

3/26/2014 DATE IN	SUSPENSE	PRG ENGINEER	3/26/2014 LOGGED IN	SWD TYPE	PMAM 140853 APP NO.
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ABOVE THIS LINE FOR DIVISION USE ONLY

**NEW MEXICO OIL CONSERVATION DIVISION**  
- Engineering Bureau -  
1220 South St. Francis Drive, Santa Fe, NM 87505



**ADMINISTRATIVE APPLICATION CHECKLIST**

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

**Application Acronyms:**

**[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]**  
**[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]**  
**[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement] -SWD**  
**[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion] -EOG Resources**  
**[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]**  
**[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response] 7377**

**[1] TYPE OF APPLICATION - Check Those Which Apply for [A]**

**[A] Location - Spacing Unit - Simultaneous Dedication**  
☐ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

**[B] Commingling - Storage - Measurement**  
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

**[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery**  
☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

**[D] Other: Specify \_\_\_\_\_**

**[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or ☐ Does Not Apply**

**[A] ☐ Working, Royalty or Overriding Royalty Interest Owners**

**[B] ☒ Offset Operators, Leaseholders or Surface Owner**

**[C] ☒ Application is One Which Requires Published Legal Notice**

**[D] ☒ Notification and/or Concurrent Approval by BLM or SLO**  
 U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

**[E] ☒ For all of the above, Proof of Notification or Publication is Attached, and/or,**

**[F] ☐ Waivers are Attached**

**[3] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

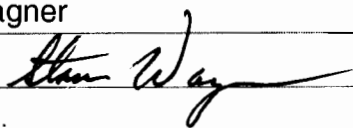
**[4] CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

**Note: Statement must be completed by an individual with managerial and/or supervisory capacity.**

Stan Wagner		Regulatory Analyst	03/18/14
Print or Type Name	Signature	Title	Date
e-mail Address _____			

WAY  
 - DNAGON 36  
 State SWD #11  
 30-025-41615  
 Pool  
 - SWD Delaware  
 96100

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: Secondary Recovery Pressure Maintenance ☒ Disposal Storage  
Application qualifies for administrative approval? ☒ Yes ☐ No
- II. OPERATOR: EOG Resources, Inc.  
ADDRESS: P.O. Box 2267 Midland, TX 79702  
CONTACT PARTY: Stan Wagner PHONE: 432-686-3689
- III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.  
Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? ☐ Yes ☒ No  
If yes, give the Division order number authorizing the project: \_\_\_\_\_
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
  2. Whether the system is open or closed;
  3. Proposed average and maximum injection pressure;
  4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
  5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- \*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- \*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
- \*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- NAME: Stan Wagner TITLE: Regulatory Analyst  
SIGNATURE:  DATE: 03/06/2014  
E-MAIL ADDRESS: \_\_\_\_\_
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted.  
Please show the date and circumstances of the earlier submittal: Item X: type log previously submitted for SWD Order-1359

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: Secondary Recovery Pressure Maintenance X Disposal Storage  
Application qualifies for administrative approval? X Yes No
- II. OPERATOR: EOG Resources, Inc.  
ADDRESS: P.O. Box 2267 Midland, TX 79702  
CONTACT PARTY: Stan Wagner PHONE: 432-686-3689
- III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.  
Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? Yes X No  
If yes, give the Division order number authorizing the project: \_\_\_\_\_
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
  2. Whether the system is open or closed;
  3. Proposed average and maximum injection pressure;
  4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
  5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- \*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- \*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
- \*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- NAME: Stan Wagner TITLE: Regulatory Analyst  
SIGNATURE: Stan Wagner DATE: Revised 5/13/14  
E-MAIL ADDRESS: stan.wagner@eogresources.com
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: Item X: type log previously submitted for SWD Order-1359

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

*No change in injection interval*

APPLICATION FOR AUTHORIZATION TO INJECT  
DRAGON 36 STATE SWD NO. 11

VII. PROPOSED OPERATION

- (1) Proposed Average Daily Rate and Volume: 5200 BWIPD  
Proposed Maximum Daily Rate and Volume: 10000 BWIPD
- (2) Open or Closed System: Closed
- (3) Proposed Average Injection Surface Pressure: 1000 psi  
Proposed Maximum Injection Surface Pressure: ~~2600 psi~~  
Delaware formation BHP ~5000 psi
- (4) Produced Bone Spring Formation Water (see attached analysis)
- (5) N/A

1040 psi  
w/o SPT

VIII. GEOLOGIC DATA ON INJECTION ZONE

Injection Zone: Delaware Sandstone Perfs 5200' – 7800'  
Lithologic Detail: Fine grain sandstone  
Geological Name: Delaware Mountain Group (Guadalupean)  
Thickness: Delaware – 3730'  
Depth: Top of Delaware at 3200'  
Underground Sources of Drinking Water:

Fresh water sources in the immediate area have been encountered in aquifers above 250'. These aquifers are found in the Pliocene age Ogallala and Pleistocene age alluvial sediments and consist for the most part of alternating calcareous silt, fine sand and clay. There are no other sources of fresh water underlying the injection interval.

- mud log  
- water quality - Perms  
- OBL if  
cannot not circulated

IX. PROPOSED STIMULATION

72 bbls Acetic Acid across perforations

X. LOGGING AND TESTING DATA ON INJECTION WELL

Logs have been previously submitted for this well.

XI. CHEMICAL ANALYSIS OF WATER FROM FRESH WATER WELLS  
WITHIN ONE MILE OF THE INJECTION WELL

A review of the State Engineer data base finds eight freshwater well permits within a one mile radius of the injection well.

9 HSA boreholes / all P&A'd - TO 75' to 100'  
However, a physical search of the area revealed no freshwater wells within the one mile radius.

XII. Available geologic and engineering data has been examined and no evidence has been found of open faults or any other hydrologic connection between the injection zone and any underground source of drinking water.

XIII. See attached "Proof of Notice".

Surface Owner:

State of New Mexico Land Office  
310 Old Santa Fe Trail  
Santa Fe, NM 87504

Operators within a ½ mile radius of the proposed injector:

EOG Resources, Inc.  
P.O. Box 2267  
Midland, TX 79702

Side 1

## INJECTION WELL DATA SHEET

05/13/2014  
Change

OPERATOR: EOG Resources, Inc.

