Same as above

Telephone (if different from above) (575) 748-4221

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone (575) 393-6161 Fax: (575) 393-0720
DISTRICT II
811 S. First St., Artesia, NM 88210
Phone (575) 748-1283 Fax: (575) 748-9720
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone (505) 334-6178 Fax: (505) 334-6170
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3460 Fax: (505) 476-3462

NM OIL CONSERVATION
ARTESIA DISTRICT
JUN 15 2015
RECEIVED

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-43228	96688	~~HackBerry~~ Gatuna Canyon; Bone Spring, ~~South~~

Property Code	Property Name	Well Number
313546	RAFTER BJI FEDERAL COM	3H

OGRID No.	Operator Name	Elevation
025575	YATES PETROLEUM CORP.	3253

Surface Location

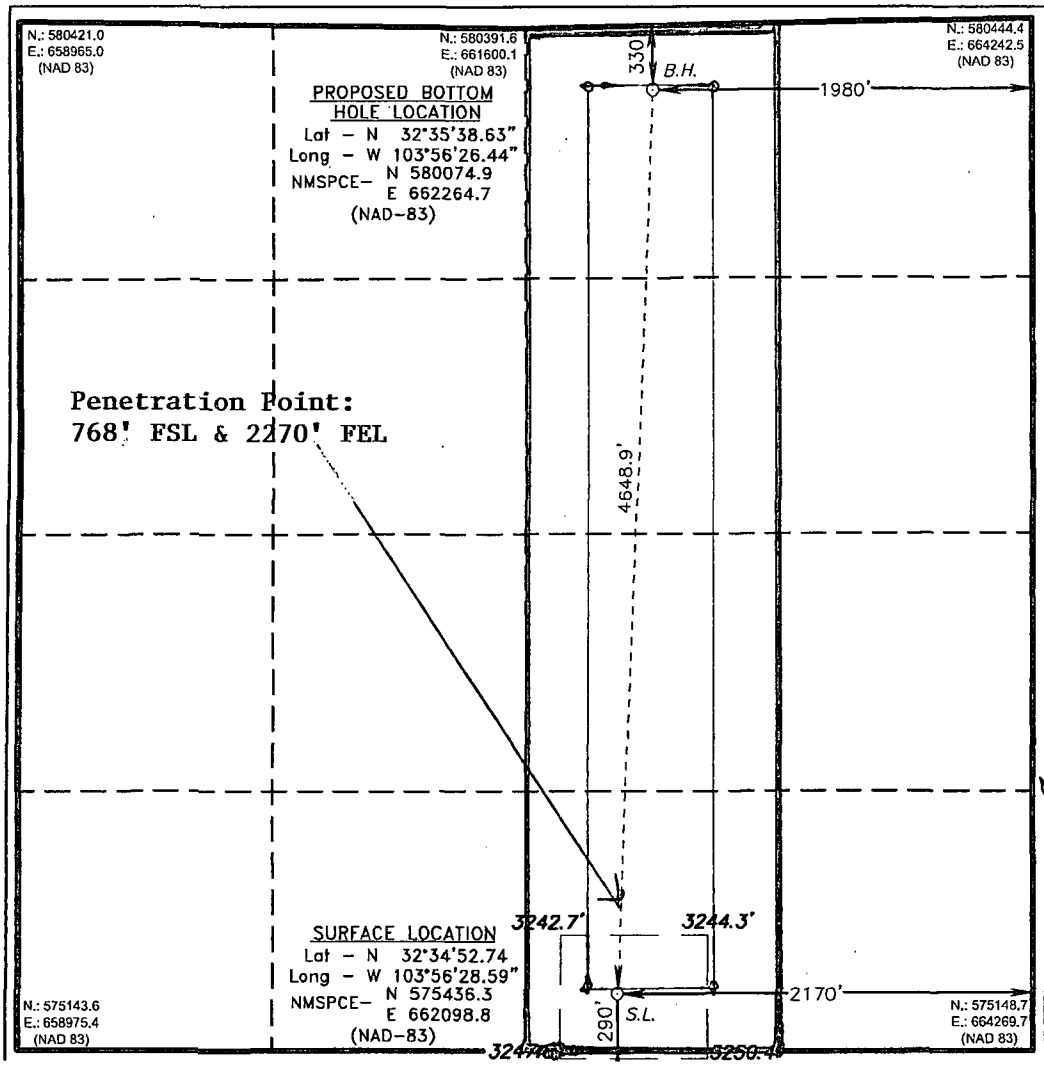
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	11	20 S	30 E		290	SOUTH	2170	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	11	20 S	30 E		330	NORTH	1980	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unLEAsed mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature — Date: 9/2/14

Travis Hahn
Printed Name

thahn@yatespetroleum.com
Email Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervison, and that the same is true and correct to the best of my belief.

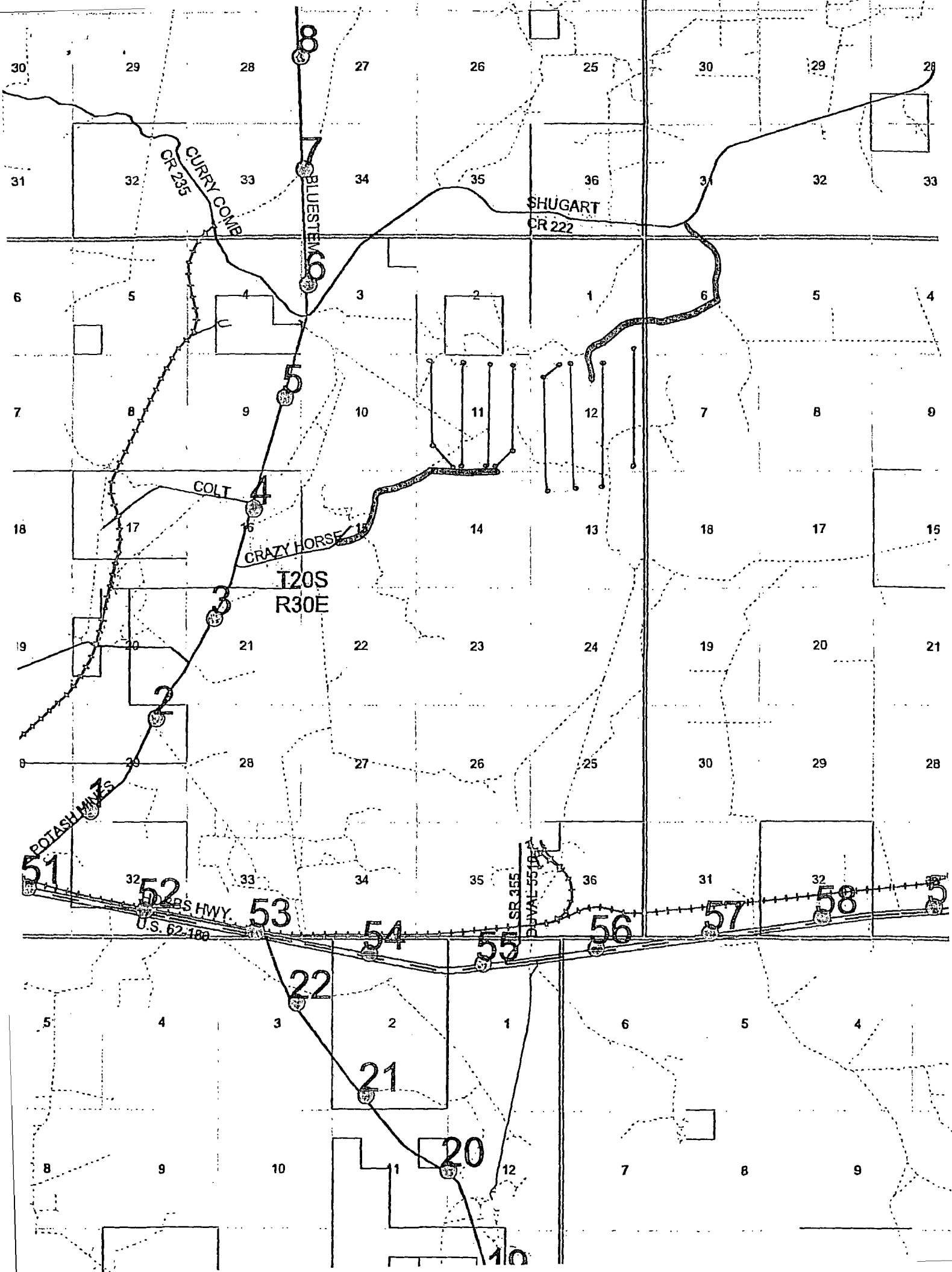
JUNE 02, 2014
Date Surveyed

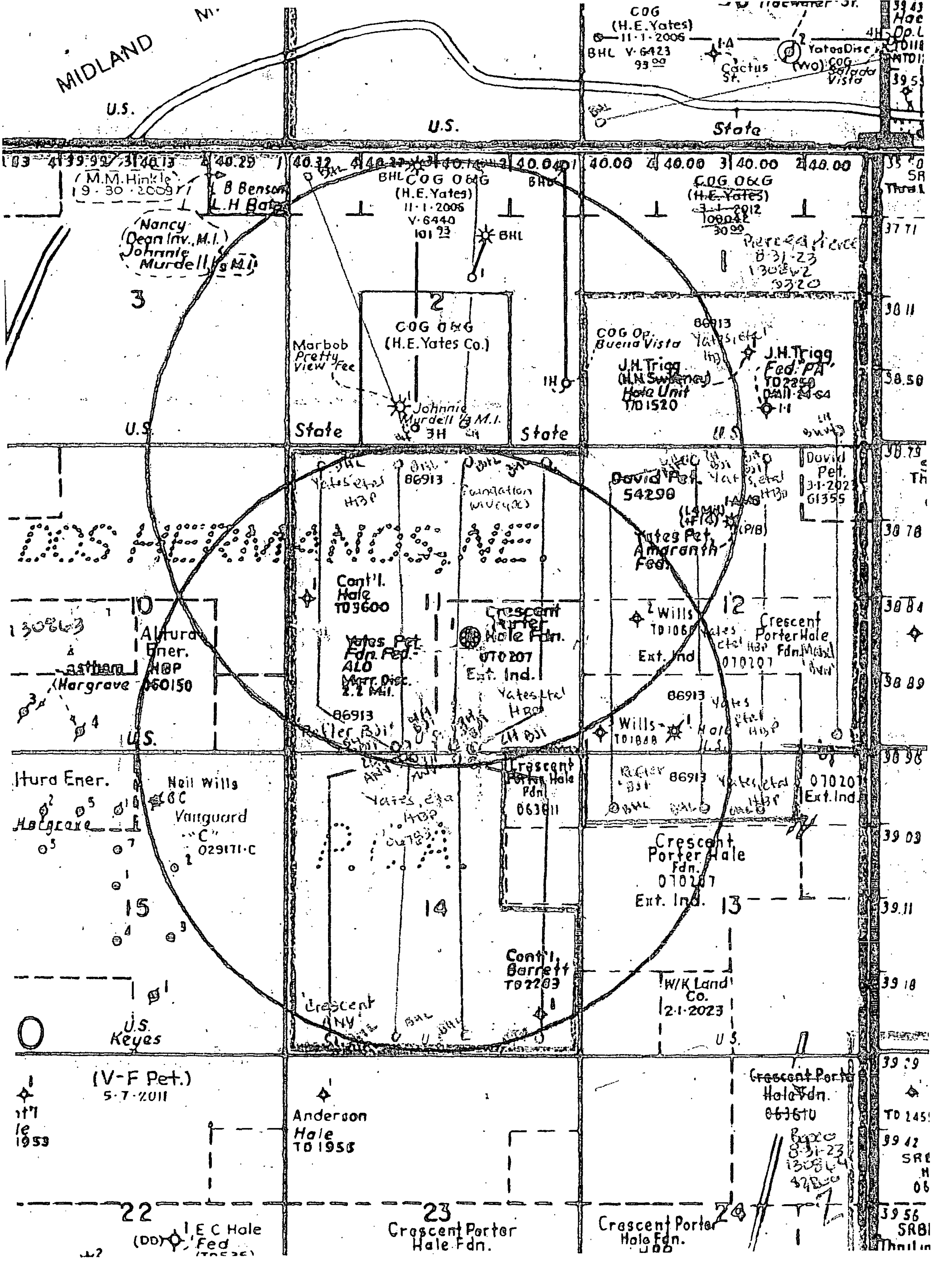
Signature & Seal of Professional Surveyor

NEW MEXICO — GARY L. JONES — 7977 — REGISTERED PROFESSIONAL LAND SURVEYOR

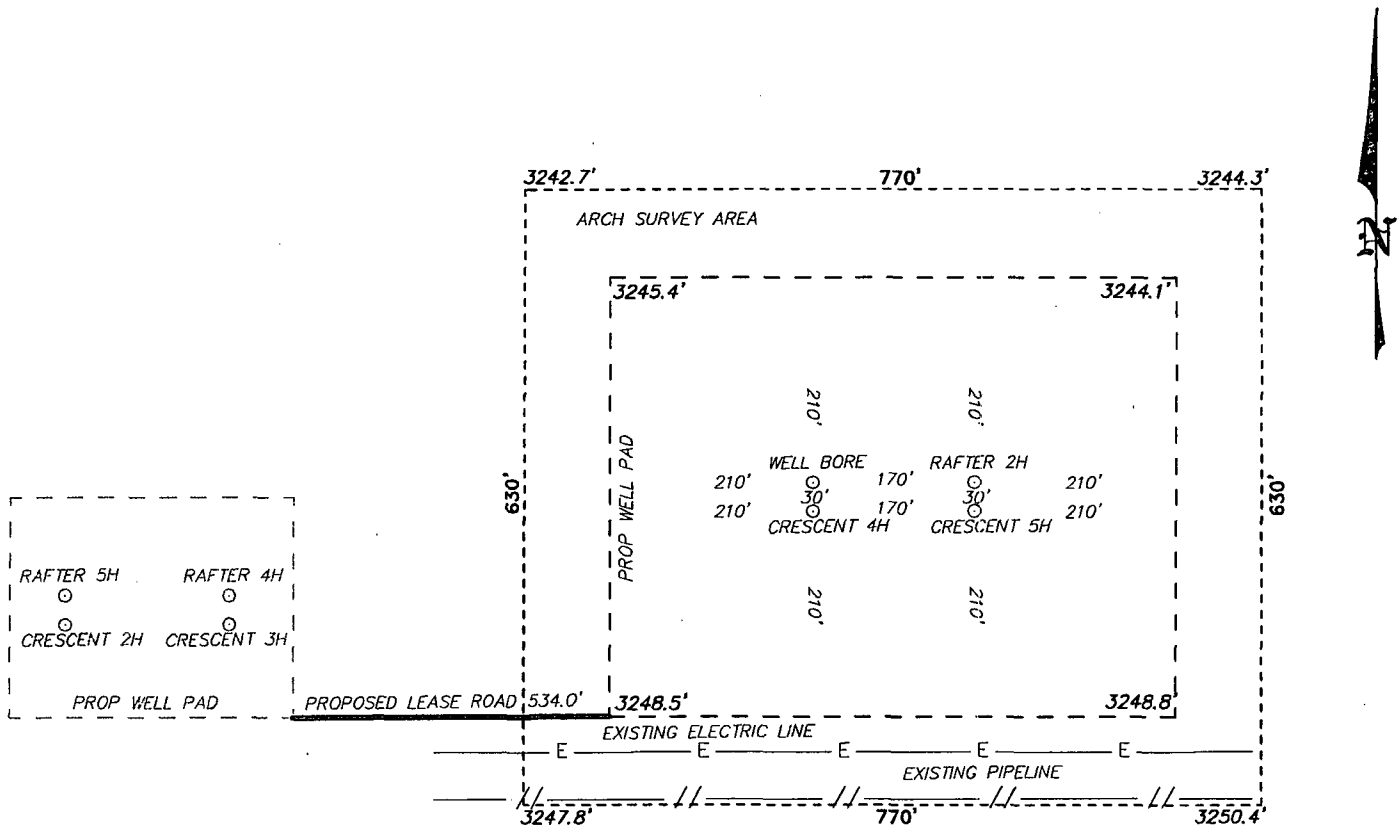
Certificate Number Gary L. Jones 7977
BASIN SURVEYS

