

**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 Road, 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

**State of New Mexico**  
**Energy Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 South St. Francis Dr.**  
**Santa Fe, NM 87505**

Form C-101  
Revised December 16, 2011

Permit

**RCVD JUL 26 '12**  
**OIL CONS. DIV.**  
**DIST. 3**

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

<sup>1</sup> Operator Name and Address  Koch Exploration Company, LLC PO Box 489, Aztec, NM 87410		<sup>2</sup> OGRID Number 12807
		<sup>3</sup> API Number <b>30-045-35389</b>
<sup>4</sup> Property Code <b>39314</b>	<sup>5</sup> Property Name Bisti 36	<sup>6</sup> Well No 1M

**<sup>7</sup> Surface Location**

UL - Lot D	Section 36	Township 25N	Range 13W	Lot Idn	Feet from 660	N/S Line North	Feet From 925	E/W Line West	County San Juan
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**<sup>8</sup> Pool Information**

Basin Dakota
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**Additional Well Information**

<sup>9</sup> Work Type N	<sup>10</sup> Well Type G	<sup>11</sup> Cable/Rotary R	<sup>12</sup> Lease Type S	<sup>13</sup> Ground Level Elevation 6311'
<sup>14</sup> Multiple N	<sup>15</sup> Proposed Depth 5800'	<sup>16</sup> Formation Dakota	<sup>17</sup> Contractor TBD	<sup>18</sup> Spud Date 10-01-12
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

**<sup>19</sup> Proposed Casing and Cement Program**

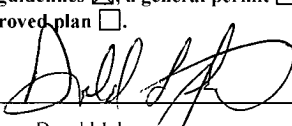

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
SC	12 1/4"	8 5/8"	24.0# K-55 STC	350'	270	Surface
PC	7 7/8"	5 1/2"	15.5# K-55 LTC	5800'	855	Surface

**Casing/Cement Program: Additional Comments**

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**Proposed Blowout Prevention Program**

Type	Working Pressure	Test Pressure	Manufacturer
Double-gated with pipe rams and blind rams with rotation head	3000 psi	250 psi – low pressure 3000 psi – high pressure	

I hereby certify that the information given above is true and complete to the best of my knowledge and belief. <b>I further certify that the drilling pit will be constructed according to NMOCD guidelines <input checked="" type="checkbox"/> a general permit <input type="checkbox"/>, or an (attached) alternative OCD-approved plan <input type="checkbox"/>.</b>		<b>OIL CONSERVATION DIVISION</b>	
Signature 		Approved By  7-27-2012	
Printed name Donald Johnson		Title <b>SUPERVISOR DISTRICT # 3</b>	
Title Operations Manager		Approved Date <b>JUL 30 2012</b>	Expiration Date <b>JUL 30 2014</b>
E-mail Address johnso4d@kochind.com			
Date <b>7/26/12</b>	Phone 505-334-9111	Conditions of Approval Attached <b>MUST HAVE Surface Agreement before spud</b>	

A COMPLETE C-144 MUST BE SUBMITTED TO AND APPROVED BY THE NMOCD FOR: A PIT, CLOSED LOOP SYSTEM, BELOW GRADE TANK, OR PROPOSED ALTERNATIVE METHOD, PURSUANT TO NMOCD PART 19.15.17, PRIOR TO THE USE OR CONSTRUCTION OF THE ABOVE APPLICATIONS.

**JUL 30 2012** *ca*

**NOTIFY AZTEC OCD 24 HRS.  
PRIOR TO CASING & CEMENT**

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## DISTRICT IV

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State of New Mexico  
Energy, Minerals & Natural Resources Department

## OIL CONSERVATION DIVISION

1220 South St. Francis Dr.  
Santa Fe, N.M. 87505

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-045-35389		<sup>2</sup> Pool Code 71599	<sup>3</sup> Pool Name Basin Dakota
<sup>4</sup> Property Code 39314	<sup>5</sup> Property Name BISTI 36		<sup>6</sup> Well Number 1M
<sup>7</sup> GRID No. 12807	<sup>8</sup> Operator Name KOCH EXPLORATION		<sup>9</sup> Elevation 6311