WELL NAME &amp; NUMBER: Dragon 36 State SWD 11

WELL LOCATION: 720' FNL &amp; 1760' FWL

C

36

24S

33E

FOOTAGE LOCATION

UNIT LETTER

SECTION

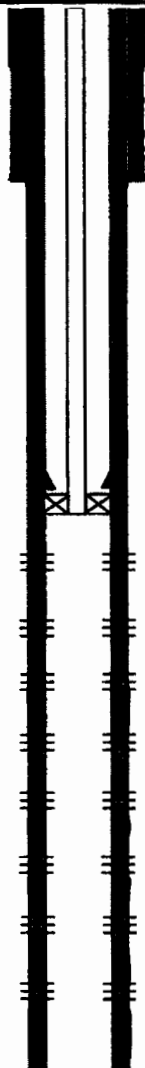
TOWNSHIP

RANGE

WELLBORE SCHEMATICWELL CONSTRUCTION DATASurface Casing

Bit Size: 12-1/4"

9-5/8", 40#, J-55, STC 0' - 1,230'



DV Tool w/ ECP @ -5,100'

3-1/2" Tubing & Injection  
Packer @ -5,200'Delaware  
Top 5200'

Injection Interval -5,200' - 7,800'

Bit Size: 8-3/4"

7" 26# HCL-80 LTC 0' - 7,800'

PTD -7,800'

Hole Size: 12-1/4"

Casing Size: 9-5/8"

Cemented with: 700 C SX.

or ft<sup>3</sup>

Top of Cement: Surface

Method Determined: Circulation

Intermediate Casing

Hole Size: "

Casing Size: None

Cemented with: SX.

or ft<sup>3</sup>

Top of Cement: "

Method Determined: "

Production Casing

Hole Size: 8-3/4"

Casing Size: 7"

Cemented with: 900 C, 400 H SX.

or ft<sup>3</sup>

Top of Cement: Surface

Method Determined: Circulation

Total Depth: 7800

Injection Interval

5200 feet to 7800

(Perforated or Open Hole; indicate which)

05/13/2014

**INJECTION WELL DATA SHEET**

Tubing Size: 3-1/2" Lining Material: Plastic Coated  
Type of Packer: 5-1/2" Plastic Coated / Nickel Plated Injection Packer  
Packer Setting Depth: +/- 5200'  
Other Type of Tubing/Casing Seal (if applicable): \_\_\_\_\_

**Additional Data**

1. Is this a new well drilled for injection? X Yes        No  
If no, for what purpose was the well originally drilled? \_\_\_\_\_  
\_\_\_\_\_
2. Name of the Injection Formation: Delaware
3. Name of Field or Pool (if applicable): SWD; Delaware
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. \_\_\_\_\_  
\_\_\_\_\_
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: \_\_\_\_\_  

Bone Spring	9254'
3rd Bone Spring Sand	11908'

  
\_\_\_\_\_

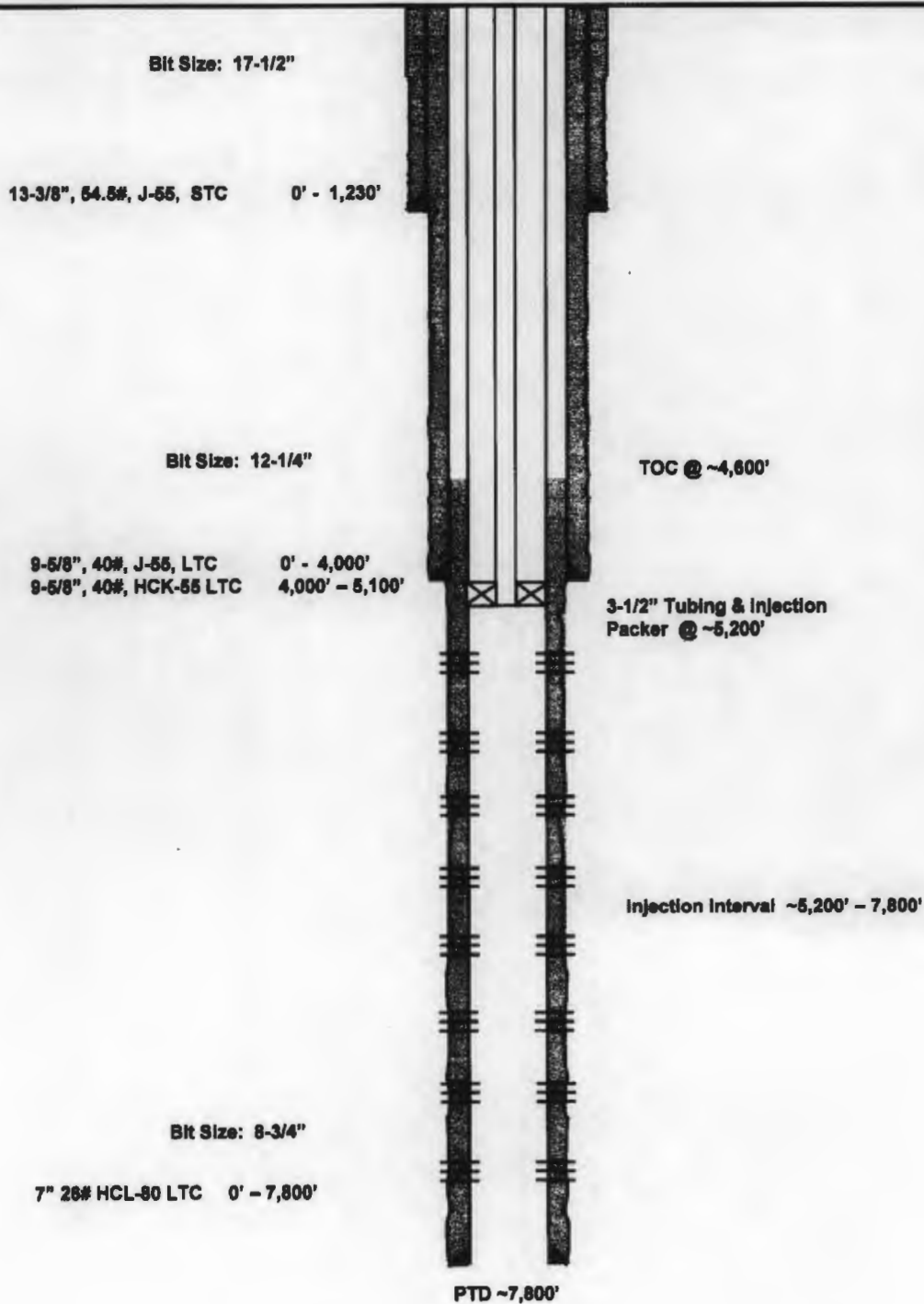
**Dragon 36 State SWD #11  
Lea County, New Mexico**

