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

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-101
June 16, 2008

Submit to appropriate District Office

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

[1] Operator Name and Address	[2] OGRID Number
Approach Operating, LLC 6500 West Freeway, Suite 800 Fort Worth, TX 76116	248343
	[3] API Number 30 - 39 - 30854

[5] Property Code	[5] Property Name	[6] Well No.
37930	Dora Spill	4

[9] Proposed Pool 1	[10] Proposed Pool 2
WC; Mancos	

[7] Surface Location

UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	32	28N	04E		359	SOUTH	1374	WEST	RIO ARRIBA

[8] Proposed 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

Additional Well Information

[11] Work Type Code	[12] Well Type Code	[13] Cable/Rotary	[14] Lease Type Code	[15] Ground Level Elevation
N	O	ROTARY	P	7255 50'
[16] Multiple	**[17] Proposed Depth**	**[18] Formation**	**[19] Contractor**	**[20] Spud Date**
	2000' **	GRANEROS	TBD	On receipt of all required approvals

[21] Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12 ¼"	9 5/8"	36.0 #	350'	210	Surface
8 ¾"	4 ½"	10.5 #	2000'	500	Surface

[22] Describe the proposed program If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any Use additional sheets if necessary

(1) Shafco 11" Double Ram 3000# LWS
(1) Grant 11" rotating head, 3000#
(1) 5000# choke manifold
(1) Koomey 3 station 3000# w/air hydraulic pump
(4) 10 gallon bottles

** The proposed depth is 100' below the base of the Mancos Shale or 2000', whichever depth is achieved first.

See attached conditions of approval

[23] I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature: B.A.M

Printed name Brice A. Morgan

Title: Landman

E-mail Address: bmorgan@approachresources.com

Date: 11-23-09 Phone: 817-989-9000

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date: NOV 3 0 2009 Expiration Date: 11/30/2011

Conditions of Approval Attached ☒ HOLD C104 FOR NSL

NOV 3 0 2009

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State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-039-30854	97767	W.C. Tierra Amarilla Mancos oil Pool

[4] Property Code	[5] Property Name	[6] Well Number
37930	Dora Spill ~~Property~~	~~Dora Spill~~ #4

[7] OGRID No.	[8] Operator Name	[9] Elevation
248323	Approach Operating LLC	~~7358.96~~ 7255.5'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
	**32	**28N	**04E		359	South	1374	West	Rio Arriba

[11] 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

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
40			

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.

**Projection within the Tierra Amarilla Grant provided by Approach Operating, LLC.

16

1374'

Dora Spill #4

359'

[17] 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 11-23-09 Date

Bruce A. Morgan
Printed Name

[18] 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 supervision, and that the same is true and correct to the best of my belief.

11/13/2009
Date of Survey

Signature and Seal of Professional Surveyor

GILBERTO ARCHULETA NEW MEXICO 13976 REGISTERED PROFESSIONAL SURVEYOR

Certificate Number

Latitude - 36.60979 North
Longitude - -106.53989 West

Latitude, longitude & distances from projected section lines provided by Approach Operating, LLC.

Operator Certification Statement

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 condition 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 23rd day of November, 2009.

Approach Operating, LLC

Brice A. Morgan
Landman

APPROACH OPERATING, LLC
OPERATIONS PLAN
DORA SPILL NO. 4

I. Location: LAT : 36.60979 N
LONG : -106.53989 W
Rio Arriba County, New Mexico
Date: 11-23-09

Field: Wildcat
Surface: Fee
Elev: 7255.50'

II. Drilling
A. Contractor: TBD
B. Mud Program:

The surface hole will be drilled with a fresh water mud.

The production hole will be drilled with air or air/mist.

C. Minimum Blowout Control Specifications: (See attached BOP System Schematic)

Double ram type 3000 psi working pressure BOP with a rotating head. See the attached Exhibit # 1 for details on the BOP equipment. All ram type preventers and related equipment will be hydraulically tested at nipple-up and after any use under pressure to 1500 psi.

The blind ram will be hydraulically activated and checked for operational readiness each time pipe is pilled out of the hole. All check of the BOP stack and equipment will be noted on the daily drilling report. The BOP equipment will include a kelly cock, floor safety valve, and choke manifold all rated to 2000 psi.

No over pressured zones are expected in this well. No H2S zones expected, but compliance packs will be on location.