0' 500' 1000' 1500' 2000'
SCALE: 1" = 1000'
WO Num.: 30513


CURRY COMB
CR 235
BLUESTEM
SHUGART
CR 222
COLT
CRAZY HORSE
T20S
R30E
POTASH MINES
HOBBS HWY.
U.S. 62-180
SR 355
DUVAL 5518


MIDLAND
U.S.
State
COG (H.E.Yates) 11-1-2006 BHL V-6423 93
Cactus St.
M.M. Hinkle 9-30-2009
L.B Benson
L.H Bate
Nancy Dean Inv., M.I.
Johnnie Murdell 1/3 M.I.
3
COG O&G (H.E.Yates) 11-1-2006 V-6440 101
COG O&G (H.E.Yates) 3-1-2012 100042 3000
2
COG O&G (H.E.Yates Co.)
Marbob Pretty View Fee
Johnnie Murdell 1/3 M.I.
COG Op. Buena Vista
J.H.Trigg (H.N.Sweeney) Hale Unit TD1520
J.H.Trigg Fed. PA TD2850
David Pet. 54290
Yates Pet. Amaranth Fed.
DOS HERMANOS NE
Cont'l. Hale TD3600
11
Crescent Porter Hale Fdn. 070207 Ext. Ind.
Yates Pet. Fdn. Fed. ALO Marr. Disc. 2.2 Mil.
10
Altura Ener. HBP 060150
Hargrave
12
Wills TD1068
Crescent Porter Hale Fdn.
Ext. Ind
86913
Wills TD1868
Crescent Porter Hale Fdn. 063811
Neil Wills
Vanguard "C" 029171-C
Altura Ener.
Hargrave
15
14
Crescent Porter Hale Fdn. 070207 Ext. Ind.
13
Cont'l. Barrett TD2203
W/K Land Co. 2-1-2023
U.S.
Keyes
(V-F Pet.) 5-7-2011
Anderson Hale TD1958
Crescent Porter Hale Fdn. 063610
22
23
24
E C Hale Fed
Crescent Porter Hale Fdn.
Crescent Porter Hale Fdn.

SECTION 11, TOWNSHIP 20 SOUTH, RANGE 30 EAST, N.M.P.M.,
EDDY COUNTY, **NEW MEXICO.**



YATES PETROLEUM CORP.
RAFTER BJI FEDERAL COM #3H
ELEV. – 3253'
Lat – N 32°34'52.74
Long – W 103°56'28.59"
NMSPCE– N 575436.3
E 662098.8
(NAD–83)

CARLSBAD, NM IS ±20 MILES TO THE SOUTHWEST OF LOCATION.

200 0 200 400 FEET
SCALE: 1" = 200'

Directions to Location:

FROM HWY 180 AND HWY 360, GO NORTH ON HWY 360 3.8 MILES, TURN RIGHT ONTO CRAZY HORSE ROAD FOR 1.5 MILES, STAY RIGHT ONTO EXISTING LEASE ROAD FOR ABOUT A MILE TO PROPOSED LEASE ROAD ON RIGHT.

YATES PETROLEUM CORPORATION

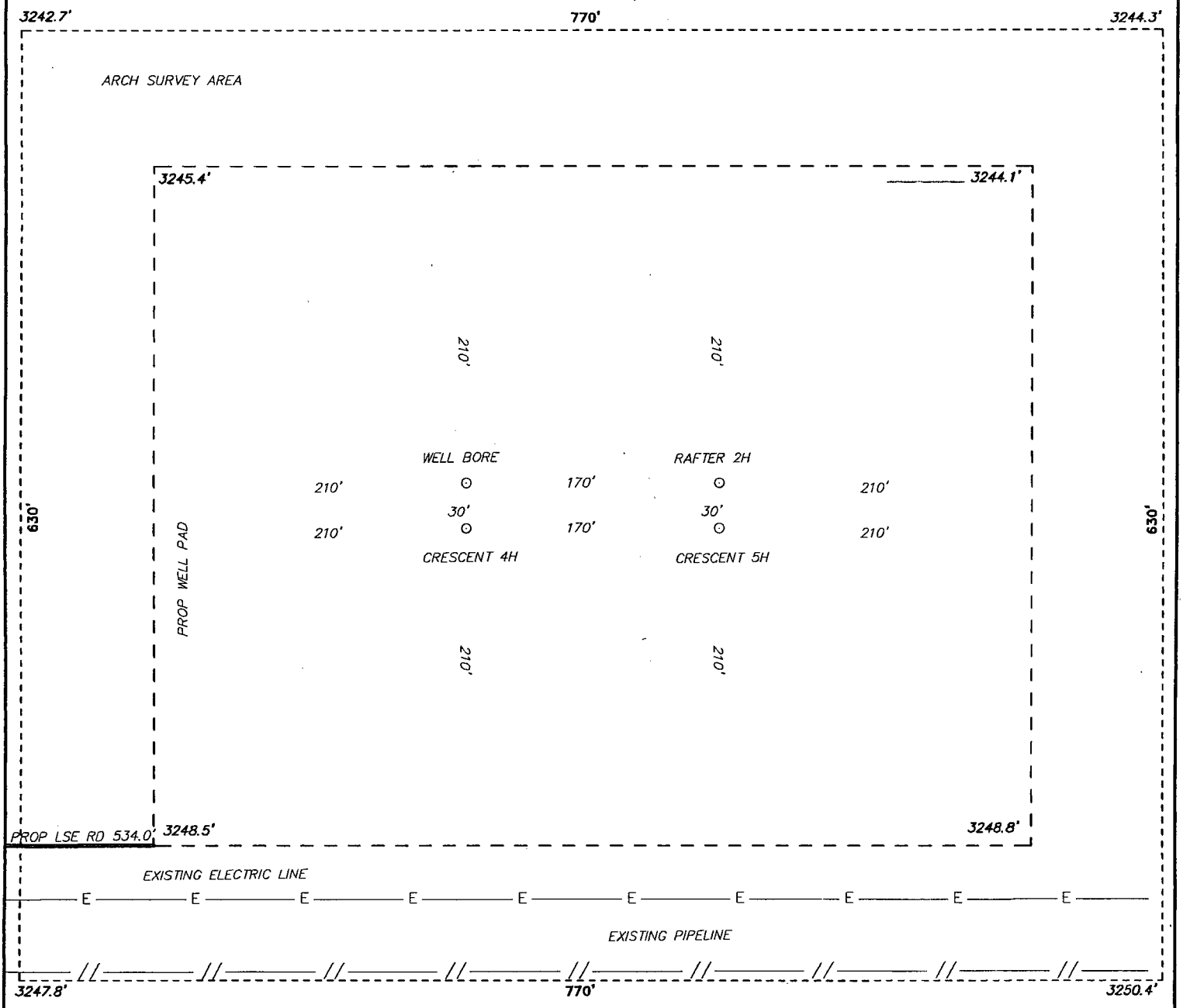
REF: RAFTER BJI FEDERAL COM #3H / WELL PAD TOPO

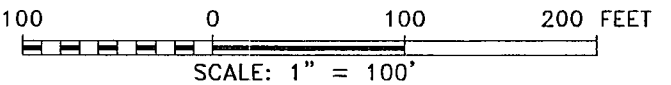
THE RAFTER BJI FEDERAL COM #3H LOCATED 290' FROM THE SOUTH LINE AND 2170' FROM THE EAST LINE OF SECTION 11, TOWNSHIP 20 SOUTH, RANGE 30 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

Basin Surveys
focused on excellence in the oilfield
P.O. Box 1786 (575) 393-7316 – Office
1120 N. West County Rd. (575) 392-2206 – Fax
Hobbs, New Mexico 88241 basinsurveys.com

W.O. Number: 30513 | Drawn By: K. NORRIS | Date: 06-09-2014 | Survey Date: 06-02-2014 | Sheet 1 of 1 Sheets

SECTION 11, TOWNSHIP 20 SOUTH, RANGE 30 EAST, N.M.P.M.,
EDDY COUNTY, **NEW MEXICO.**





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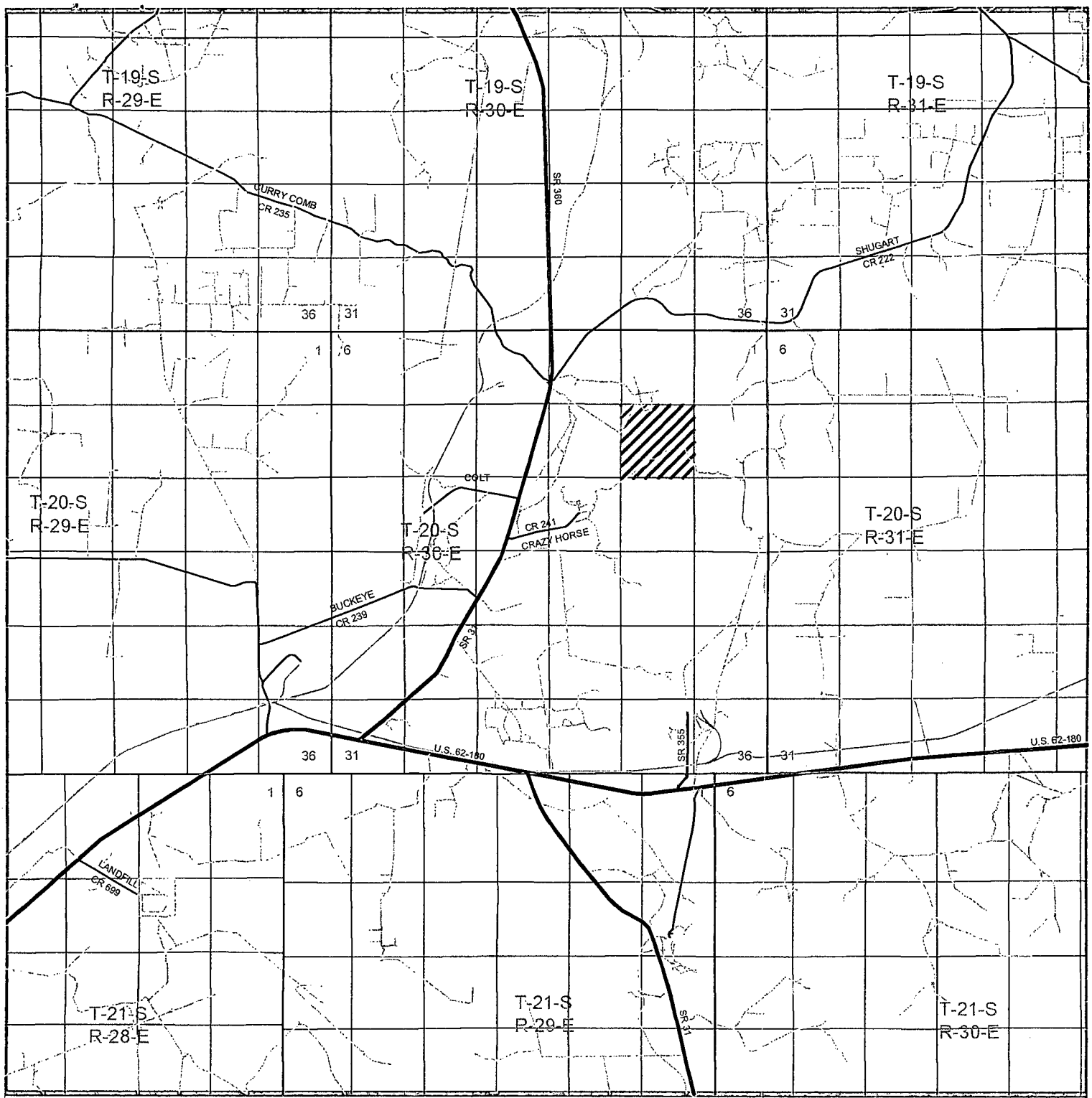

RAFTER BJI FEDERAL COM #3H
Located 290' FSL and 2170' FEL
Section 11, Township 20 South, Range 30 East, N.M.P.M., EDDY County, New Mexico.