**720' FNL  
1760' FWL  
Section 36  
T-24-S, R-33-E**

**Proposed Wellbore**

**API: 30-025-41615**

**KB: 3551'  
GL: 3521'**



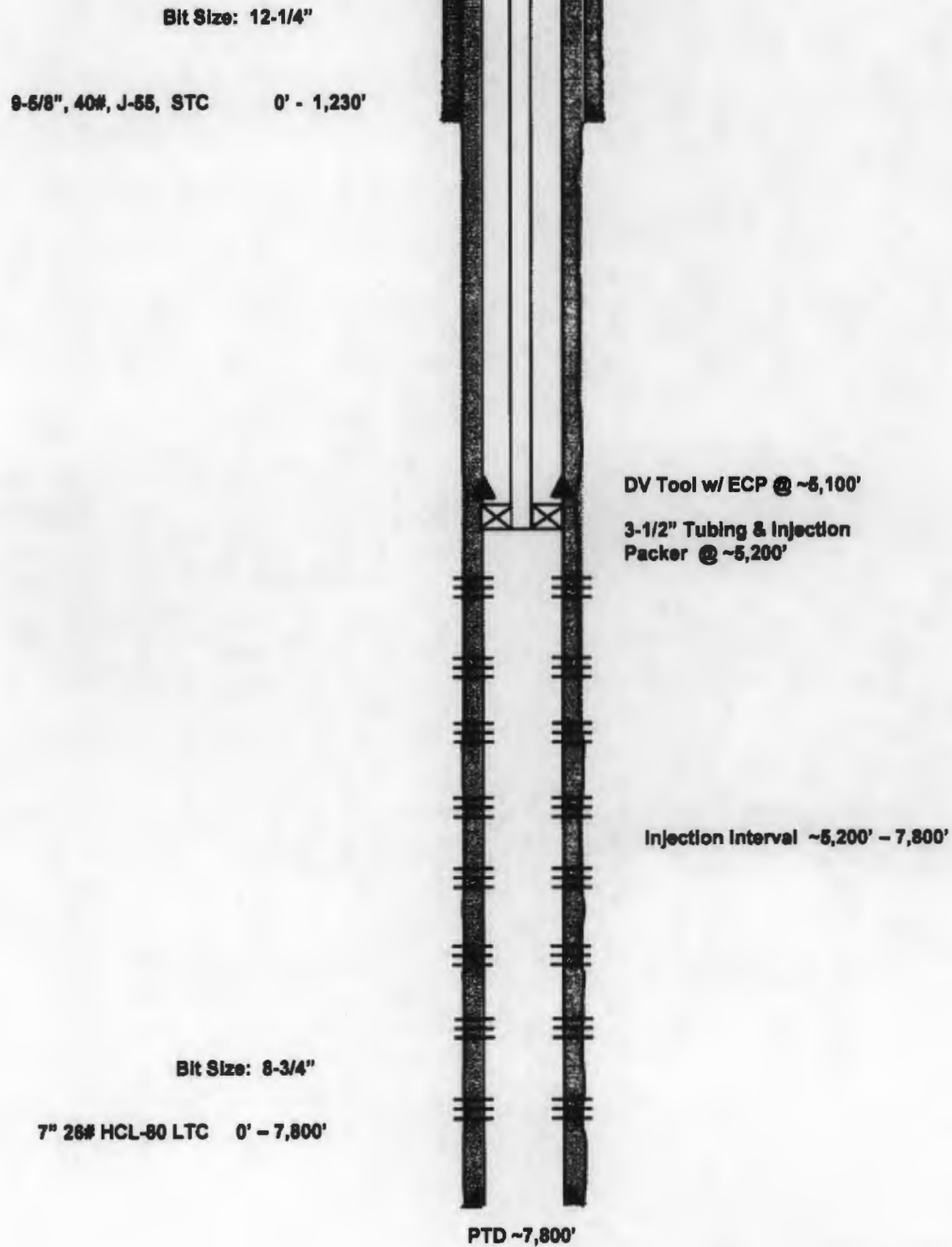


**Dragon 36 State SWD #11  
Lea County, New Mexico  
Revised  
Proposed Wellbore**

**720' FNL  
1760' FWL  
Section 36  
T-24-S, R-33-E**

**API: 30-025-41615**

**KB: 3551'  
GL: 3521'**



EOG Resources, Inc. proposes to drill this well utilizing 2 hole sections.

1. Drill 12-1/4" hole size to 1,230', using FW Mud.
2. Run and cement 9-5/8" 40# J-55 STC casing and cement to surface.
3. Drill 8-3/4" hole to TD @ 7,800', using Oil Base Mud.
4. Run 7" 26# HCL-80 LTC casing w/ DV Tool w/ ECP @ 5,100'
5. Cement via 2 Stage to surface.

No other changes to the approved APD are necessary.

Anticipated Spud date is 6/20/14.

**Revised Permit Information:**

Well Name: Dragon 36 State SWD No. 11

Location:

SL: 720' FNL &amp; 1,760' FWL, Section 36, T-24-S, R-33-E, Lea Co., N.M.

**Casing Program:**

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF <sub>min</sub> Collapse	DF <sub>min</sub> Burst	DF <sub>min</sub> Tension
12.25"	0 - 1,230'	9.625"	40#	J55	STC	1.125	1.25	1.60
8.750"	0'-7,800'	7"	26#	HCL80	LTC	1.125	1.25	1.60

**Cement Program:**

Depth	No. Sacks	Wt. ppg	Yld Ft <sup>3</sup> /ft	Slurry Description
1,230'	500	13.5	1.73	Lead: Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% CaCl <sub>2</sub> + 0.25 lb/sk Cello-Flake (TOC @ surface)
	200	14.8	1.34	Tail: Class C + 0.005 pps Static Free + 2% CaCl <sub>2</sub> + 0.25 pps CelloFlake + 0.005 gps FP-6L
5,100' DV Tool w/ ECP	800	12.7	2.22	<b>Stage 2 Lead:</b> Class C + 2% SMS + 0.8% R-3 + 0.25 pps CelloFlake + 0.005 pps Static Free (TOC @ surface)
	100	14.8	1.32	<b>Stage 2 Tail:</b> Class 'C' + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free
7,800'	200	11.8	2.380	<b>Stage 1 Lead:</b> 50:50:10 Class 'H' + 0.80% FL-52A + 0.50% ASA-301 + 1.30% SMS + 2.00% Salt (2.224 lb/sk) + 0.70% R-21 + 3.00 lb/sk LCM-1 + 0.25 lb/sk Cello Flake
	200	14.2	1.277	<b>Stage 1 Tail:</b> 50:50:2 Class 'H' + 0.65% FL-52 + 0.20% CD-32 + 0.15% SMS + 2.00% Salt (0.962 lb/sk) + 0.05% R-3

**Mud Program:**

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 - 1,230'	Fresh - Gel	8.6-8.8	28-34	N/c
1,230' - 7,800'	DOBM	8.5-9.0	28-34	10



# New Mexico Office of the State Engineer

## Active & Inactive Points of Diversion

(with Ownership Information)

(R=POD has been replaced  
and no longer serves this file, (quarters are 1=NW 2=NE 3=SW 4=SE)  
C=the file is closed) (quarters are smallest to largest) (NAD83 UTM in meters)