III. Logging program: Induction / GR and density logs at TD.

IV. Materials
A. Casing Program:

Hole Size	Depth	Casing Size	Wt & Grade
12-1/4"	350'	9-5/8"	36# J-55
8-3/4"	2000'	4-1/2"	10.5# J-55

B. Float Equipment (See attached "Generic Well Schematic")

a. Surface Casing: Notched collar on bottom and 3 centralizers on the bottom 3 joints.

b. Production Casing: 4-1/2" whirler type cement nosed guide shoe and a float collar on top of the shoe joint. Centralized with bow spring centralizers

V. Cementing:

- Surface Casing: 9-5/8" 32.3 lb/ft H-40 set to 350'. Circulate cement to surface

Cement 0-350'
Fluid 1: Water Based Spacer
Water
lbm/gal

Fluid Density:	8.330
Fluid Volume:	10 bbl

Fluid 2: Lead Cement
Premium Cement
lbm/gal
94 lbm/sk Premium Cement (Cement)
0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)
Gal/sk
2 % Calcium Chloride (Accelerator)

Fluid Weight	15.600
Slurry Yield:	1.180 ft^3/sk
Total Mixing Fluid:	5.238
Top of Fluid:	0 ft
Calculated Fill:	350 ft
Volume:	42.139 bbl
Proposed Sacks:	210 sks

Fluid 3: Water Based Spacer
Water Displacement
lbm/gal

Fluid Density:	8.330
Fluid Volume:	23.966 bbl

- Production Casing: 4-1/2" 10.5 lb/ft J-55 casing set to TD
Circulate cement to surface

Cement
Fluid Instructions
Fluid 1: Water Based Spacer
Water
lbm/gal

Fluid Density:	8.330

Fluid Volume: 20 bbl

Fluid 2: Lead Cement

50/50 Poz Premium	Fluid Weight	13 lbm/gal
0.4 % Halad(R)-344 (Low Fluid Loss Control)	Slurry Yield:	1.436 ft^3/sk
0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)	Total Mixing Fluid:	6.193
Gal/sk		
5 lbm/sk Gilsonite (Lost Circulation Additive)	Top of Fluid:	0 ft
	Calculated Fill:	3500 ft
	Volume:	156.266 bbl
	Proposed Sacks:	500 sks

Fluid 3: Water Based Spacer

Water Displacement	Fluid Density:	8.330
lbm/gal		
	Fluid Volume:	31.197 bbl

- The wells will have 40' of 14" conductor set. Then a 12-1/4" hole will be drilled to about 350' when 9-5/8" surface casing will be set and cemented. We will drill out with a 8-3/4" bit using

MULTI-POINT SURFACE USE PLAN

1. Existing Roads and New Roads:

   Existing roads vary in condition, but all are drivable by pickup. Initially, Approach will crown and ditch these roads while providing for drainage via ditch relief and rolling water bars placed at a maximum 300 feet apart. During the initial phase of construction and drilling, roads will be developed using native materials and rock where necessary to prevent rutting or stormwater run-on from eroding road bed. Roads will be less than 25 feet wide with an additional 7.5 feet on each side for ditching. Rolling water bars will be installed with at least half their height in the cut and skewed to drain. If the well is to be abandoned, the road will be left in a condition that is at minimum comparable to the existing condition or is reclaimed. Maintenance will be conducted as necessary during all of Approach's operations. Roads will be kept in a serviceable condition that provides the land owner and the Approach with reasonable and emergency access.

2. Location of Existing Wells:

   There are no existing wells in the vicinity of the Dora Spill No. 4. See attached aerial photo.

3. Location of Production Facilities:

   In the event of production, production facilities will be located on the drill pad. The actual placement of this equipment will be determined when the well's production characteristics can be evaluated after completion.

4. Water Supply:

   Water for drilling and completion will be purchased from local sources.

5. Methods of Handling Waste Disposal:

   a. The drill cuttings, fluids and completion fluids will be placed in the above ground steel tanks. All cuttings and fluids will be disposed of at a NMOCD permitted facility. Upon completion, the pad will be leveled, contoured and reseeded with the appropriate seed mixture.

   b. All garbage and trash will be placed in a metal trash basket. It will be hauled off and dumped in an NMOCD permitted facility upon completion of operations.

   c. Portable toilets will be provided and maintained during drilling operations.

6. Ancillary Facilities:

   Ancillary facilities are to be based on well productivity.