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basinsurveys.com

0 1 MI 2 MI 3 MI 4 MI
SCALE: 1" = 2 MILES

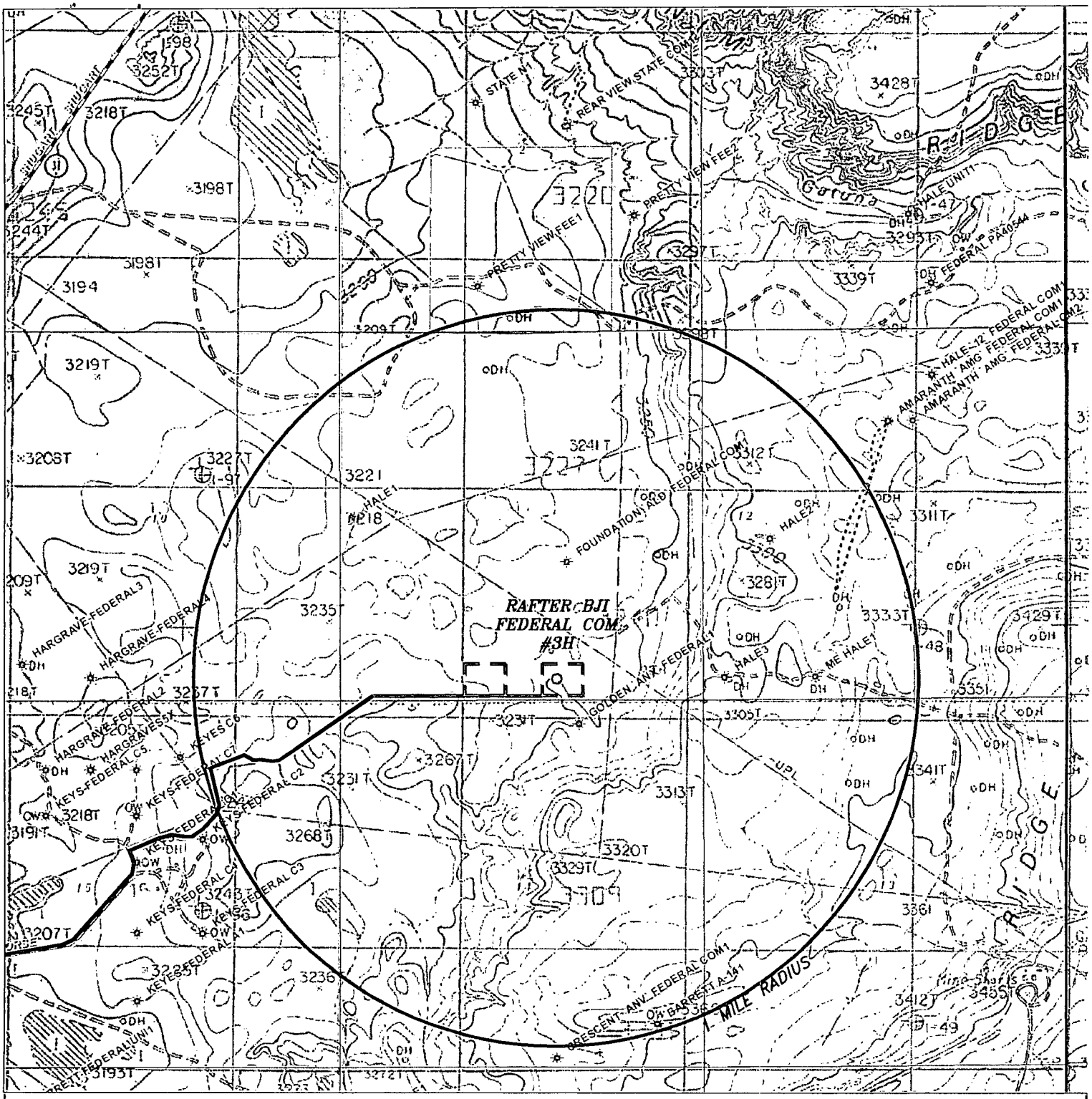
W.O. Number: KAN 30513

Survey Date: 06-02-2014

YELLOW TINT - USA LAND
BLUE TINT - STATE LAND
NATURAL COLOR - FEE LAND

N

YATES PETROLEUM CORPORATION



RAFTER BJI FEDERAL COM #3H

Located 290' FSL and 2170' FEL

Section 11, Township 20 South, Range 30 East, N.M.P.M., EDDY County, New Mexico.

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Hobbs, New Mexico 88241
(575) 393-7316 - Office
(575) 392-2206 - Fax
basinsurveys.com

0' 1000' 2000' 3000' 4000'

SCALE: 1" = 2000'

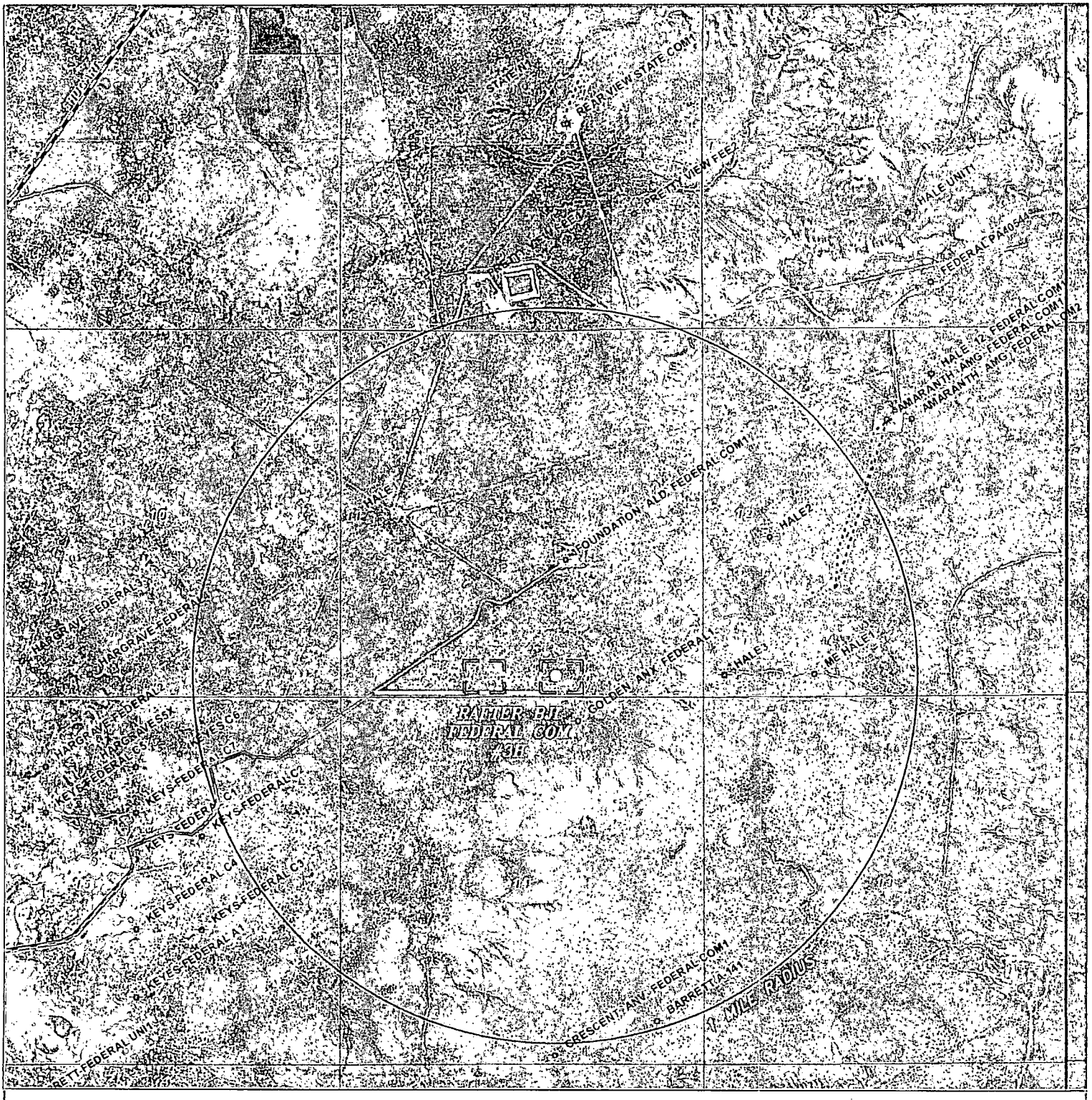
W.O. Number: KAN 30513

Survey Date: 06-02-2014

YELLOW TINT - USA LAND
BLUE TINT - STATE LAND
NATURAL COLOR - FEE LAND

N

YATES PETROLEUM CORPORATION



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Located 290' FSL and 2170' FEL

Section 11, Township 20 South, Range 30 East, N.M.P.M., EDDY County, New Mexico.

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0' 1000' 2000' 3000' 4000'

SCALE: 1" = 2000'

W.O. Number: KAN 30513

Survey Date: 06-02-2014

YELLOW TINT – USA LAND
BLUE TINT – STATE LAND
NATURAL COLOR – FEE LAND

N

YATES PETROLEUM CORPORATION

YATES PETROLEUM CORPORATION
Rafter BJI Federal Com #3H
290' FSL & 2170' FEL, Section 11 –T20S-R30E, Surface Hole
330' FNL & 1980' FEL, Section 11 – T20S-R30E, Bottom Hole
Eddy County, New Mexico

1. The estimated tops of geologic markers are as follows:

Rustler	476'	Bone Spring Lime	6541'
Top of Salt	516'	Avalon Sand	6706' Oil
Base of Salt	1286'	Middle Avalon	6931' Oil
Tansill	1376'	Lower Avalon	7291' Oil
Yates	1436'	Bone Springs 1/SD	7761' Oil
Capitan Reef	1871'	Bone Springs 2/SD	8399' Oil
Cherry Canyon	4071'	Target Zone SBSG	8910' Oil
Brushy Canyon	5011' Oil	TD	13073'

2. The estimated depths at which anticipated water, oil or gas formations are expected to be encountered:

Water: Approx.: 0' - 500', 1871'
Oil or Gas: See above--All Potential Zones

3. Pressure Control Equipment: A 3000 PSI BOP with a 13 5/8" opening will be installed on the 13 3/8" casing and a 5000 PSI BOP will be installed on the 9 5/8" casing. Test will be conducted by an independent tester, utilizing a test plug in the well head. 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 on each segment of the system tested if test is done with a test plug and 30 minutes without a test plug. Blind rams and pipe rams will be tested to the rated pressure of the BOP. Any leaks will be repaired at the time of the test. Annular preventers will be tested to 50% of rated pressure. Accumulator system will be inspected for correct pre charge pressures, and proper functionality, prior to connection to the BOP system. Tests will be conducted before drilling out from under all casing strings, which are set and cemented in place. Blowout Preventer controls will be installed prior to drilling the surface plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. See Exhibit.

See COA

See COA

Per ATTached Documentation Variance is Requested For Use

4. Auxiliary Equipment: oF A Flexible line from BOP To choke manifold.

A. Auxiliary Equipment: Kelly cock, pit level indicators, flow sensor equipment and a sub with full opening valve to fit the drill pipe and collars will be available on the rig floor in the open position at all times for use when kelly is not in use.

5. THE PROPOSED CASING AND CEMENTING PROGRAM:

See COA

A. Casing Program: (All New) 13 3/8" will be H-40/J-55 Hybird

Hole Size	Casing Size	Wt./Ft	Grade	Coupling	Interval	Length
36"	30"	N/A	H-40	ST&C	0'-85'	85'
26"	20"	94#	H-40	ST&C	0'-500'	500'
17 1/2"	13 3/8"	54.5#	J-55	ST&C	0'-80'	80'
17 1/2"	13 3/8"	48#	J-55	ST&C	80'-1200'	1120'
17 1/2"	13 3/8"	54.5#	J-55	ST&C	1200'-1700' ✓	500'
12 1/4"	9 5/8"	40#	J-55	LT&C	0'-80'	80'
12 1/4"	9 5/8"	36#	J-55	LT&C	80'-3700'	3620'
12 1/4"	9 5/8"	40#	J-55	LT&C	3700'-4100'	400'
8 3/4"	5 1/2"	17#	P-110	Buttress Thread	4100'-8910'	4810'
8 1/2"	5 1/2"	17#	P-110	Buttress Thread	8910'-13077'	4163'

See COA

See COA

See COA

Minimum Casing Design Factors: Burst 1.0, Tensile 1.8, Collapse 1.125

B. CEMENTING PROGRAM:

Surface casing (0'-500'): Lead with 1225 sacks of Class PozC 35:65:6 (YLD 2.0, WT 12.5, H2O gal/sack 11.0). Tail with 205 sacks of Class PozC 50/50 (YLD 1.34, WT 14.2, H2O gal/sack 6.2) designed with 100% excess, TOC is surface.

Intermediate 1 Cement (0'-1700'): Lead with 1040 sacks of Class PozC 35:65:6 (YLD 2.0, WT 12.5, H2O gal/sack 11.0); tail in with 205 sacks of Class PozC 50/50 (YLD 1.34, WT 14.2, H2O gal/sack 6.2). Designed with 100% excess, TOC is surface.

See COA

Intermediate 2 Cement, Stage 2 (0'-1850'): Lead with 440 sacks of Class 35:65:6PzC (YLD 2.0, WT 11.5, H2O gal/sack 11.0); tail in with 210 sacks of Class PozC 50/50 (YLD 1.34, WT 14.2, H2O gal/sack 6.2). Designed with 100% excess, TOC is surface.

Intermediate 2 Cement, Stage 1 (1850'-4100'): Lead with 565 sacks of Class 35:65:6PzC (YLD 2.0, WT 12.5, H2O 11.0); tail in with 210 sacks of Class PozC 50/50 (YLD 1.34, WT 14.2, H2O gal/sack 6.2). Designed with 100% excess, TOC is surface.
(The intermediate #2 string will be set at approximately 4100' to protect the Capitan from the oil producing Delaware zone. It will be cemented to surface in two stages with a packer stage tool at approximately 1850' to give the Capitan added protection against the Yates oil producing zone.)

See COA

Production Casing 0'-13077': Lead cement with 850 sacks of Lite Crete (YLD 2.61, WT. 9.0, H2O gal/sack 8.7) with the additives being 0.03 gal/sack retarder, 0.2% Anti foam, 0.1% Dispersant, and 39 lbs/sack Extender; tail in with 1505 sacks of Pecos Valley Lite (YLD 1.4, WT. 13.2, H2O gal/sack 6.8). 30% CaCO3 Weight, 3.2% Expansion additive, 2% Antifoam, .8% Retarder, 15 Fluid loss. TOC- 5000' Designed with 35% excess.

Well will be drilled vertically depth to 8159'. Well will then be kicked off and directionally drilled at 12 degrees per 100' with an 8.75" hole to 8910' MD (8636' TVD). Hole size will then be reduced to 8.5" and drilled to 13073' MD (8621' TVD) where 5.5" casing will be set and cemented to surface in a single stage. Penetration point of producing zone will be encountered at 769' FSL & 2153' FEL, Section 11-20S-30E. Deepest TVD is 8636' in the lateral.