(acre ft per annum)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Code	Grant	Source	q	q	q	6416	4	Sec	Tws	Rng	X	Y	Distance
C 03601		GEO		0 INTERCONTINENTAL POTASH CORP	LE	C 03601 POD4	Auger BH's		Shallow	3	3	3	24	24S	33E			638161	3561375	539
C 03603		GEO		0 INTERCONTINENTAL POTASH CORP	LE	C 03603 POD1			Shallow	3	2	2	35	24S	33E			637804	3561225	885
C 03600		GEO		0 INTERCONTINENTAL POTASH CORP	LE	C 03600 POD2			Shallow	4	4	1	25	24S	33E			638824	3562329	1074
C 03602		GEO		0 INTERCONTINENTAL POTASH CORP	LE	C 03602 POD2			Shallow	4	4	1	25	24S	33E			638824	3562329	1074
C 03600		GEO		0 INTERCONTINENTAL POTASH CORP	LE	C 03600 POD5			Shallow	3	2	4	26	24S	33E			637857	3562020	1125
C 03603		GEO		0 INTERCONTINENTAL POTASH CORP	LE	C 03603 POD4			Shallow	3	2	4	35	24S	33E			637789	3560461	1205
					LE	C 03603 POD2			Shallow	3	1	2	35	24S	33E			637384	3561167	1308
C 03600		GEO		0 INTERCONTINENTAL POTASH CORP	LE	C 03600 POD3		Shallow	3	4	2	26	24S	33E			637784	3562340	1406	
					LE	C 03600 POD6		Shallow	3	1	4	26	24S	33E			637382	3562026	1513	

Auger BH's

Record Count: 9

POD Search:

POD Basin: Carlsbad

UTMNAD83 Radius Search (in meters):

Easting (X): 638689.33

Northing (Y): 3561263.19

Radius: 1609

Sorted by: Distance

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

6/5/14 9:06 AM

Page 1 of 1

ACTIVE & INACTIVE POINTS OF DIVERSION



# New Mexico Office of the State Engineer Water Column/Average Depth to Water

(A CLW##### in the  
POD suffix indicates the  
POD has been replaced  
& no longer serves a  
water right file.)

(R=POD has  
been replaced,  
O=orphaned,  
C=the file is  
closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	POD		County	Q Q Q Q				Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
	Sub-	Code		64	16	4	4								
C 02309			LE	2	2	2	25	24S	33E		639638	3562994*	60	30	30
BH-17 C 03600 POD2			LE	4	4	1	25	24S	33E		638824	3562329			
BH-18 C 03602 POD2			LE	4	4	1	25	24S	33E		638824	3562329			

Average Depth to Water: 30 feet

Minimum Depth: 30 feet

Maximum Depth: 30 feet

Record Count: 3

PLSS Search:

Section(s): 25

Township: 24S

Range: 33E

UTM x = 638689.33 / y = 3561263.19 1609m radius

9 wells - all IPC / all exploratory / shallow

C03601 → 75' TD to 100' TD / P&A'd - no water  
multi wells (7)

C03602 - 75' TD / P&A'd - no water

C03600 - 75' TD / P&A'd - BH-10, 17, 19, 20, 21, 22

\*UTM location was derived from PLSS - see Help

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# New Mexico Office of the State Engineer Water Column/Average Depth to Water

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(R=POD has  
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O=orphaned,  
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closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	POD		Q Q Q				Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
	Sub-	basin	64	16	4	4								
C 03600 POD1		LE	2	2	1	26	24S	33E		637275	3563023			
C 03600 POD3		LE	3	4	2	26	24S	33E		637784	3562340			
C 03600 POD4		LE	3	3	1	26	24S	33E		636617	3562293			
C 03600 POD5		LE	3	2	4	26	24S	33E		637857	3562020			
C 03600 POD6		LE	3	1	4	26	24S	33E		637383	3562026			
C 03600 POD7		LE	3	1	3	26	24S	33E		636726	3561968			

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

**Record Count: 6**

**PLSS Search:**

**Section(s): 26**

**Township: 24S**

**Range: 33E**

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# New Mexico Office of the State Engineer Water Column/Average Depth to Water

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(R=POD has  
been replaced,  
O=orphaned,  
C=the file is  
closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	POD Sub- Code	basin	County	Q Q Q			Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
				64	16	4								
C 03603 POD1			LE	3	2	2	35	24S	33E	637805	3561225			
C 03603 POD2			LE	3	1	2	35	24S	33E	637384	3561167			
C 03603 POD3			LE	4	1	1	35	24S	33E	636890	3561092			
C 03603 POD4			LE	3	2	4	35	24S	33E	637789	3560461			
C 03603 POD5			LE	3	3	2	35	24S	33E	636745	3560767			
C 03603 POD6			LE	3	1	3	35	24S	33E	636749	3560447			

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

**Record Count: 6**

**PLSS Search:**

Section(s): 35

Township: 24S

Range: 33E

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

709 W. INDIANA  
MIDLAND, TEXAS 79701  
FAX (432) 682-8819

LABORATORY NO. 607-158 (pg 2)  
SAMPLE RECEIVED 6-18-07  
RESULTS REPORTED 6-22-07 ☒

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0600	1.0488	1.1671	1.0625
pH When Sampled				
pH When Received	7.13	6.39	5.56	6.57
Bicarbonate as HCO <sub>3</sub>	85	183	24	122
Supersaturation as CaCO <sub>3</sub>				
Undersaturation as CaCO <sub>3</sub>				
Total Hardness as CaCO <sub>3</sub>	12,000	10,200	70,000	12,400
Calcium as Ca	4,000	3,120	23,200	3,920
Magnesium as Mg	486	583	2,916	632
Sodium and/or Potassium	33,659	25,998	77,526	35,661
Sulfate as SO <sub>4</sub>	970	475	243	697
Chloride as Cl	59,640	46,860	168,980	63,190
Iron as Fe	80	153	91	86
Barium as Ba	0	0	0	0
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	98,840	77,219	272,889	104,222
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0	0.0	0.0	0.0
Resistivity, ohmcm at 77° F.	0.095	0.114	0.048	0.091
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				

Additional Determinations And Remarks



709 W. INDIANA  
MIDLAND, TEXAS 79701  
PHONE 683-4521

LABORATORY NO. 598173  
SAMPLE RECEIVED 5-19-98  
RESULTS REPORTED 5-20-98

Waylan C. Martin, M.A.

709 W. INDIANA  
MIDLAND, TEXAS 79701  
FAX (432) 682-8819

### RESULT OF WATER ANALYSES

TO: Mr. Hal Crabb  
P.O. Box 2267, Midland, Texas 79702

ANALYSES	1103-109
LABORATORY NO.	11/19/03
SAMPLE RECEIVED	11/21/03
RESULTS REPORTED	

COMPANY EOG Resources, Inc. LEASE Red Hills North Unit #209  
FIELD OR POOL Pitchfork Ranch  
SECTION        BLOCK        SURVEY        COUNTY Lea STATE Texas

**SOURCE OF SAMPLE AND DATE TAKEN:**

**SAMPLE AND DATE TAKEN:**  
**Produced water - taken from Red Hills North Unit #209.**

Produced water - taken from Red Hills North Unit #209.