<sup>10</sup> Surface Location

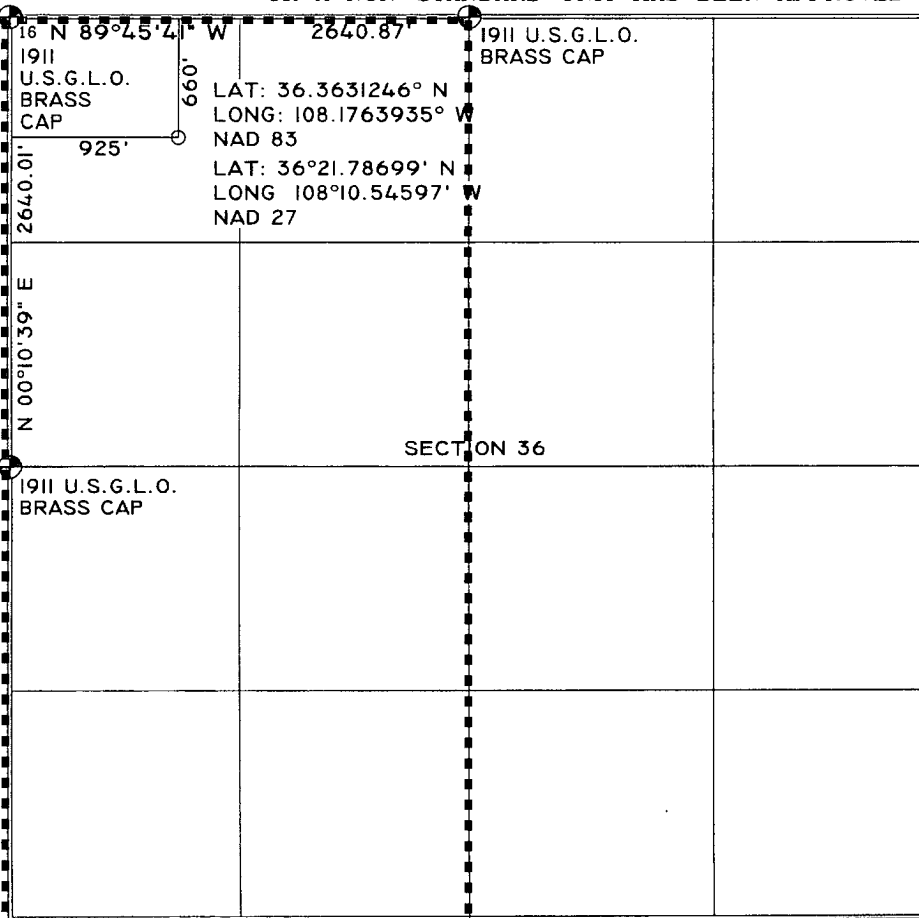
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	36	25 N	13 W		660	NORTH	925	WEST	SAN JUAN

<sup>11</sup> 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

<sup>12</sup> Dedicated Acres 320 W/2	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No
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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

<sup>17</sup> 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: *Donald L. Johnson* Date: 7/26/12  
Printed Name: Donald L. Johnson  
E-mail Address: johnso4d@kochind.com

<sup>18</sup> SURVEYOR CERTIFICATION

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

02/22/12

Date of Survey

Signature and Seal of Professional Surveyor



14831

Certificate Number

3-6-2012

**Bisti 36-1M**

Surface: 660' FNL &amp; 925" FWL, Sec. 36, T25N, R13W (D)

San Juan Co., New Mexico

Lease # ST NM VB-1443-0000

**Drilling Program****1) Formation Tops**

Estimated tops of important geological markers:

	<u>Measured Depth</u>	<u>Sub-sea</u>
Kirtland Shale	360'	5951'
Fruitland Fm	760'	5551'
Fruitland Coal	975'	5336'
Pictured Cliffs	1025'	5286'
Lewis	1210'	5101'
Cliff House	1855'	4456'
Menefee	2385'	3926'
Point Lookout	3445'	2866'
Mancos	3645'	2666'
Gallup	4460'	1851'
Greenhorn	5370'	941'
Graneros	5420'	891'
Dakota	5460'	851'
Morrison	5710'	601'
TD	5800'	

**2) Estimated depths of Notable Zones:**

Water	0' to 975'
Oil and Gas	975' to 5800'