Mud Program and Auxiliary Equipment:

Interval	Type	Weight	Viscosity	Fluid Loss
0-500'	Fresh Water	8.6-9.2	32-34	N/C
500'-1500'	Brine Water	10.0-10.2	28-29	N/C
1500'-4100'	Fresh Water	8.6-9.2	32-34	N/C
4100'-13073'	Cut Brine	8.8-9.2	28-32	N/C

Sufficient mud material(s) to maintain mud properties, control lost circulation and contain a blow out will be available at the well site during drilling operations. Mud will be checked hourly by rig personnel.

6. EVALUATION PROGRAM: * See COA

Samples: 30' samples to 4100'. 10' samples 4100' to TD.
Logging: No open hole logs. GR/Resistivity on MWD String
Coring: None.
DST's: None.
Mudlogging: On after surface casing

Sufficient mud material(s) to maintain mud properties, control lost circulation and contain a blow out will be available at the well site during drilling operations. Mud will be checked hourly by rig personnel. Mud level monitoring: After surface casing is set, an electronic PVT system will be installed as our primary mud level monitoring system. A secondary system will also be implemented as to insure the PVT system is functioning properly. The secondary system will be comprised of the derrick hand checking the fluid level in the pits periodically using a nut on the end of a rope hanging just above the fluid level in the pit.

7. Abnormal Conditions, Bottom hole pressure and potential hazards:

Anticipated BHP:

From:	0	TO:	500'	Anticipated Max. BHP:	239	PSI
From:	500'	TO:	1500'	Anticipated Max. BHP:	796	PSI
From:	1500'	TO:	4100'	Anticipated Max. BHP:	1961	PSI
From:	4100'	TO:	8636'	Anticipated Max. BHP:	4131	PSI

See COA

No abnormal pressures or temperatures are anticipated.
H2S Zones Not Anticipated

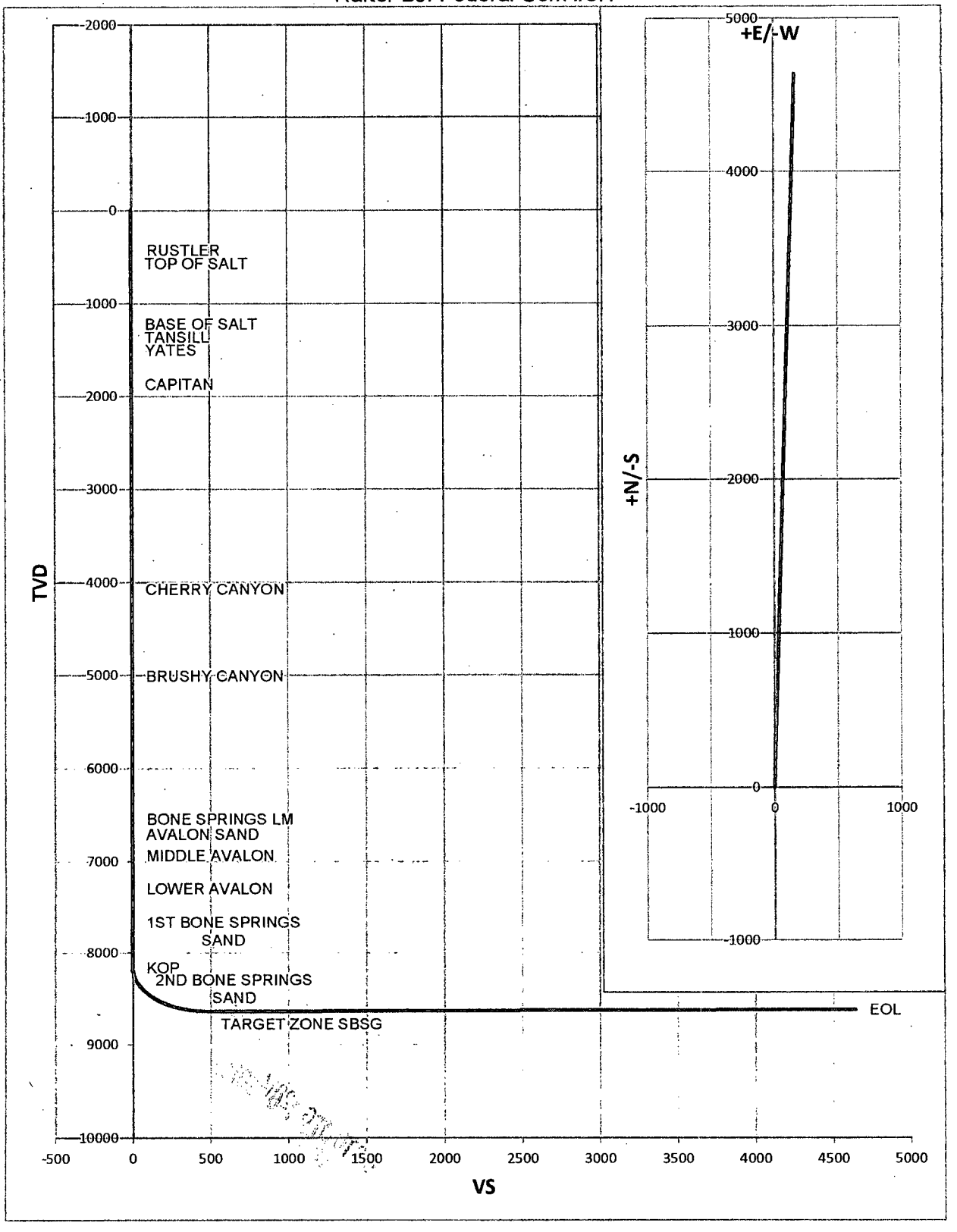
8. ANTICIPATED STARTING DATE:

Plans are to drill this well as soon as possible after receiving approval. It should take approximately 65 days to drill the well with completion taking another 30 days.

Well Name: Rafter BJI Federal Com #3H	**Tgt N/-S:** 4638.60		
	Tgt E/-W: 165.90	**EOC TVD/MD:** 8636.24 / 8910.53	
Surface Location: Section 11 , Township 20S Range 30E	**VS:** 4641.57		
Bottom Hole Location: Section 11 , Township 20S Range 30E	**VS Az:** 2.05	**EOL TVD/MD:** 8621.00 / 13072.88	

MD	Inc	Azi	TVD	+N/-S	+E/-W	VS	DLS	Comments
0	0	0	0	0	0	0	0	
476.00	0.00	0.00	476.00	0.00	0.00	0.00	0.00	RUSTLER
516.00	0.00	0.00	516.00	0.00	0.00	0.00	0.00	TOP OF SALT
1286.00	0.00	0.00	1286.00	0.00	0.00	0.00	0.00	BASE OF SALT
1376.00	0.00	0.00	1376.00	0.00	0.00	0.00	0.00	TANSILL
1436.00	0.00	0.00	1436.00	0.00	0.00	0.00	0.00	YATES
1871.00	0.00	0.00	1871.00	0.00	0.00	0.00	0.00	CAPITAN
4071.00	0.00	0.00	4071.00	0.00	0.00	0.00	0.00	CHERRY CANYON
5011.00	0.00	0.00	5011.00	0.00	0.00	0.00	0.00	BRUSHY CANYON
6541.00	0.00	0.00	6541.00	0.00	0.00	0.00	0.00	BONE SPRINGS LM
6706.00	0.00	0.00	6706.00	0.00	0.00	0.00	0.00	AVALON SAND
6931.00	0.00	0.00	6931.00	0.00	0.00	0.00	0.00	MIDDLE AVALON
7291.00	0.00	0.00	7291.00	0.00	0.00	0.00	0.00	LOWER AVALON
7761.00	0.00	0.00	7761.00	0.00	0.00	0.00	0.00	1ST BONE SPRINGS SAND
8158.78	0.00	0.00	8158.78	0.00	0.00	0.00	0.00	KOP
8175.00	1.95	2.05	8175.00	0.28	0.01	0.28	12.00	
8200.00	4.95	2.05	8199.95	1.78	0.06	1.78	12.00	
8225.00	7.95	2.05	8224.79	4.58	0.16	4.58	12.00	
8250.00	10.95	2.05	8249.45	8.68	0.31	8.69	12.00	
8275.00	13.95	2.05	8273.86	14.07	0.50	14.07	12.00	
8300.00	16.95	2.05	8297.95	20.72	0.74	20.73	12.00	
8325.00	19.95	2.05	8321.66	28.62	1.02	28.64	12.00	
8350.00	22.95	2.05	8344.93	37.76	1.35	37.78	12.00	
8375.00	25.95	2.05	8367.69	48.09	1.72	48.13	12.00	
8399.01	28.82	2.05	8389.00	59.12	2.11	59.16	12.00	2ND BONE SPRINGS SAND
8400.00	28.95	2.05	8389.87	59.61	2.13	59.65	12.00	
8425.00	31.95	2.05	8411.42	72.27	2.58	72.31	12.00	
8450.00	34.95	2.05	8432.28	86.04	3.08	86.09	12.00	
8475.00	37.95	2.05	8452.39	100.88	3.61	100.94	12.00	
8500.00	40.95	2.05	8471.69	116.75	4.18	116.82	12.00	
8525.00	43.95	2.05	8490.13	133.61	4.78	133.69	12.00	
8550.00	46.95	2.05	8507.67	151.41	5.42	151.51	12.00	
8575.00	49.95	2.05	8524.25	170.10	6.08	170.21	12.00	
8600.00	52.95	2.05	8539.83	189.64	6.78	189.76	12.00	
8625.00	55.95	2.05	8554.37	209.96	7.51	210.10	12.00	
8650.00	58.95	2.05	8567.82	231.02	8.26	231.17	12.00	
8675.00	61.95	2.05	8580.15	252.75	9.04	252.91	12.00	
8700.00	64.95	2.05	8591.32	275.10	9.84	275.27	12.00	
8725.00	67.95	2.05	8601.31	298.00	10.66	298.19	12.00	
8750.00	70.95	2.05	8610.09	321.39	11.49	321.59	12.00	
8775.00	73.95	2.05	8617.63	345.20	12.35	345.43	12.00	
8800.00	76.95	2.05	8623.91	369.38	13.21	369.62	12.00	
8825.00	79.95	2.05	8628.92	393.86	14.09	394.11	12.00	
8850.00	82.95	2.05	8632.63	418.56	14.97	418.83	12.00	
8875.00	85.95	2.05	8635.05	443.43	15.86	443.71	12.00	
8900.00	88.95	2.05	8636.17	468.38	16.75	468.68	12.00	
8910.53	90.21	2.05	8636.24	478.91	17.13	479.21	12.00	TARGET ZONE SBSG
13072.88	90.21	2.05	8621.00	4638.60	165.90	4641.57	0.00	EOL

Rafter BJI Federal Com #3H



Rafter BJI Federal Com #3H

If hole conditions warrant, Yates Petroleum Corporation requests the use of a contingency cement plan for the production interval as follows:

See COA

DV/Packer stage tool at approx. 4150'-4650' 4400'

Stage I: Lead w/675sx 35/65 Poz H (YLD 2.0, WT 12.5, Tail w/1205sx PVL (YLD 1.4, WT 13.2, 6.8 gal/sk) TOC approx. 4150'
Stage II: Lead w/570 35/65 Poz C (YLD 2.0, WT 12.5, 11 gal/sk) Tail w/205 50/50 Poz C (YLD 1.34, WT 14.2, 6.2 gal/sk) TOC= 0'

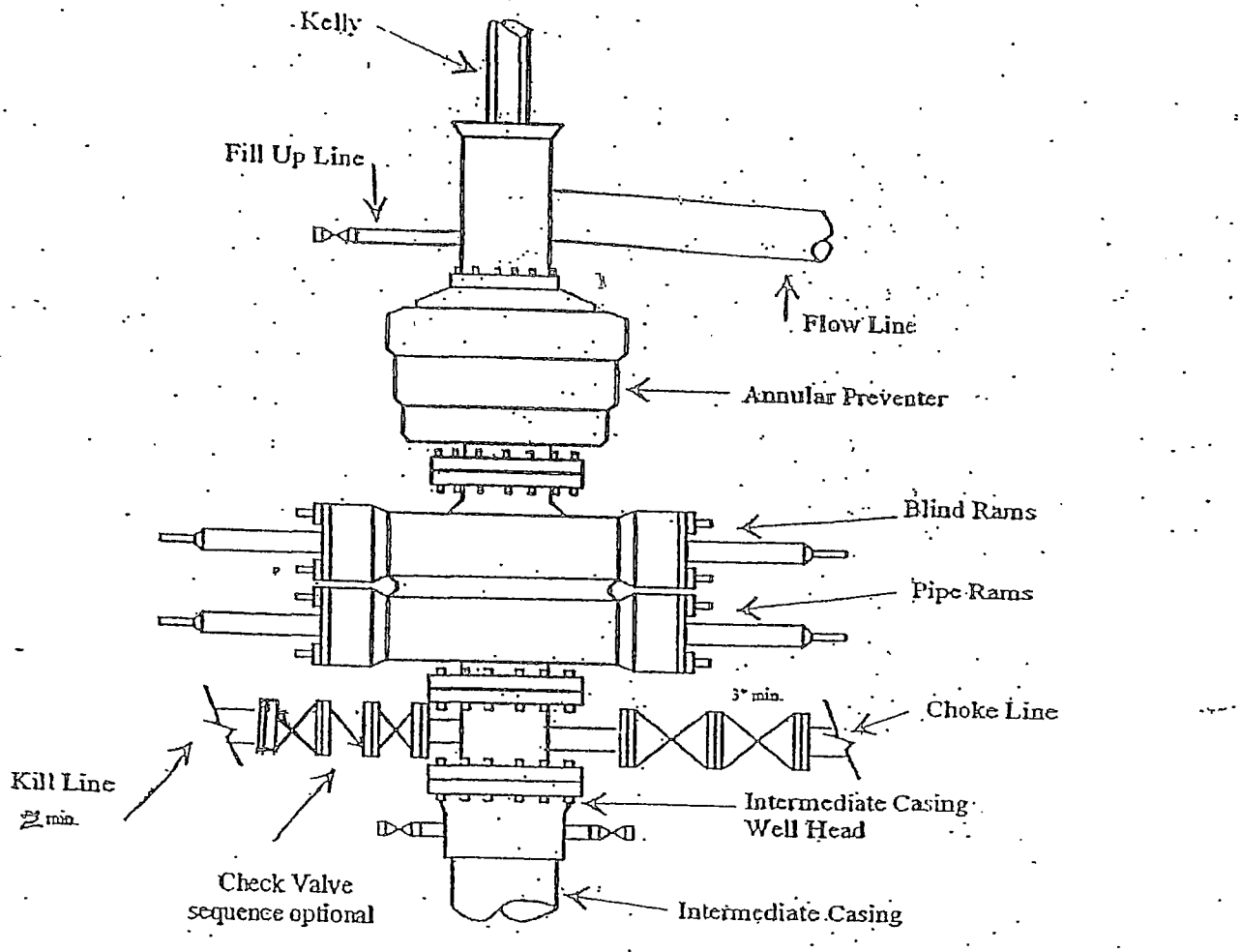
All volumes are calculated at 35% excess. Casing weight and grade will remain the same.