NO. 1 \_\_\_\_\_

NO. 2 \_\_\_\_\_

NO. 3 \_\_\_\_\_

NO. 4 \_\_\_\_\_

## REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0610			
pH When Sampled				
pH When Received	6.84			
Bicarbonate as HCO <sub>3</sub>	329			
Supersaturation as CaCO <sub>3</sub>				
Undersaturation as CaCO <sub>3</sub>				
Total Hardness as CaCO <sub>3</sub>	10,200			
Calcium as Ca	3,520			
Magnesium as Mg	340			
Sodium and/or Potassium	31,819			
Sulfate as SO <sub>4</sub>	956			
Chloride as Cl	55,395			
Iron as Fe	156			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	92,359			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0			
Resistivity, ohm-m at 77° F.	0.10			
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks  
the Red Hills field.

This analysis correlates well with our recorded Bone Springs in

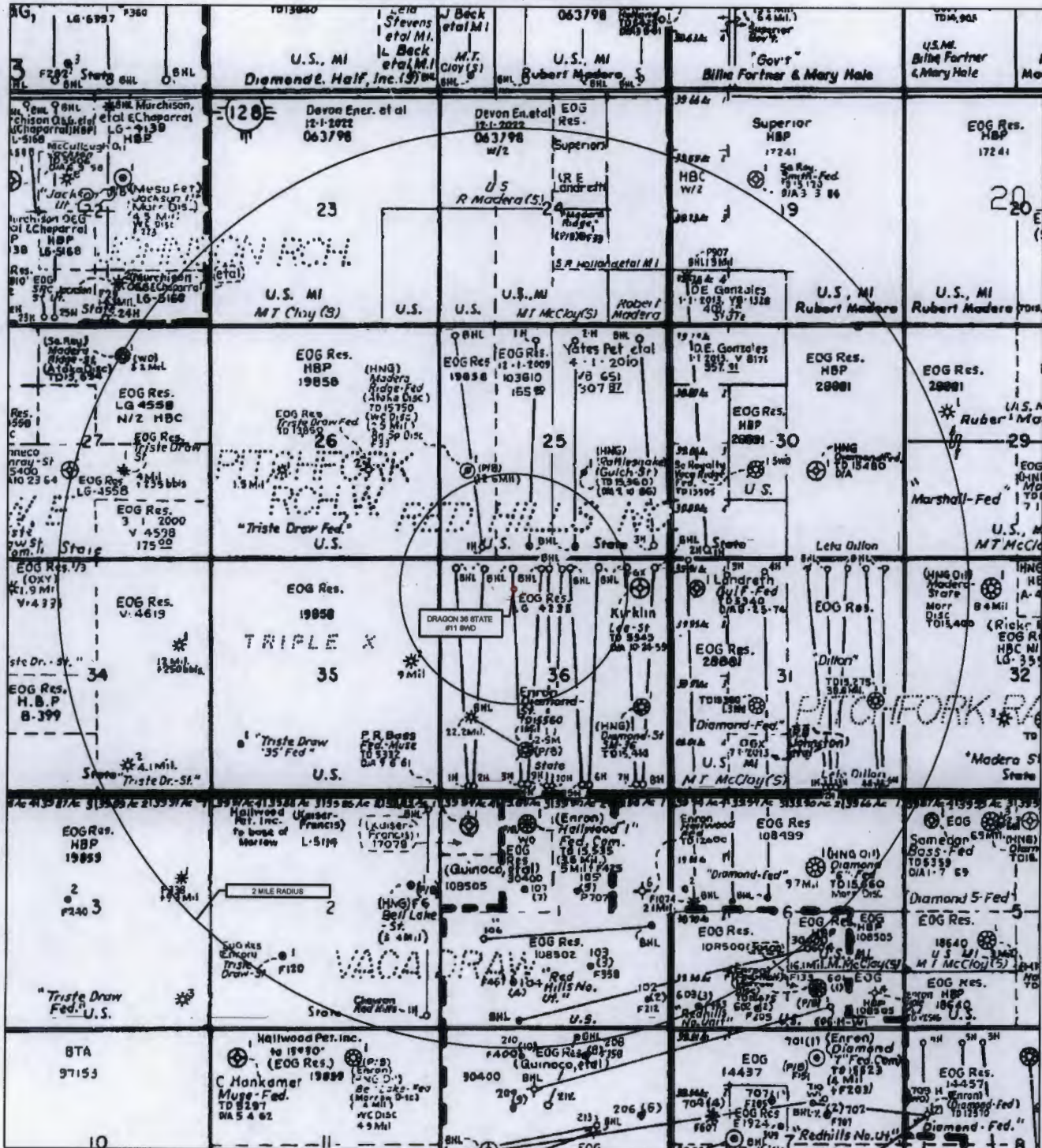


# EXHIBIT 3



**EOG resources, inc.**

SECTION 36, TOWNSHIP 24 SOUTH, RANGE 33 EAST, N.M.P.M.  
LEA COUNTY, NEW MEXICO



LEASE NAME & WELL NO.: DRAGON 36 STATE #11 SWD

SCALE: NTS

#11 LATITUDE N 32.1792186

#11 LONGITUDE W 103.5284180

## LEGEND

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

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

- EXISTING ROAD
- SECTION LINE
- EXISTING PIPELINE
- OVERHEAD ELECTRIC
- FENCE LINE



**TOPOGRAPHIC**  
LOYALTY INNOVATION LEGACY

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





**EOG Resources, Inc**  
**1/2 Mile Area of Review**  
**Application for Authorization to Inject Dragon 36 State SWD No.1**