**3) Pressure Control Equipment:**

- a. 10-inch 900 series or 3,000 psi test double gate hydraulic with 4-1/2" pipe rams and cross spool with flanged outlets. See BOP diagram at **Exhibit F-1** for drawing of choke lines, kill lines and choke manifold. Procedures will include waiting on cement 12 hours, nipple up blowout preventer (BOP) assembly and test to 70% of yield of casing or 1000 psi maximum. The production casinghead pressure rating will be 5,000 psi.
- b. Type of BOP rams: Blind rams and pipe rams are used as shown on the BOP diagram at **Exhibit F-1**. Occasionally, the position of the rams is reversed depending on the drilling contractor's methods.
- c. The choke manifold and header will have 2 - 2" choke outlets and a 2" straight through line. A 2" adjustable choke will be installed on each of the choke outlets. The manifold inlet from the drilling spool will be a 2" line. All lines, valves, chokes and fittings will be rated to 3,000 psi. The choke manifold and header system will have manual control valves. No hydraulic valves will be installed. Casing testing procedure – Surface casing will be tested at 1000 psi maximum for 30 minutes, after cementing in place and before drilling out of shoe. Production casing will be tested to 3,800 psi for 30 minutes, after drilling to the required depth, and after cementing in place.

**Bisti 36-1M**

Surface: 660' FNL &amp; 925' FWL, Sec. 36, T25N, R13W (D)

San Juan Co., New Mexico

Lease # ST NM VB-1443-0000

- d. The BOPS are hydraulic controlled.
- e. BOP testing procedures and frequency:  
BOP tests will be performed using an appropriately sized test plug. The test will be performed and recorded using a test pump, calibrated test gauges, and a properly calibrated strip or chart recorder. The test will be recorded in the driller's log and will include a low pressure test of 250 psi held for five minutes and a high pressure test of 3,000 psi for ten minutes as described in Onshore Order No. 2.
- f. Casing head connections will be 2-inch; these outlets will usually be bull plugged during drilling operations. No pumping through these connections is allowed except in emergency to keep from wearing out the head.
- g. The drilling spool will be a series 900 3,000 psi WP with a 2-inch kill line and a 2-inch outlet.

**4) Proposed Casing Program:**

Surface Casing Program:	Hole Size			Depth
Surface Casing	12 1/4"	8 5/8"	24.0# K-55	350'
Production Casing	7 7/8"	5 1/2"	15.5# K-55	5800'

Proposed setting depth, amount and type of cement including additives:

8 5/8" Surface Casing – Surface to 350' – Cement with 270 sks Premium Cement (15.80 ppg, yield 1.17 cf/sk) Cement + 2% Calcium Chloride + .125 lbs/sk. Poly-E-Flake, volume: 316 cf., includes 100% excess. Centralizers will be run on all joints starting at the shoe joint.

5 1/2" Production Liner – Surface to 5800' – 1<sup>st</sup> Stage 3695'-5800' Lead cement with 200 sks. Premium Light + 5 lb/sk Kol-Seal + .125 lb/sk Poly-E-Flake (wt. 12.4 ppg, yield 1.90) volume: 380 cf., includes 40% excess. Tail with 145 sks. Premium Cement + 0.1% Halad(R)-9 + .125 lb/sk Poly-E-Flake (wt 15.8 ppg, yield 1.15) volume: 167 cf. includes no excess. 2<sup>nd</sup> Stage Surface-3695' Lead cement with 460 sks. Lite Premium + 5 lb/sk Kol-Seal + .125 lb/sk Poly-E-Flake (wt. 12.4 ppg, yield 1.93) volume: 888 cf., includes 50% excess. Tail with 50 sks. Premium Cement (wt 15.8 ppg, yield 1.15) volume: 58 cf. includes 50% excess. Centralizers will be run on the bottom 2 joints, then every 10<sup>th</sup> joint thereafter or +/- 400'. (Note: DV tool to be set 50' into Mancos.)

**5) Mud Program:**

0' – 350' – Spud mud and water treated with gel lime.

350' – ~~5800~~ Fresh water gel system, weight 8.5-9.0 ppg 35-45 FV, 8-10 FL, 9.0 pH, viscosity as needed to clean hole.