Yates Petroleum Corporation

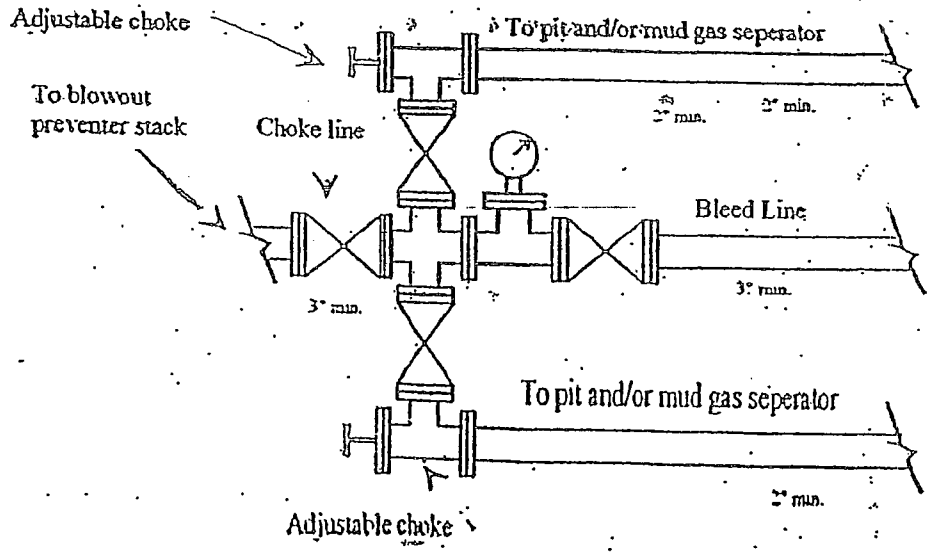
BOP-3

Typical 3,000 psi Pressure System Schematic
Annular with Double Ram Preventer Stack

Exhibit

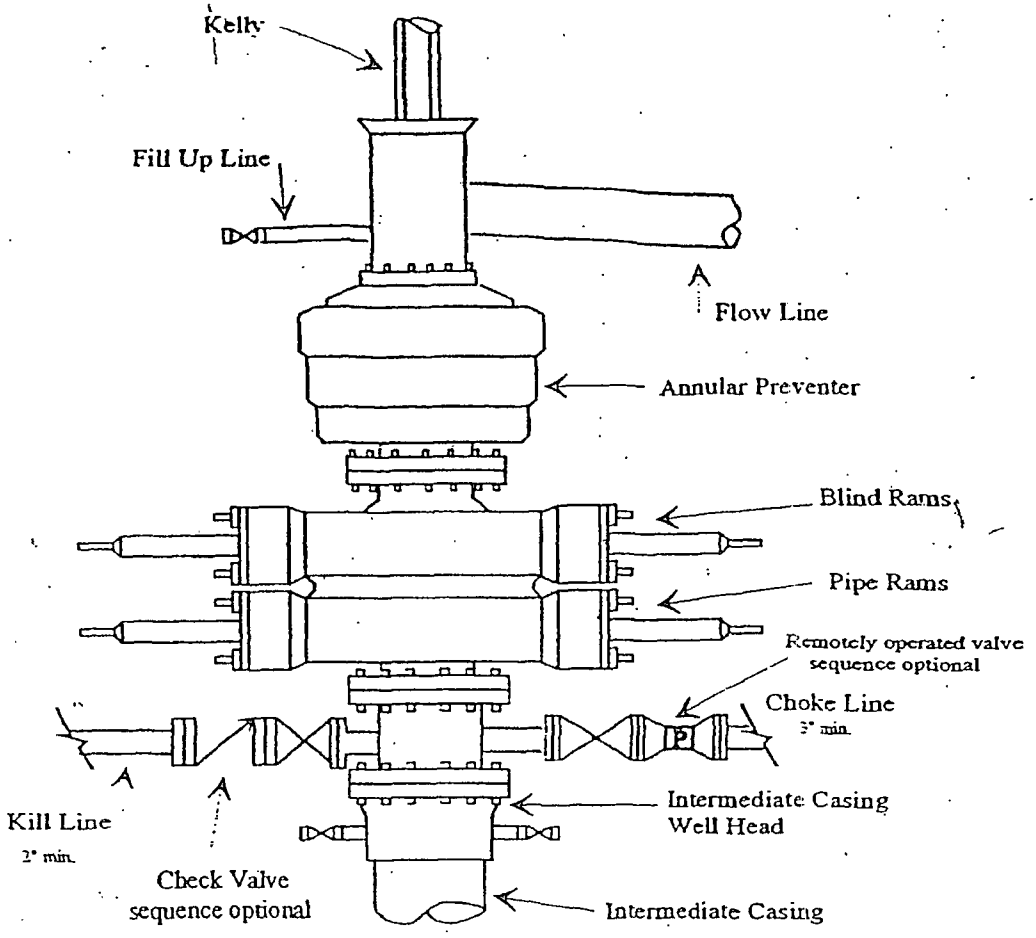


Typical 3,000 psi choke manifold assembly with at least these minimun features

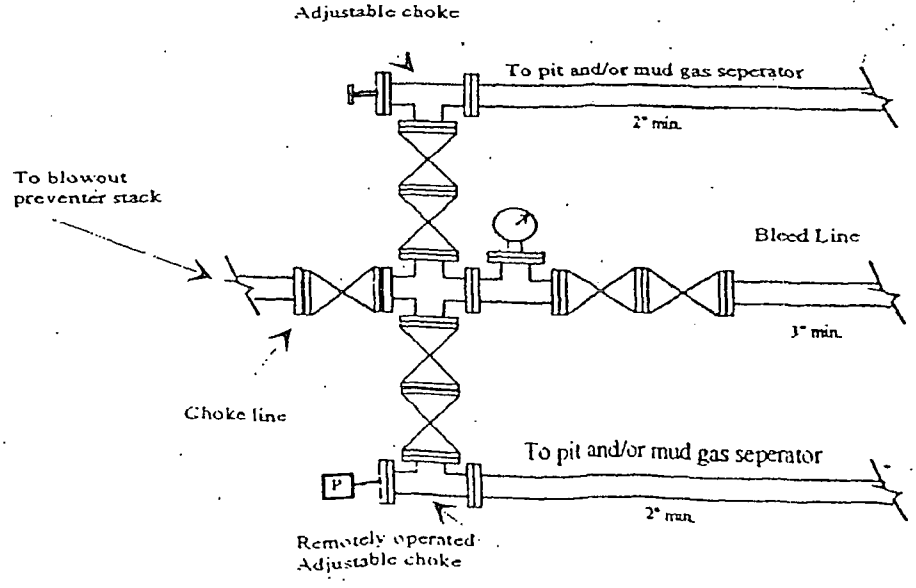


Yates Petroleum Corporation

Typical 5,000 psi Pressure System
Schematic
Annular with Double Ram Preventer Stack

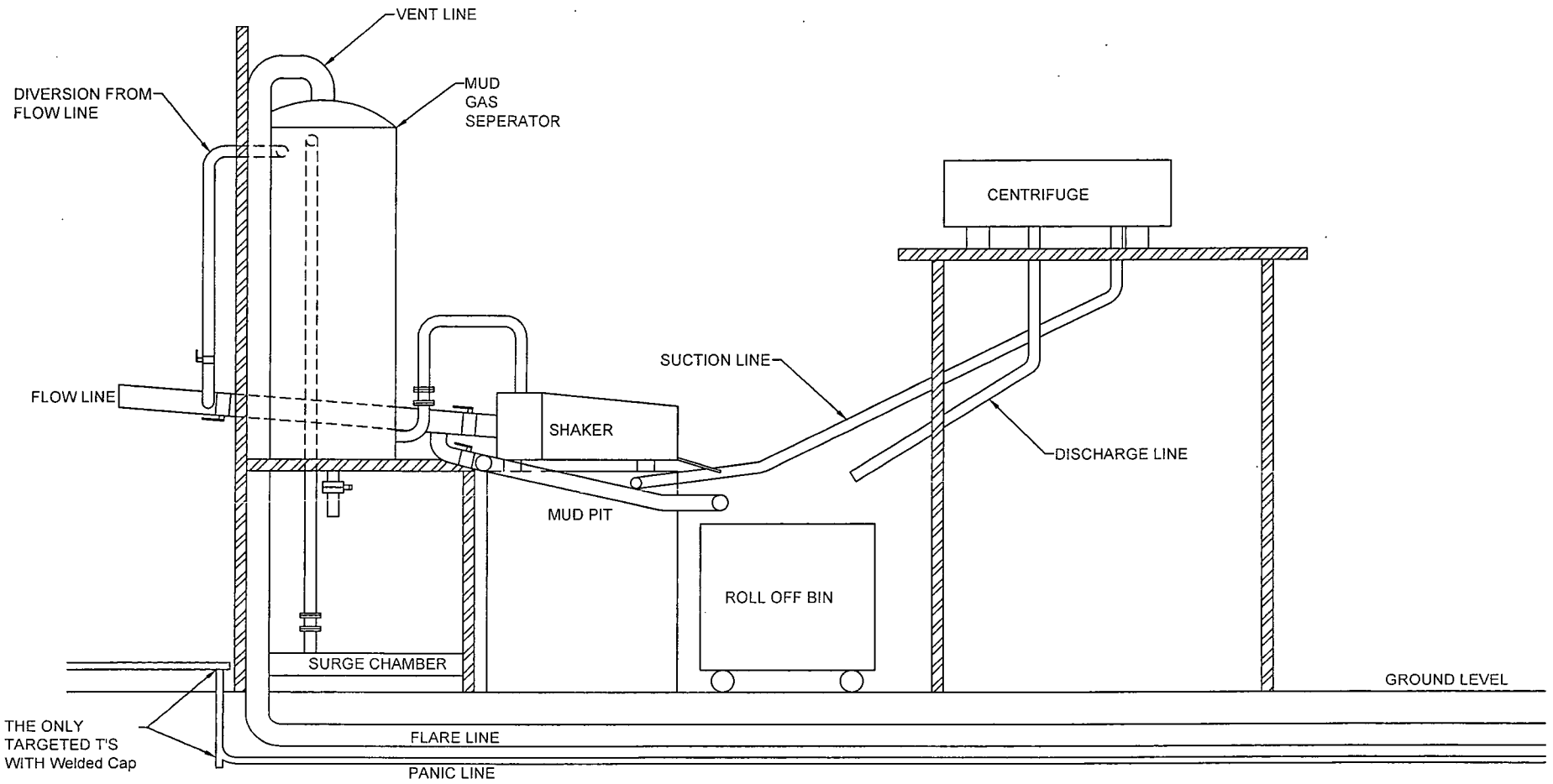


Typical 5,000 psi choke manifold assembly with at least these minimun features



YATES PETROLEUM CORPORATION

Piping from Choke Manifold
to the Closed Loop Drilling Mud System



The flare discharge must be 100' from wellhead for non H2S wells and 150' from wellhead for wells expected to encounter H2S.

Yates Petroleum Corporation
Closed Loop System

Equipment Design Plan

Closed Loop System will consist of:
1 – double panel shale shaker
1 – (minimum) Centrifuge, certain wells and flow rates may require 2 centrifuges
On certain wells, the Centrifuge will be replaced by a Clackco Settling Tank System
1 – minimum centrifugal pump to transfer fluids
2- 500 bbl. FW Tanks
1 – 500 bbl. BW Tank
1 – half round frac tank – 250 bbl. capacity as necessary to catch cement / excess mud returns generated during a cement job.
1 Set of rail cars / catch bins
Certain wells will use an ASC Auger Tank

Operation Plan

All equipment will be inspected at least hourly by rig personnel and daily by contractors' personnel.
Any spills / leaks will be reported to YPC, NMOCD, and cleaned up without delay.

Closure Plan

Drilling with Closed Loop System, haul off bins will be taken to Gandy Marley, Lea Land Farm, CRI or Sundance Services Inc.

Midwest Hose
& Specialty, Inc.

Certificate of Conformity

Customer: **CACTUS**	*Customer P.O.#* **RIG#137 M12653**
Sales Order # **191672**	*Date Assembled:* **12/11/2013**

Specifications

Hose Assembly Type:	**Choke & Kill**		
Assembly Serial #	**229391**	*Hose Lot # and Date Code*	**11060 10/13**
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***
Phillip Mayfield	**12/11/2013**

Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Certificate

General Information		Hose Specifications	
Customer	CACTUS	Hose Assembly Type	Choke & Kill
MWH Sales Representative	EVAN SPARKMAN	Certification	API 7K
Date Assembled	12/11/2013	Hose Grade	MUD
Location Assembled	OKC	Hose Working Pressure	10000
Sales Order #	191672	Hose Lot # and Date Code	11060 10/13
Customer Purchase Order #	RIG#137 M12653	Hose I.D. (Inches)	4"
Assembly Serial # (Pick Ticket #)	229391	Hose O.D. (Inches)	6.60"
Hose Assembly Length	35 FEET	Armor (yes/no)	YES

Fittings			
End A		End B	
Stem (Part and Revision #)	R4.0X64WB	Stem (Part and Revision #)	R4.0X64WB
Stem (Heat #)	1311405220	Stem (Heat #)	1311405220
Ferrule (Part and Revision #)	RF4.0	Ferrule (Part and Revision #)	RF4.0
Ferrule (Heat #)	120368	Ferrule (Heat #)	120368
Connection (Part #)	4 1/16" 10K	Connection (Part #)	4 1/16" 10K
Connection (Heat #)		Connection (Heat #)	
Dies Used	6.62"	Dies Used	6.62"

Hydrostatic Test Requirements		
Test Pressure (psi)	15,000	*Hose assembly was tested with ambient water temperature.*
Test Pressure Hold Time (minutes)	16 1/2	

Date Tested	Tested By	Approved By
12/11/2013		

M12653

Midwest Hose & Specialty, Inc.