7. Well Site Layout:

   The well site will encompass an area of 200'X 275'.

8. Plans for Restoration of Surface:

   When the well is abandoned the location and access road will be cleaned and restored to the original topographical contours as much as possible. The area will be reseeded with appropriate seed mixture.

   If the well is productive, areas not used in production will be contoured and seeded with stipulated seed mixture. Production equipment will be painted to blend with the natural color of the landscape.

9. Lessee's or Operator's Representative:

Brice A. Morgan
Approach Operating, LLC
6500 West Freeway, Suite 800
Fort Worth, Texas 76116
Phone: (817) 989-9000

Brice A. Morgan
Landman

Generic Well Schematic

Approach Operating, LLC
Rio Arriba Well

Rio Arriba Co., NM

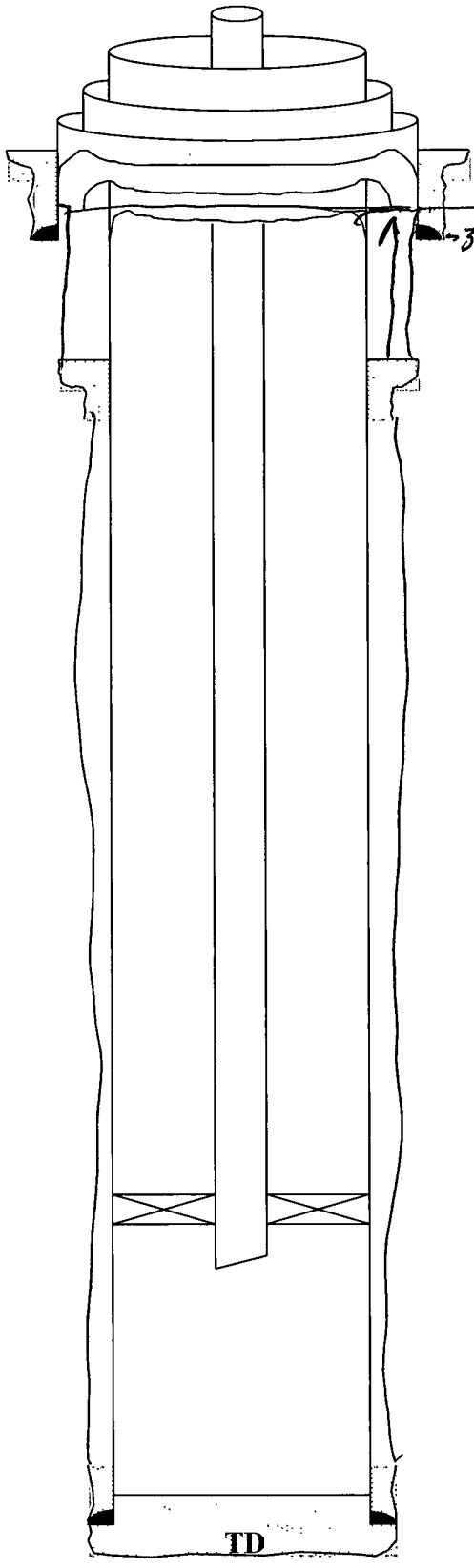
TOC Surface Casing @ Surface

Surface Csg 9 5/8" @ 350'

TOC 250' or higher
350' for Production Csg

Hole Size 12 1/4"