Operator	Lease/Well	Status	Location	Spud Date	TMD	Size	Surface Casing		Production Casing			Producing Perfs
							Depth	Cement	Size	Depth	Cement	
EOG Resources	Falcon 25 Fed 1H	Producer	U/L C 25-24S-33E	11/30/2009	13685	13-3/8	1262	1175 C	5-1/2	13673	200 C, 1825 H	9860 - 13550
EOG Resources	Falcon 25 Fed 2H	Drilling	U/L M 25-24S-33E	2/18/2014	14969*	13-3/8	1347	900 C	5-1/2		375 C, 1825 H*	NA
EOG Resources	Hawk 25 Fed 1H	Proposed	U/L M 25-24S-33E	Not Drilled	14172*	13-3/8	1315*	900 C*	5-1/2	14172*	375 C, 1700 H*	NA
EOG Resources	Hawk 25 Fed 2H	Proposed	U/L M 25-24S-33E	Not Drilled	14046*	13-3/8	1315*	900 C*	5-1/2	14046*	375 C, 1700 H*	NA
EOG Resources	Hawk 35 Fed 9H	Proposed	U/L A 35-24S-33E	Not Drilled	14842*	13-3/8	1300*	900 C*	5-1/2	14842*	375 C, 1825 H*	NA
EOG Resources	Hawk 35 Fed 10H	Proposed	U/L A 35-24S-33E	Not Drilled	14874*	13-3/8	1300*	900 C*	5-1/2	14874*	375 C, 1825 H*	NA
EOG Resources	Sidecut 35 Fed 9H	Proposed		Not Drilled		13-3/8	1300*		5-1/2			NA
EOG Resources	Sidecut 35 Fed 10H	Proposed		Not Drilled		13-3/8	1300*		5-1/2			NA
EOG Resources	Dragon 36 State 1H	Proposed	U/L M 36-24S-33E	Not Drilled	14147*	13-3/8	1260*	700 C*	5-1/2	14147*	375 C, 1700 H*	NA
EOG Resources	Dragon 36 State 2H	Proposed	U/L M 36-24S-33E	Not Drilled	14143*	13-3/8	1260*	700 C*	5-1/2	14143*	375 C, 1700 H*	NA
EOG Resources	Dragon 36 State 3H	Proposed	U/L N 36-24S-33E	Not Drilled	14372*	13-3/8	1230*	700 C*	5-1/2	14372*	375 C, 1750 H*	NA
EOG Resources	Dragon 36 State 4H	Proposed	U/L N 36-24S-33E	Not Drilled	14131*	13-3/8	1230*	700 C*	5-1/2	14131*	375 C, 1700 H*	NA
EOG Resources	Dragon 36 State 5H	Proposed	U/L O 36-24S-33E	Not Drilled	14130*	13-3/8	1230*	700 C*	5-1/2	14130*	375 C, 1700 H*	NA
EOG Resources	Dragon 36 State 6H	Proposed	U/L O 36-24S-33E	Not Drilled	14368*	13-3/8	1230*	700 C*	5-1/2	14368*	375 C, 1750 H*	NA
EOG Resources	Dragon 36 State 7H	Proposed	U/L P 36-24S-33E	Not Drilled	14142*	13-3/8	1230*	700 C*	5-1/2	14142*	375 C, 1700 H*	NA
EOG Resources	Dragon 36 State 9H	Proposed	U/L N 36-24S-33E	Not Drilled	14124*	13-3/8	1230*	700 C*	5-1/2	14124*	375 C, 1700 H*	NA
EOG Resources	Dragon 36 State 10H	Proposed	U/L N 36-24S-33E	Not Drilled	14261*	13-3/8	1230*	700 C*	5-1/2	14261*	375 C, 1700 H*	NA

\*Drill Plan

# CURRENT WELL SKETCH


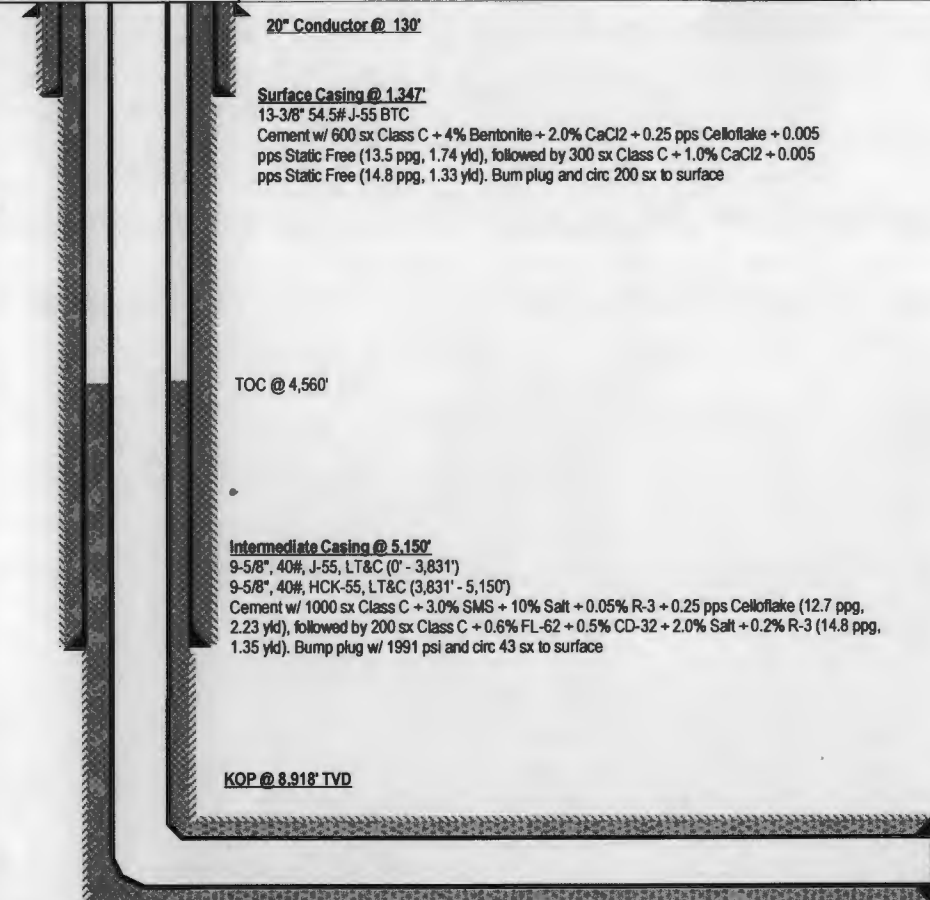
DEPTH (ft)	MARKERS (KB)	LITHOLOGY	OGRID: API: 30-025-39560 AFE: 104419 SPUD: 11/30/09 @ 20:00 hrs FRR: 2/5/10 @ 20:00 hrs RIG: United #29 / Cactus #123	Falcon 25 Fed #1H Red Hills Field Lea County, New Mexico	SURF: 330' FNL & 2210' FWL LOC: Sec. 25 SURVEY: T-24-S, R-33-E GL: 3567' KB: 3597' ZERO: 30.0' AGL	HOLE SIZE	MW (ppg)	MUD	BHST (°F)	LOT (ppg)	EVALUATION
1,000'	Rustler - 1210'	Salt	<b>20" Conductor @ 91'</b>  <b>Surface Casing @ 1245'</b> 13-3/8" 54.5# J-55 STC Cement w/ 875 sx Class C + 4% Gel + 2% CaCl <sub>2</sub> (13.5 ppg, 1.74 yld), followed by 300 sx Class C + 0.6% FL-62 + 0.2% SMS + 2% KCL + 0.25 pps Celloflake (14.8 ppg, 1.35 yld). Bump plug to 1053 psi and circ 397 sx to pit.			17-1/2"	8.4	FW	86		Mud Log
3,000'			<b>Preliminary Directional Plan:</b> KOP: ±8,942' md / tvd BUR: 12.00' / 100' in 8-3/4" hole EOC: 9692' md / 9,420' tvd EOL: 13,839' md / 9,420' tvd			12-1/4"	10.0	Saturated Brine Water	NA		Mud Log
5,000'	Base Salt - 5100' Delaware - 5270'		<b>Intermediate Casing @ 5167'</b> 9-5/8", 40#, J-55, LT&C to 4,066' 9-5/8", 40#, HCK-55, LT&C 4066' to 5,167' Cement w/ 1300 sx Class C + 2.0% SMS + 1.25% R-3 + 0.25 pps Celloflake + 0.005 pps Static free (12.7 ppg, 2.007 yld), followed by 200 sx Class C + 1.0% CaCl <sub>2</sub> + 0.45% R-3 + 0.005 pps Static free (14.8 ppg, 1.337 yld). Bump plug w/ 2050 psi and circ 436 sx to pit						117		
7,000'	Cherry Canyon - 6310' Cherry Canyon Mkr - 6540'		<b>Production Liner @ 13,673' MD</b> 5-1/2" 17# HCP110 LTC cement w/ 200 sx 60:40 Class C + 15 pps BA-90 + 4% MPA-5 + 3% SMS + 5% A-10 + 1% BA-10 + 0.8% ASA-301 + 2.1% R-21 + 8 pps LCM + 0.01 gps FP-13L, followed by 650 sx 50:50:10 Class H + 0.8% FL-52A + 0.3% SMS + 2% Salt + 0.35% R-21 + 0.25 pps Celloflake + 0.005 pps Static Free, followed by 1175 sx 50:50:2 Class H + 0.65% FL-52A + 0.2% CD-32 + 0.15% SMS + 2% Salt + 0.2% R-3 + 0.005 pps Static Free. Bump plug w/ 2346 psi. Floats did not hold. Pressure up to 2500 psi and shut in casing					Fresh Water	10.0		
9,000'	Top Leonard Shale - 9040' Base Leonard Shale - 9,215' Bone Spring Lime - 9,215'					8-3/4"		WBM			
10,000'	Bone Spring Lm Mkr - 9,620'		<b>Cement KO Plug @ -8,640' - 9,315'</b> 400 sx Class H + 1.2% CD-31 + 5% Salt + 0.13% R-3			8-3/4"	9.0	XCD & PAC	156	N/A	Mud Log & FMI
11,000'	1st Bone Spring Sand - 10,180' 2nd Bone Spring Lime - 10,500' 2nd Bone Spring Sand - 10,870' PTD - ~11,000'		<b>Cement Plug @ 11,000' - 10,665' Tag</b> 150 sx Class H + 1.2% CD-31 + 5% Salt + 0.10% R-3						170		
			<b>Pilot Hole TD @ 11,000'</b>								