Internal Hydrostatic Test Graph

December 11, 2013

Customer: Cactus

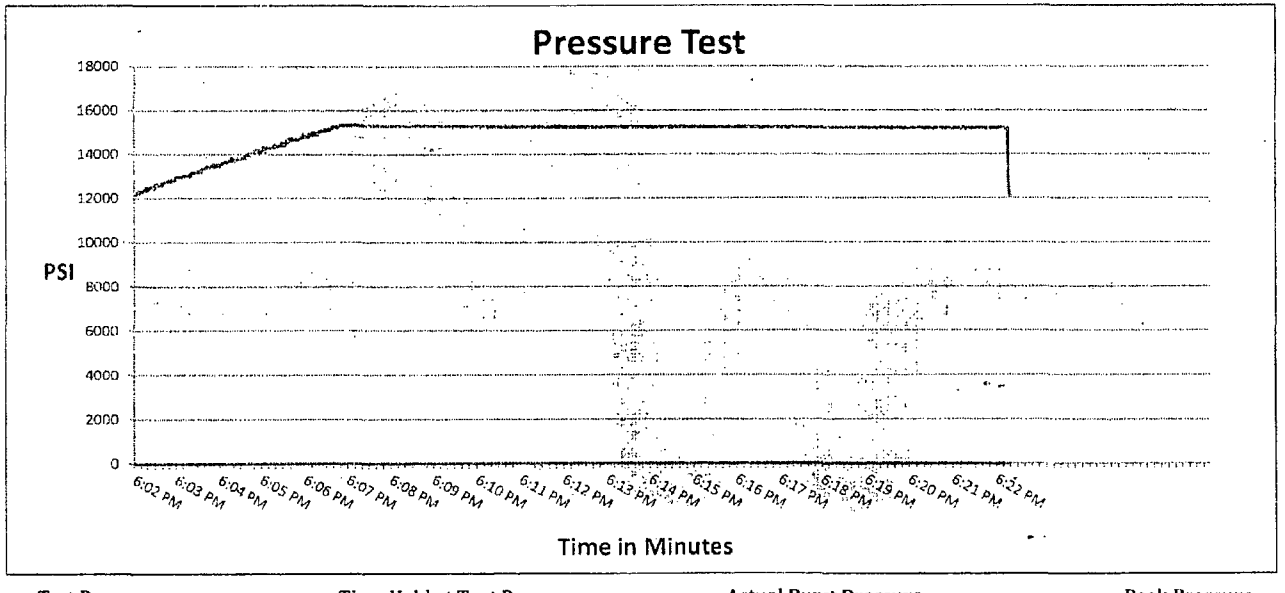
Pick Ticket #: 229391

Hose Specifications

Hose Type	Length
Mud	35'
I.D.	**O.D.**
4"	6.13"
Working Pressure	**Burst Pressure**
10000 PSI	Starcard Safety Multiplier Applies

Verification

Type of Fitting	Coupling Method
4 1/16 10K	Swage
Die Size	**Final O.D.**
6.62"	6.66"
Hose Serial #	**Hose Assembly Serial #**
11060	229391



Test Pressure	Time Held at Test Pressure	Actual Burst Pressure	Peak Pressure
15000 PSI	16 2/4 Minutes		15483 PSI

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

Tested By: *Tony Kellington*

x

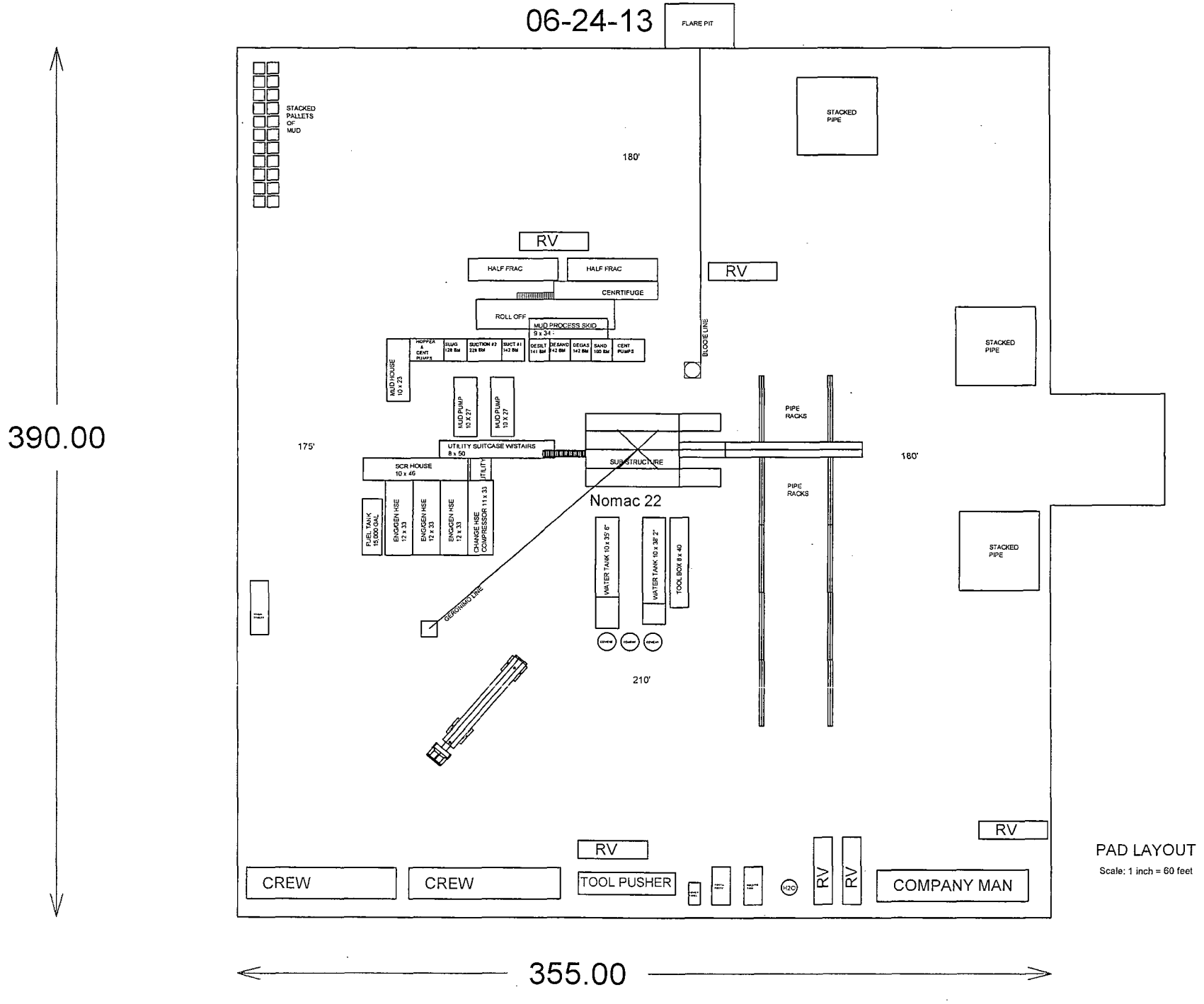
Approved By: *Phil Maytubby*

x

YATES PETROLEUM CORPORATION

Nomac 22

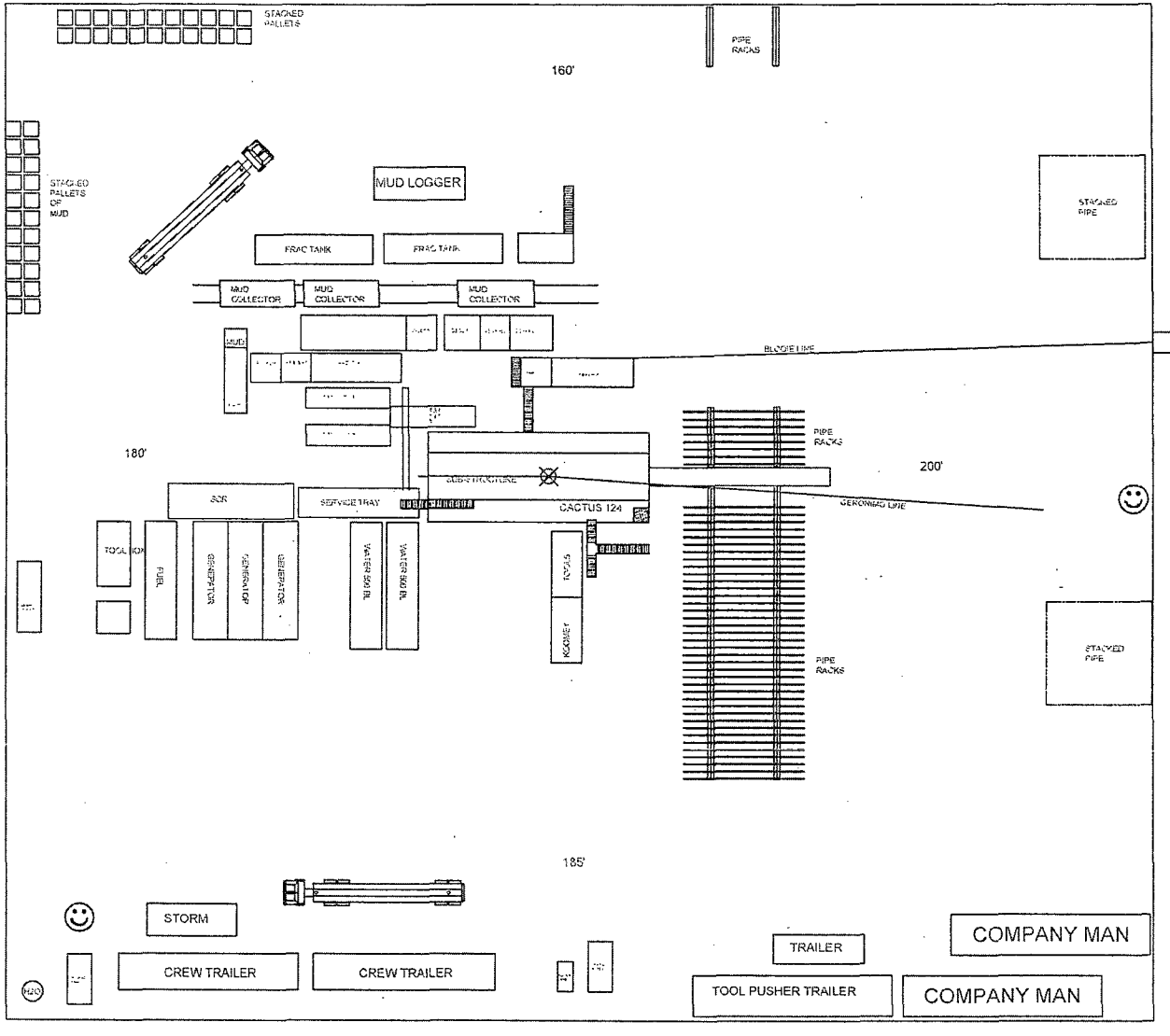
06-24-13



PAD LAYOUT

Scale: 1 inch = 60 feet

YATES PETROLEUM CORPORATION
CACTUS 124
07-24-13



345.00

380.00

Safe Briefing Area with caution signs and breathing equipment

Wind Direction Indicators

H2S Monitor with alarm at the bell nipple

PAD LAYOUT

Scale: 1 inch = 60 feet

07-24-13

Yates Petroleum Corporation

105 S. Fourth Street
Artesia, NM 88210

Hydrogen Sulfide (H_2S) Contingency Plan

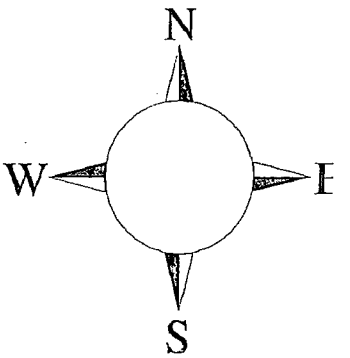
For

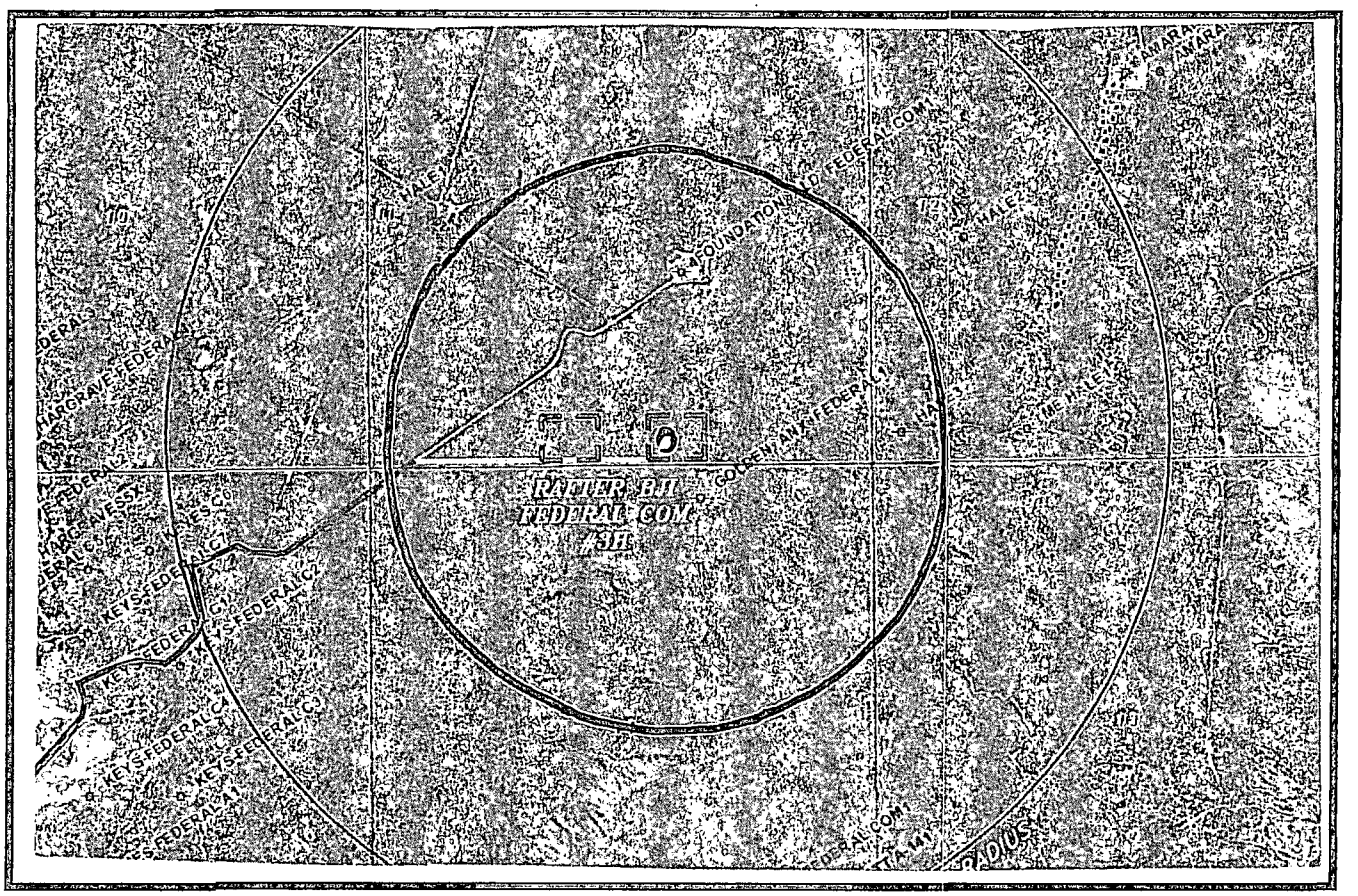
Rafter BJI Federal Com #3H

290' FSL and 2,300' FEL
Section 11, T-20-S, R-30-E
Eddy County, NM

RAFTER BJI FEDERAL COM #3H

This is an open drilling site. H_2S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H_2S, including warning signs, wind indicators and H_2S monitor.