TOC Prodn Csg @ TBD



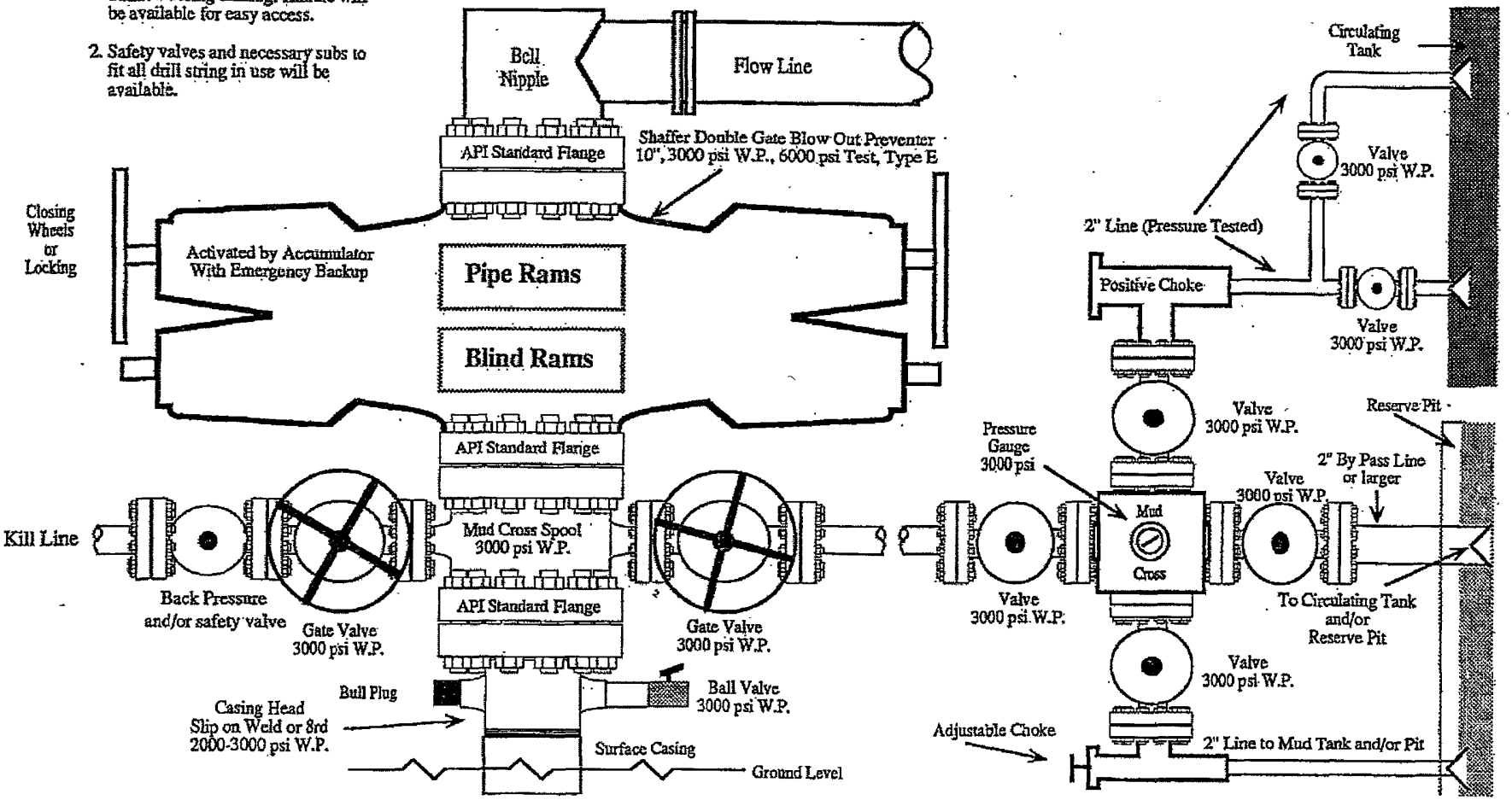
Hole Size 8 3/4"

Production Csg 4 1/2" @ TD

2,000 PSI BOP SYSTEM

Note: 1. An upper Kelly cock valve will be utilized during drilling. Handle will be available for easy access.

2. Safety valves and necessary subs to fit all drill string in use will be available.



Note: This equipment is designed to meet requirements for a 2-M rating standard per 43 CFR part 3160 (amended). Proper operation and testing of equipment will be carried out per standard. 2,000 psi equipment can be substituted in the drawing to meet minimum requirements per standard.

WC Tierra Amarillo Mancos Conditions of Approval

In the Tierra Amarilla area of interest the first good aquifer appears to be the uppermost sand of the Dakota Formation known as the Two Wells Member. The regulatory definition of the vertical limits of the Basin Dakota gas pool includes the Graneros Formation.

Because the depth to the Dakota Formation may vary due to topographic and structural changes from one site to another the TD for the wells assigned to the WC Tierra Amarilla Mancos Oil Pool (97767) is to be limited to the base of the Greenhorn Member of the Mancos Formation or shallower.

This will provide a good barrier between the upper Dakota Formation aquifer and perfed and stimulated zones in the Mancos.

Cement volume for the production casing appears to be inadequate to circulate to surface. Please include enough cement to circulate hole, plus 50% excess. If cement does not circulate, a CBL will be required to show cement top and quality prior to completion.