**6) Testing, Logging, and Coring Program:**

No drill stem tests or cores will be taken. CBL will be run if cement does not circulate to surface on production casing. The following open hole logs will be run:

**Bisti 36-1M**

Surface: 660' FNL &amp; 925' FWL, Sec. 36, T25N, R13W (D)

San Juan Co., New Mexico

Lease # ST NM VB-1443-0000

LOGGING PROGRAM	INTERVAL	SCALES
Gamma Ray	5,800' – Surface	2" & 5"
Platform Express: CNL/Three Detector Density	5,800' – Surface Csg Shoe	2" & 5"
Platform Express: Array Induction Tool	5,800' – Surface Csg Shoe	2" & 5"
Sonic	5,800' – Surface Csg Shoe	2' & 5"
Note: On Platform Express- Change scales when necessary.		
Directional (GPIT)	4,500' – Surface Csg Shoe	

**7) Expected Pressures –**

Basin Dakota 2500 psi

Bottom Hole 2500 psi

No abnormal pressures, temperature or poisonous gas anticipated.

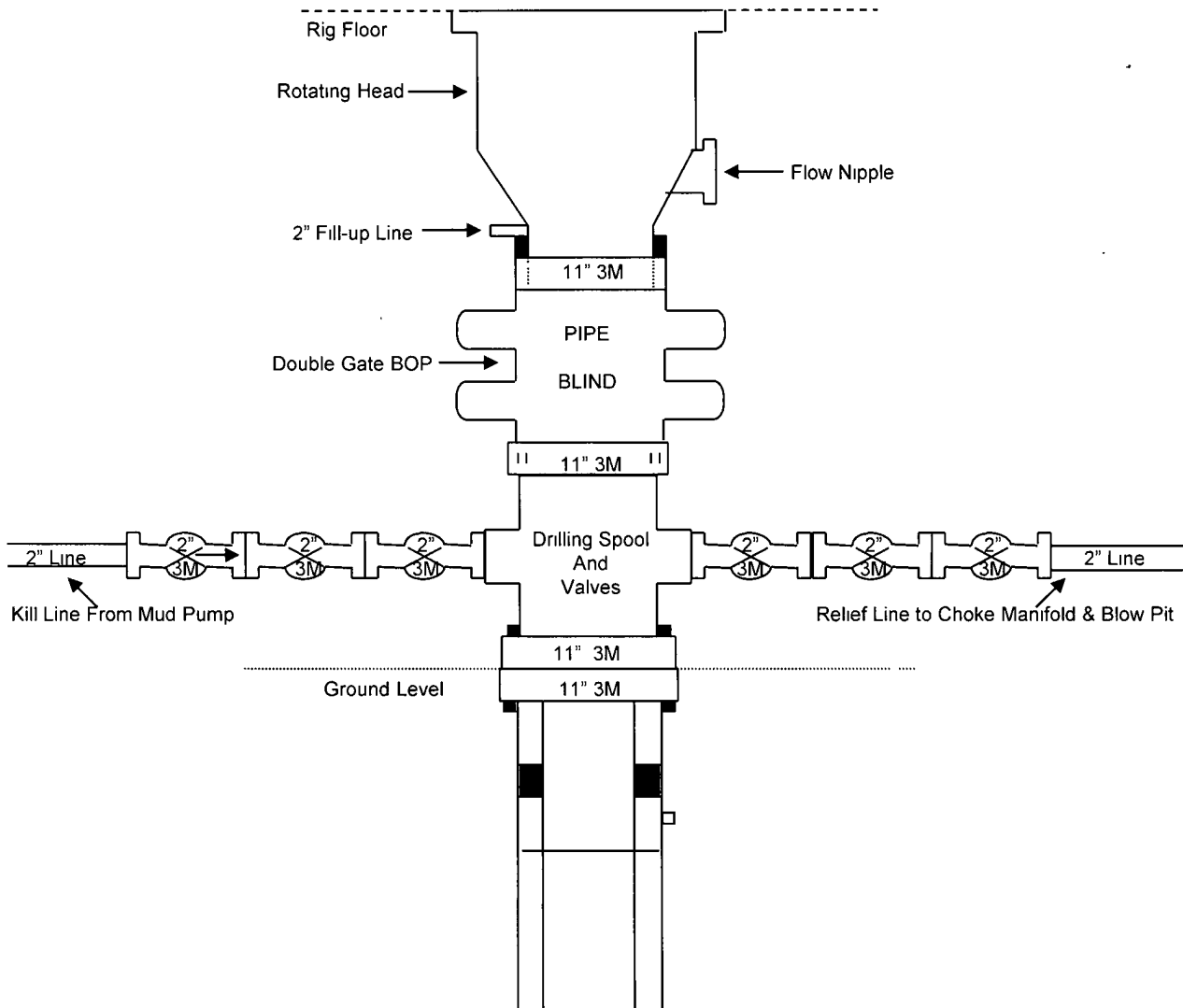
**Anticipated Spud Date:**

October 1, 2012

**Anticipated Completion Date:**

November 1, 2012

## DRILLING RIG 3000 psi System

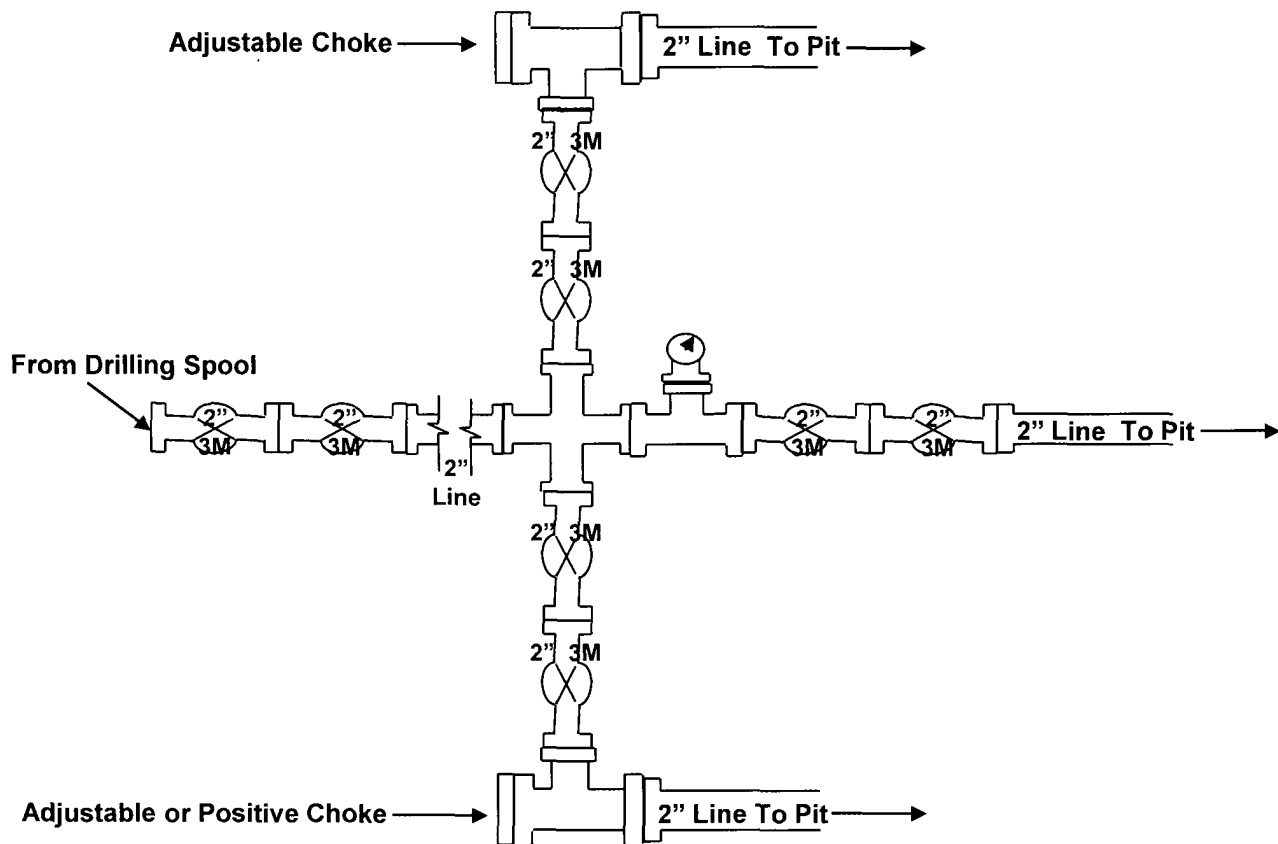


11" Bore (10" Nominal). 3000 psi working pressure minimum double Gate BOP to be equipped with blind and pipe rams. A rotating head On the top of the rams. All BOP equipment is 3000 psi working pressure.

NOTE: A floor safety valve and upper kelly cock with handle will be available.

✓

## Drilling Rig Choke Manifold Configuration 3000 psi System



3000 psi working pressure equipment with two chokes.