Assumed 100 ppm ROE = 3000'

100 ppm H2S concentration shall trigger activation of this plan.

Emergency Procedures

In the case of a release of gas containing H_2S, the first responder(s) must isolate the area and prevent entry by other persons into the 100 ppm ROE. Additionally the first responder(s) must evacuate any public places encompassed by the 100 ppm ROE. First responder(s) must take care not to injure themselves during this operation. Company and/or local officials must be contacted to aid in this operation. Evacuation of the public should be beyond the 100 ppm ROE.

All responders must have training in the detection of H_2S, measures for protection against the gas, equipment used for protection and emergency response. Additionally, responders must be equipped with H_2S monitors and air packs in order to control the release. Use the "buddy system' to ensure no injuries during the response.

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO_2). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

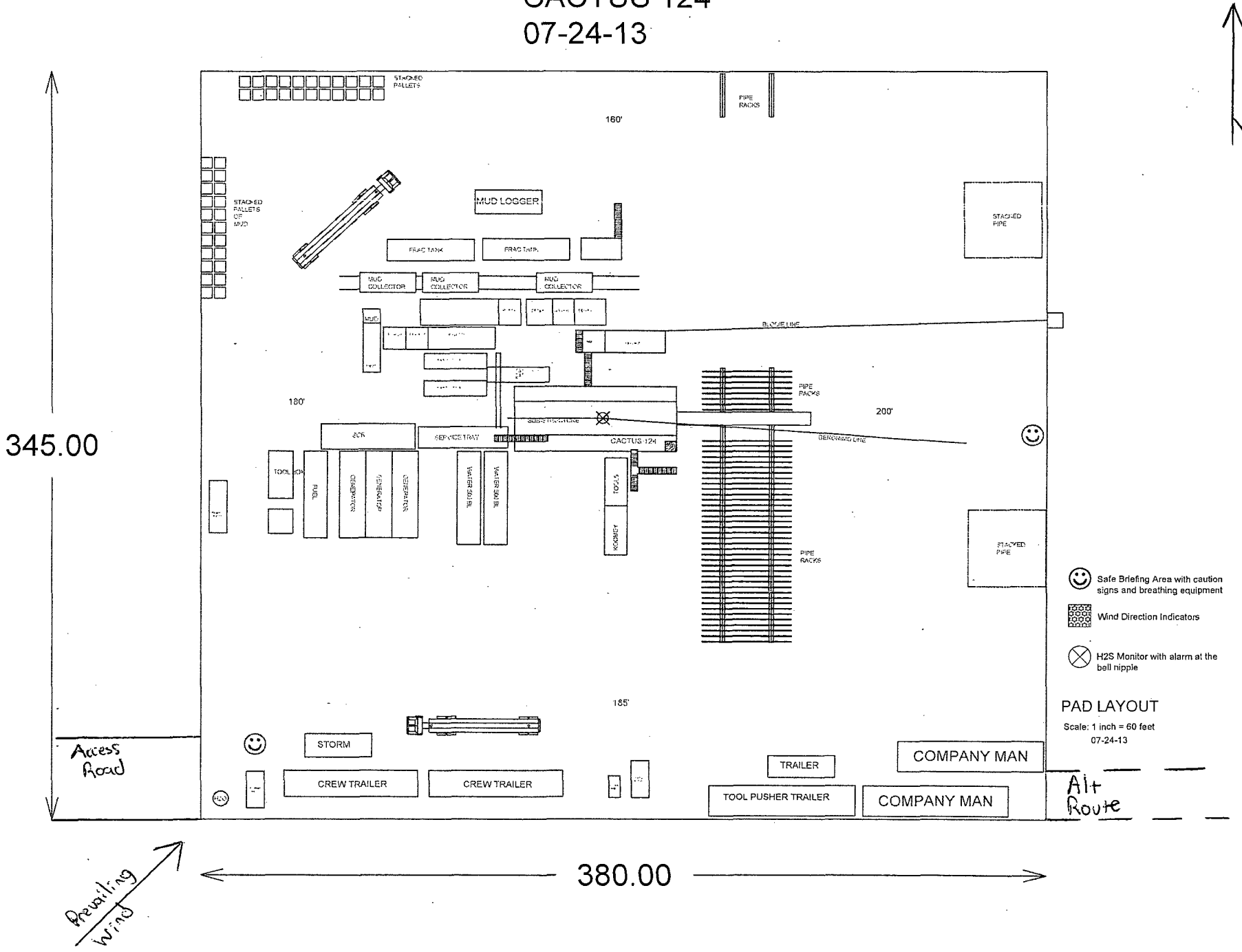
Characteristics of H_2S and SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentr-ation
Hydrogen Sulfide	H_2S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO_2	2.21 Air = 1	2 ppm	N/A	1000 ppm

Contacting Authorities

YPC personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. YPC Company response must be in coordination with the State of New Mexico's 'Hazardous Materials Emergency Response Plan' (HMER)

YATES PETROLEUM CORPORATION
CACTUS 124
07-24-13



Yates Petroleum Corporation Phone Numbers

YPC Office ..... (575) 748-1471
Jim Brown/Operations Manager ..... (575) 748-4189
LeeRoy Richards/Prod Superintendent ..... (575) 748-4228
Joe Chaves/Assistant Prod Superintendent (575) 748-4212
Bruce Noles/Drilling ..... (575) 748-4224
Paul Hanes/Prod. Foreman/Roswell ..... (575) 624-2805
Tim Bussell/Drilling Superintendent ..... (575) 748-4221
Artesia Answering Service ..... (575) 748-4302
(During non-office hours)

Agency Call List

Eddy County (575)

Artesia

State Police 746-2703
City Police 746-2703
Sheriff's Office 746-9888
Ambulance 911
Fire Department 746-2701
LEPC (Local Emergency Planning Committee) 746-2122
NMOCD 748-1283

Carlsbad

State Police 885-3137
City Police 885-2111
Sheriff's Office 887-7551
Ambulance 911
Fire Department 885-2111
LEPC (Local Emergency Planning Committee) 887-3798
US Bureau of Land Management 887-6544
New Mexico Emergency Response Commission (Santa Fe) (505)476-9600
24 HR ..... (505) 827-9126
New Mexico State Emergency Operations Center ..... (505) 476-9635
National Emergency Response Center (Washington, DC) ...(800) 424-8802

Other

Boots & Coots IWC ..... 1-800-256-9688 or (281) 931-8884
Cudd Pressure Control ..... (915) 699-0139 or (915) 563-3356
Halliburton ..... (575) 746-2757
B. J. Services ..... (575) 746-3569

Flight For Life -4000 24th St, Lubbock, TX ..... (806) 743-9911
Aerocare -Rr 3 Box 49f, Lubbock, TX ..... (806) 747-8923
Med Flight Air Amb 2301 Yale Blvd SE #D3, Albuq, NM ..... (505) 842-4433
S B Air Med Svc 2505 Clark Carr Loop SE, Albuq, NM ..... (505) 842-4949

Yates Petroleum Corporation

Hydrogen Sulfide Drilling Operation Plan

I. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H2S).
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H2S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H2S on metal components. If high tensile tubular are to be used, personnel well be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H2S Drilling Operations Plan and H2S Contingency Plan.

There will be an initial training session just prior to encountering a known or probable H2S zone (within 3 days or 500 feet) and weekly H2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H2S Drilling Operation Plan and the H2S Contingency Plan. **The location of this well does not require a Public Protection Plan.**

II. H2S SAFETY EQUIPMENT AND SYSTEMS

NOTE: All H2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H2S.

1. **Well Control Equipment:**

   A. Flare line

   B. Choke manifold will have a remotely operated adjustable choke system.

   C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit

   D. Auxiliary equipment may include if applicable: annular preventer & rotating head.

2. **Protective equipment for essential personnel:**

   A. Mark II Survive Air (or equivalent) 30-minute units located in the doghouse and at briefing areas, as indicated on well site diagram.

3. **H2S detection and monitoring equipment:**

   A. 3 portable H2S monitors positioned at: Shale Shaker, Bell Nipple, and Rig Floor. These units have warning lights and audible sirens when H2S levels of 10 PPM are reached.

4. **Visual warning systems:**

   A. Wind direction indicators as shown on well site diagram (attached).

   B. Caution/Danger signs (attached) shall be posted on roads providing direct access to location. Signs will be painted with high visibility yellow with black lettering of a sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

5. **Mud program:**

   A. The mud program has been designed to minimize the volume of H2S circulated to the surface. Proper mud weight, safe drilling practices and the use of H2S scavengers will minimize hazards when penetrating H2S bearing zones.

6. **Metallurgy:**

   A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.

   B. All elastomers used for packing and seals shall be H2S trim.

7. **Communication:**

A. Cellular communications in company vehicles.

B. Land line (telephone) communication at the Office.

8. **Well testing:**

A. There will be no drill stem testing.

EXHIBIT

DANGER

POISONS GAS

HYDROGEN SULFIDE

NORMAL OPERATIONS

(GREEN)

CAUTION POTENTIAL DANGER

(YELLOW)

DANGER POISONS GAS ENCOUNTERED

(RED) **AUTHORIZED PERSONAL ONLY.**

LOCATION SECURED.

1-575-746-1096

1-877-879-8899

EDDY COUNTY EMERGENCY NUMBERS NUMBERS

ARTESIA FIRE DEPT. 575-746-5050

ARTESIA POLICE DEPT. 575-746-5000

EDDY CO. SHERIFF DEPT. 575-746-9888

LEA COUNTY EMERGENCY

HOBBS FIRE DEPT. 575-397-9308

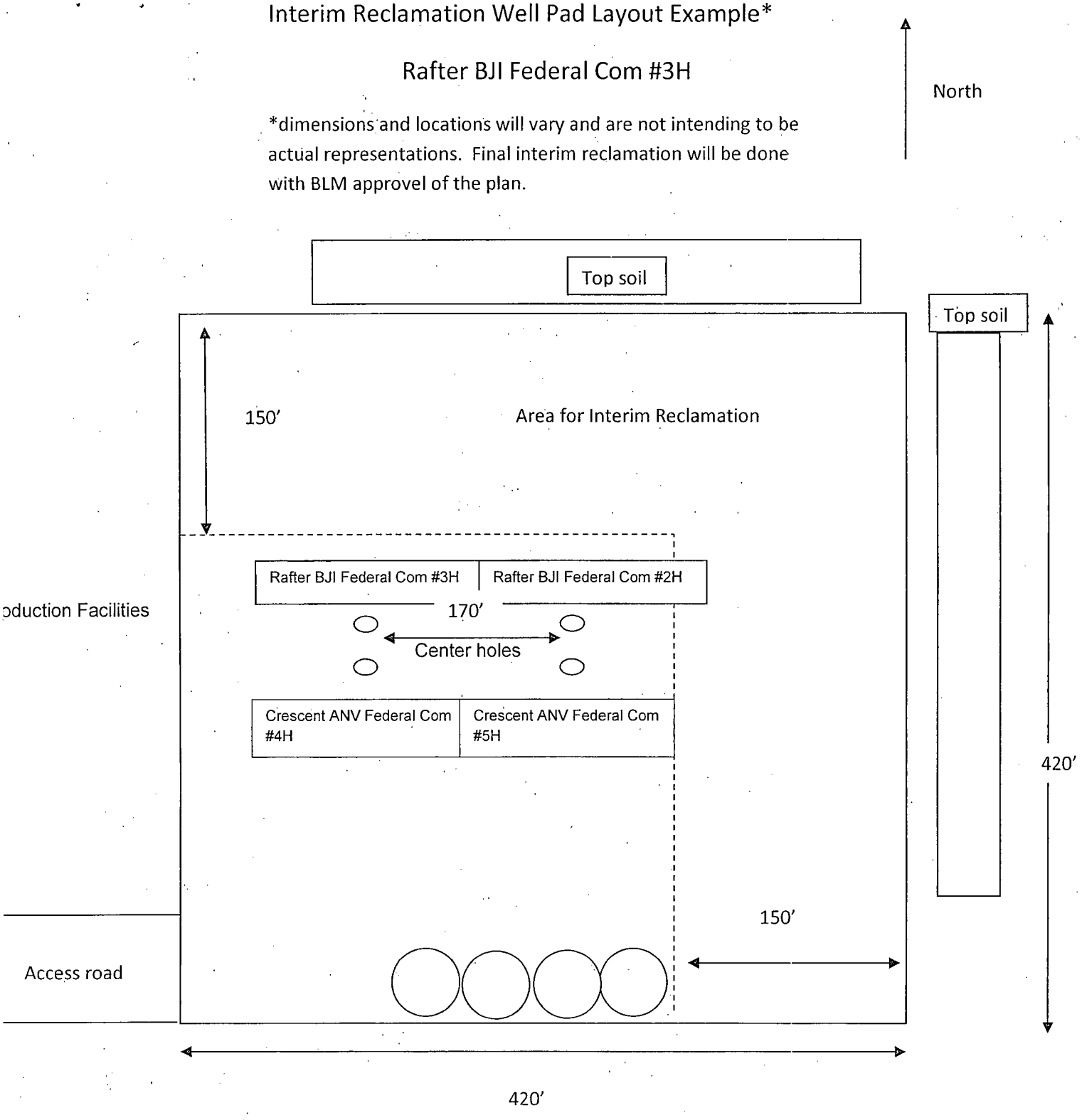
HOBBS POLICE DEPT. 575-397-9285

LEA CO. SHERIFF DEPT. 575-396-1196

Interim Reclamation Well Pad Layout Example*

Rafter BJI Federal Com #3H

*dimensions and locations will vary and are not intending to be actual representations. Final interim reclamation will be done with BLM approvel of the plan.