Drig Eng: SLM  
Date: 2/8/2010



KC


# CURRENT WELL SKETCH

DEPTH (ft)	MARKERS (KB)	LITHOLOGY	OGRID: 7377 API: 30-025-41494 AFE: 105338 SPUD: 1/8/14 @ 05:30 hrs FRR: 1/30/14 @ 09:30 hrs RIG: Nomac #133	Hawk 25 Fed #1H Red Hills Field Lea County, New Mexico	SURF: 250' FSL & 990' FWL LOC: Sec. 25 SURVEY: T-24-S, R-33-E GL: 3368.0' KB: 3390.5' ZERO: 22.5' AGL	HOLE SIZE	MW (ppg)	MUD	BHST (°F)	LOT (ppg)	EVALUATION		
2,000'	Rustler - 1200'			20" Conductor @ 130'		17-1/2"	8.6	FW	86	N/A			
	T/ Salado - 1347'					9.0							
3,000'				Salt		Surface Casing @ 1,347' 13-3/8" 54.5# J-55 BTC Cement w/ 600 sx Class C + 4% Bentonite + 2.0% CaCl2 + 0.25 pps Celloflake + 0.005 pps Static Free (13.5 ppg, 1.74 yd), followed by 300 sx Class C + 1.0% CaCl2 + 0.005 pps Static Free (14.8 ppg, 1.33 yd). Burn plug and circ 200 sx to surface		12-1/4"	10.0	Brine		NA	
5,000'	B / Salado - 5044'												
	Lamar - 5300'												
	Bell Canyon - 5331'												
6,000'						TOC @ 4,560'							
	Cherry Canyon - 6323'												
7,000'						Intermediate Casing @ 5,150' 9-5/8", 40#, J-55, LT&C (0' - 3,831') 9-5/8", 40#, HCK-55, LT&C (3,831' - 5,150') Cement w/ 1000 sx Class C + 3.0% SMS + 10% Salt + 0.05% R-3 + 0.25 pps Celloflake (12.7 ppg, 2.23 yd), followed by 200 sx Class C + 0.6% FL-62 + 0.5% CD-32 + 2.0% Salt + 0.2% R-3 (14.8 ppg, 1.35 yd). Bump plug w/ 1991 psi and circ 43 sx to surface		10.2					
8,000'	Brushy Canyon - 7735'						8.4	WBM		117	N/A		
			KOP @ 8,918' TVD										
9,000'	Leonard - 9110'												
	Bone Spring Lime - 9217'												
10,000'			Production Casing @ 14,185' MD, 9,455' TVD 5-1/2" 17# HCP-110 LTC (MJ @ 8838') Cement w/ 300 sx 60:40:0 Class C + 0.2% FL-52 + 15 pps BA-90 + 4% MPA-5 + 1.0% EC-1 + 3.0% SMS + 5.0% A-10 + 0.8% ASA-301 + 1.9% R-21 + 8 pps LCM-1 + 0.25 pps Celloflake + 0.005 pps Static Free + 0.005 gps FP-6L (10.8 ppg, 3.71 yd), followed by 400 sx 50:50:6 Class H + 0.20% FL-52 + 0.65% CD-32 + 1.0% EC-1 + 0.15% ASA-301 + 1.60% SMS + 5.0% Salt + 0.35% R-21 + 5 pps LCM-1 + 0.005 pps Static Free + 0.25 pps BJ Fiber + 0.25 pps Celloflake + 0.005 gps FP-6L (11.9 ppg, 2.36 yd), followed by 1350 sx 50:50:2 Class H + 0.65% FL-52 + 0.60% CD-32 + 1.0% EC-1 + 0.65% SMS + 2.0% Salt + 0.005 pps Static Free + 0.005 gps FP-6L (14.2 ppg, 1.30 yd). Lost returns w/ 258 bbls. Bump plug w/ 1880 psi. Over displace w/ 1 bbl. Did not circ cement.			9.3							
11,000'	PTD - ~9,385'									140			