Created 5/14/2013

YATES PETROLEUM CORPORATION
Surface Use Plan of Operations
Rafter BJI Federal Com #3H
290' FSL and 2170' FEL, Surface Hole
330' FNL and 1980' FEL, Bottom Hole

This plan is submitted with Form 3160-3, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of the surface disturbance involved and the procedures to be followed in rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effect associated with the operations.

1. EXISTING ROADS:
Exhibit is a portion of the BLM map showing the well and roads in the vicinity of the proposed location. The proposed wellsite is located approximately 15 miles, Northeast of Carlsbad, New Mexico and the access route to the location is indicated on Exhibit attached.

DIRECTIONS:
Go East out of Artesia, NM on highway 82 for approximately 14 miles to the intersection of 82 and 360 (Bluestem Rd). Turn right (South) on 360 and go approximately 20.5 miles. Just past mile marker 4, turn left (East) onto Crazy Horse Rd. Continue for 1.2 miles then stay left at the Y's and then right (East) onto lease road and continue for 1.5 miles to the southwestern corner of the location.

2. PLANNED ACCESS ROAD:

A. This well will require no new access.
B. The new road built on to of an existing two tract will be needed to access this well will be 30 feet in width with 16 feet in width (driving surface) and will be adequately drained to control runoff and soil erosion.
C. The new road will be bladed with drainage on both sides if needed. No traffic turnouts will be needed.
D. The route of the road is visible.
E. Existing roads will be maintained in the same or better condition.

3. LOCATION OF EXISTING WELL:

A. There is no drilling activity within a one-mile radius of the well site.
B. Exhibit attached shows existing wells within a one-mile radius of the proposed well site.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

A. We are planning to place production facilities on this pad or next to it.
B. If the well is productive oil, a gas or diesel self-contained unit will be used to provide the necessary power until an electric line can be built, if needed. Power should not be required if the well is productive of gas.
C. Should a Pipeline Right-Of-Way be required it will be filed under a separate application and/or by 3rd party if applicable.

5. LOCATION AND TYPE OF WATER SUPPLY:

A. It is planned to drill the proposed well with a fresh water system. The water will be obtained from commercial sources and will be hauled to the location by truck over the existing and proposed roads shown in Exhibit attached.

6. SOURCE OF CONSTRUCTION MATERIALS:

A. Dirt contractor will locate nearest pit and obtain any permits and materials needed for construction.

7. METHODS OF HANDLING WASTE DISPOSAL:

A. Drill cuttings will be collected in tanks until hauled to an approved disposal system.
B. A closed loop system will be constructed, maintained and closed in compliance with the State of New Mexico, Energy and Natural Resources Department, Oil Conservation Division—the "Pit Rule" 19.15.17 NMAC.
C. Drilling fluids will be removed after drilling and completions are finalized.
D. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or separate disposal application will be submitted.
E. Oil produced during operations will be stored in tanks until sold.
F. Current laws and regulations pertaining to the disposal of human waste will be complied with.
G. All trash, junk, and other waste materials will be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not approved.

8. ANCILLARY FACILITIES: NONE

9. WELLSITE LAYOUT:

A. Exhibit attached shows the relative location and dimensions of the well pad, the closed loop design plan, the location of the drilling equipment, orientation and access road approach of three of the rigs Yates Petroleum is currently using. It is yet to be determined which drilling rig will drill this well, a 420' x 420' area has been staked, all drilling rigs being used by Yates Petroleum Corporation at this time will fit within these diminsions. At the time the determination is made a Sundry notice will be submitted with the appropriate information.
(Approximately 3.5 acres)
B. The closed loop system will be constructed, maintained, and closed in compliance with the State of New Mexico, Energy and Natural Resources Department, Oil Conservation Division – the "Pit Rule" 19.15.17 NMAC.
C. A 600' x 600' area has been staked and flagged.

10. PLANS FOR RESTORATION:

A. After finishing drilling and/or completion operations, all equipment and other material not needed for further operations will be removed. The location will be cleaned of all trash and junk to leave the well site in as aesthetically pleasing a condition as possible.
B. Well location will be contoured to resemble the original topography as closely as possible. Surface reclamation measures will be taken to avoid new erosion on the well location and the area surrounding the well location. These measures will be overseen by Yates' personnel following a structured plan for the reclamation of each individual site.
C. Major drainage systems will be avoided as determined at the onsite with the BLM. Minor drainages may be rerouted around the well site within the 600' x 600' cleared area to avoid moving the well location.
D. Segregation of topsoil or like soils will be placed in low lift rows rather than in a stockpile just off the caliche well pad. Placement of these lift rows will be determined at the BLM onsite or at the time of construction by Yates Personnel.
E. Yates will use prudent oil field practices when constructing well locations and related facilities. Yates personnel will determine the size of the well location needed for safe working conditions for personnel during all aspects on the drilling and production process.
F. Back fill requirements for above ground reserve pits will be met by using cut, fill, and contouring of available top soil and like soils from the pit area. Should additional material be needed it will be brought in from a BLM approved source.
G. All topsoil will be spread over the area reclaimed during interim reclamation using a front end loader. For final reclamation enough topsoil will be evenly distributed between the interim reclaimed area and the final reclaimed area. This method of soil stabilization should help maintain the productivity and viability of the topsoil.
H. Soil treatments will be determined at the time of final reclamation by Yates' Environmental Specialist or other designated personnel to meet BLM final reclamation goals.

I. Reseeding of disturbed areas will be accordance with the seed mixtures attached to the approved APD as Conditions of Approval. Planting and soil preparation will be done during the rainy season between June 1st and September 1st.

J. Yates' personnel will control weeds during the productive period through final abandonment of the well. Yates may also use the option to hire a third party to be in charge of weed control or participate in the Chaves Soil and Water District program to pool monies for weed control.

K. Well pads, roads and related facilities with caliche or other surfacing material will be picked up or turned over at the time of final abandonment. These materials may be used on other projects in the area if possible or placed back in the caliche pit or other designated site. Buried pipelines will be left in place after being bled down and purged. Above surface support equipment will be removed or cut down below plow depth and removed. Pipeline right-of-ways will be reseeded according to BLM Best Management Practices.

11. SURFACE OWNERSHIP: Federal

Minerals: USA-Federal-NM-82902
Administered by: Bureau of Land Management
Carlsbad Field Office
620 E. Greene Street
Carlsbad, NM 88220-6292

12. OTHER INFORMATION:

A. The primary use of the surface is for grazing.

B. Refer to the archaeological report for a description of the topography, flora, fauna, soil characteristics, dwellings, and historical and cultural sites.

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Yates Petroleum Corp
LEASE NO.:	NM86913
WELL NAME & NO.:	3H-Rafter BJI Federal Com
SURFACE HOLE FOOTAGE:	290'/S & 2170'/E
BOTTOM HOLE FOOTAGE	330'/N & 1980'/E
LOCATION:	Section 11, T. 20 S., R. 30 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)

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat Conservation Fund Account with the Center of Excellence for Hazardous Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

Communitization Agreement

A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales. In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

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.

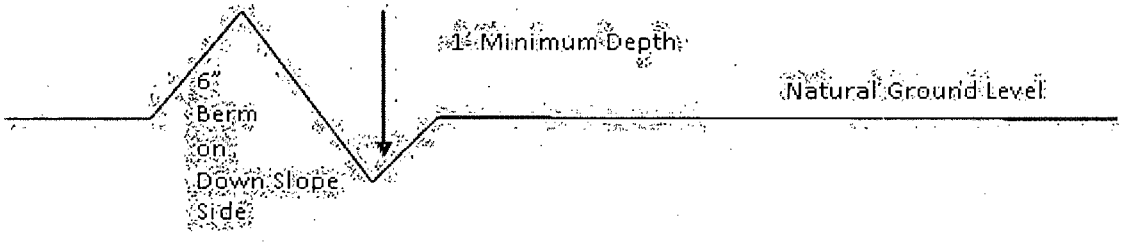
Ditching
Ditching shall be required on both sides of the road.

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:

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

Cattleguards
An appropriately sized cattleguard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattleguards 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 cattleguards 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.

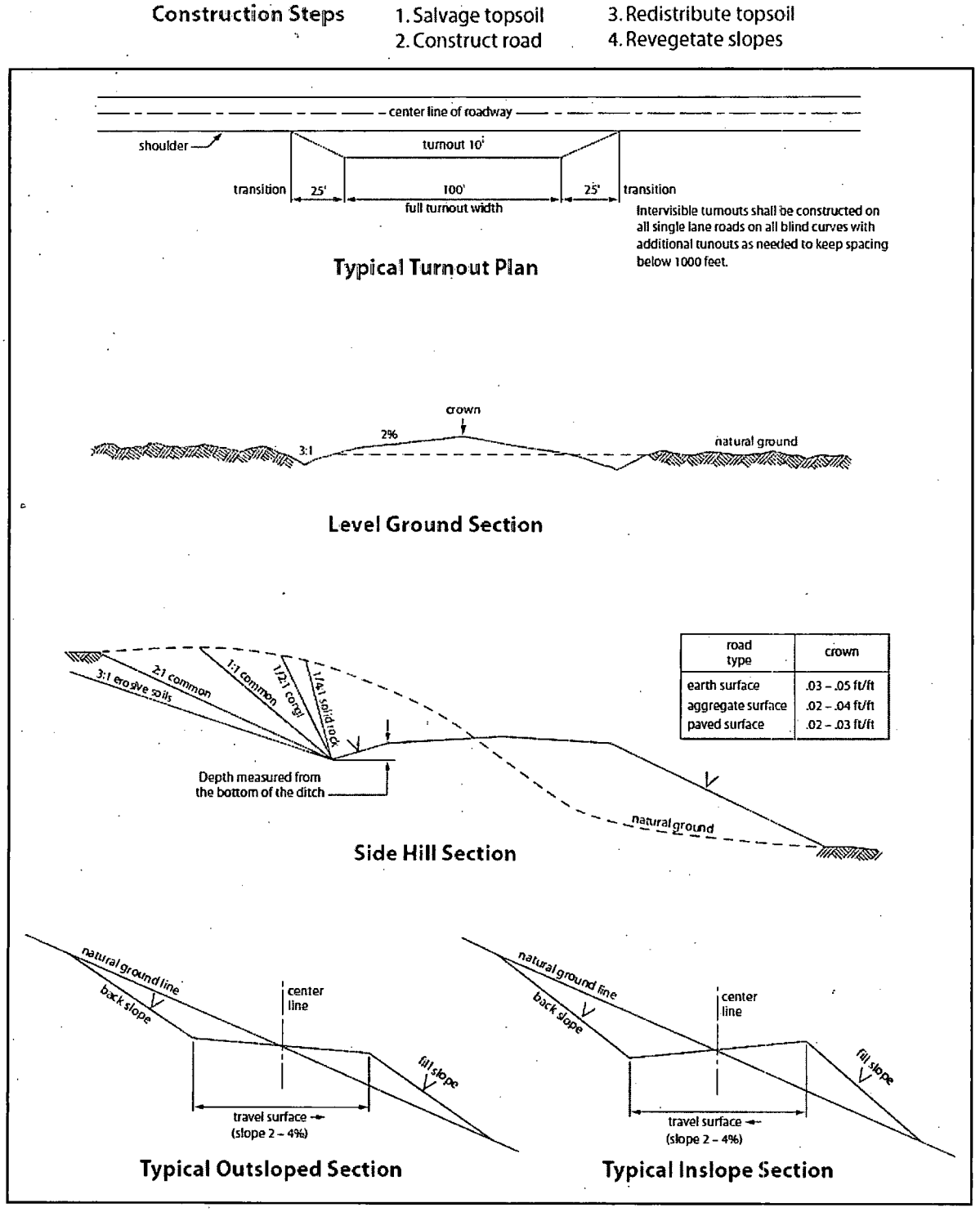


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. DRILLING

A. DRILLING OPERATIONS 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)

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

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.**

2. 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. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. 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 is located, this does not include the dog house or stairway area.

4. **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.**

B. CASING

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.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

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.

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.

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

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

R-111-P Potash
Capitan Reef and possible High Cave/Karst
Possible water and brine flows in the Artesia and Salado Groups.
Possible lost circulation in the Rustler, Capitan Reef, Delaware, Artesia Group.

1. The **20** inch surface casing shall be set at approximately **360** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**

    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 is to include the lead cement slurry.**

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 1st intermediate casing set at approximatelt **1,700'** 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 potash.**

3. The minimum required fill of cement behind the **9-5/8** inch 2nd intermediate casing, which shall be set at approximately **3,900'** feet, is:

Operator has proposed DV tool at approximately 1,850'. Operator is to submit sundry if DV tool depth varies by more than 100' from approved depth.

a. First stage to DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

b. Second stage above DV tool:

☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash and Capitan Reef.**

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

4. The minimum required fill of cement behind the **5-1/2** inch production casing is:

Primary Cement Job.

☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office

Contingency Cement Plan with DVTool/ECP set at approx... 4150'

Operator has proposed DV tool at depth of 4150'-4650', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the previous shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

c. First stage to DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

d. Second stage above DV tool:

☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office

5. 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.

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

C. 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. Variance approved to use flex line from BOP to choke manifold. 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.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.

    a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.

4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** 2nd intermediate casing shoe shall be **5000 (5M)** psi. **5M 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.**

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

    a. 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.

    b. 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 (18 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).

c. 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.

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

e. 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.**

f. 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.

D. DRILLING MUD

Operator shall use visual or electronic monitoring of the mud level.

E. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

F. 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.

EGF 060815

VIII. 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).

VRM Facility Requirement
Low-profile tanks not greater than eight-feet-high shall be used.

IX. 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).

X. 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).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.