Drig Eng:	K. Castille
Date:	1/30/2014



# CURRENT WELL SKETCH

DEPTH (ft)	MARKERS (KB)	LITHOLOGY	OGRID: 7377 API: 30-025-41419 AFE: 105339 SPUD: 1/30/14 @ 11:00 hrs FRR: 2/16/14 @ 14:30 hrs RIG: Nomac #133	Hawk 25 Fed #2H Red Hills Field Lea County, New Mexico	SURF: 250' FSL & 1020' FWL LOC: Sec. 25 SURVEY: T-24-S, R-33-E GL: 3538.0' KB: 3560.5' ZERO: 22.5' AGL	HOLE SIZE	MW (ppg)	MUD	BHST (°F)	LOT (ppg)	EVALUATION
2,000'	Rustler - 1200'		<p><u>20" Conductor @ 130'</u></p> <p><u>Surface Casing @ 1,345'</u> 13-3/8" 54.5# J-55 STC Cement w/ 600 sx Class C + 4.0% Bentonite + 1.0% CaCl2 + 0.25 pps Celloflake (13.5 ppg, 1.73 yld), followed by 300 sx Class C + 1.0% CaCl2 (14.8 ppg, 1.34 yld). Bump plug w/ 1016 psi and circ 201 sx to surface</p> <p>TOC @ ~4,560'</p> <p><u>Intermediate Casing @ 5,157'</u> 9-5/8", 40#, J-55, LT&amp;C (0' - 4,000') 9-5/8", 40#, HCK-55, LT&amp;C (4,000' - 5,157') Cement w/ 1050 sx Class C + 2.0% SMS + 10.0% Salt + 15.0% R-3 + 0.25 pps Celloflake (12.7 ppg, 2.23 yld), followed by 200 sx Class C + 0.6% FL-62 + 0.5% CD-32 + 2.0% Salt + 0.15% R-3 (14.8 ppg, 1.37 yld). Bump plug and circ 248 sx to surface</p> <p>KOP @ ~8,959' TVD</p> <p><u>Production Casing @ 14,167' MD. 9,453' TVD</u> 5-1/2" 17# HCP-110 LTC Cement w/ 300 sx 60:40:0 Class C + 20.0 pps BA-58 + 5.0% MPA-5 + 3.0% SMS + 5.0% A-10 + 1.0% BA-10A + 0.80% ASA-301 + 1.25% R-21 + 8.0 pps LCM-1 + 0.005 pps Static Free (11.0 ppg, 3.56 yld), followed by 400 sx 50:50:6 Class H + 0.20% FL-52 + 0.65% CD-32 + 1.0% EC-1 + 0.15% ASA-301 + 1.60% SMS + 5.0% Salt + 0.35% R-21 + 5.0 pps LCM-1 + 0.005 pps Static Free + 0.25% Fiber + 0.25 pps Celloflake (11.9 ppg, 2.36 yld), followed by 1350 sx 50:50:2 Class H + 0.65% FL-52 + 0.60% CD-32 + 1.0% EC-1 + 0.65% SMS + 2.0% Salt + 0.005 pps Static Free + 0.005 gps FP-6L (14.2 ppg, 1.30 yld). Bump plug and overdisplace w/ 1 bbl. Did not circ cement.</p>								
T/ Salado - 1347'						17-1/2"	8.6	FW		N/A	
3,000'							9.0		86		
5,000'	B / Salado - 5044'						10.0	Brine			
Lamar - 5300'											
Bell Canyon - 5331'											
6,000'	Cherry Canyon - 6323'						10.2		117	NA	
8,000'	Brushy Canyon - 7735'						8.4			N/A	
9,000'	Leonard - 9030'						8-3/4"	WBM			
10,000'	Bone Spring Lime - 9220'						9.3				
11,000'	PTD - ~9,487'								140		

Drig Eng:	K. Castille
Date:	2/18/2014

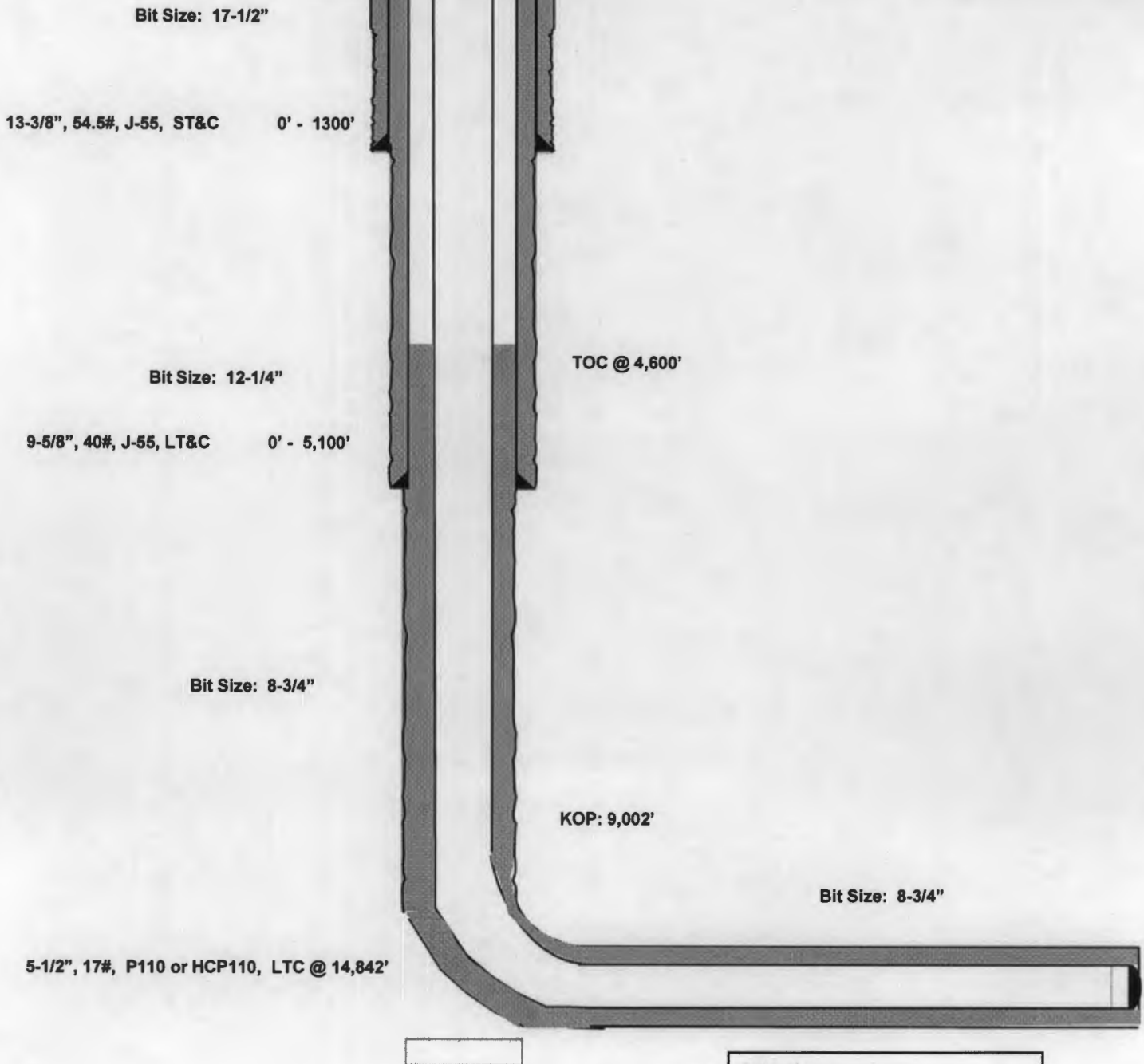
Drig Eng: K. Castille  
 Date: 2/18/2014

Hawk 35 Fed #9H  
Lea County, New Mexico  
Proposed Wellbore

500' FNL  
723' FEL  
Section 35  
T-24-S, R-33-E

API: 30-025-\*\*\*\*\*

KB: 3,556'  
GL: 3,526'



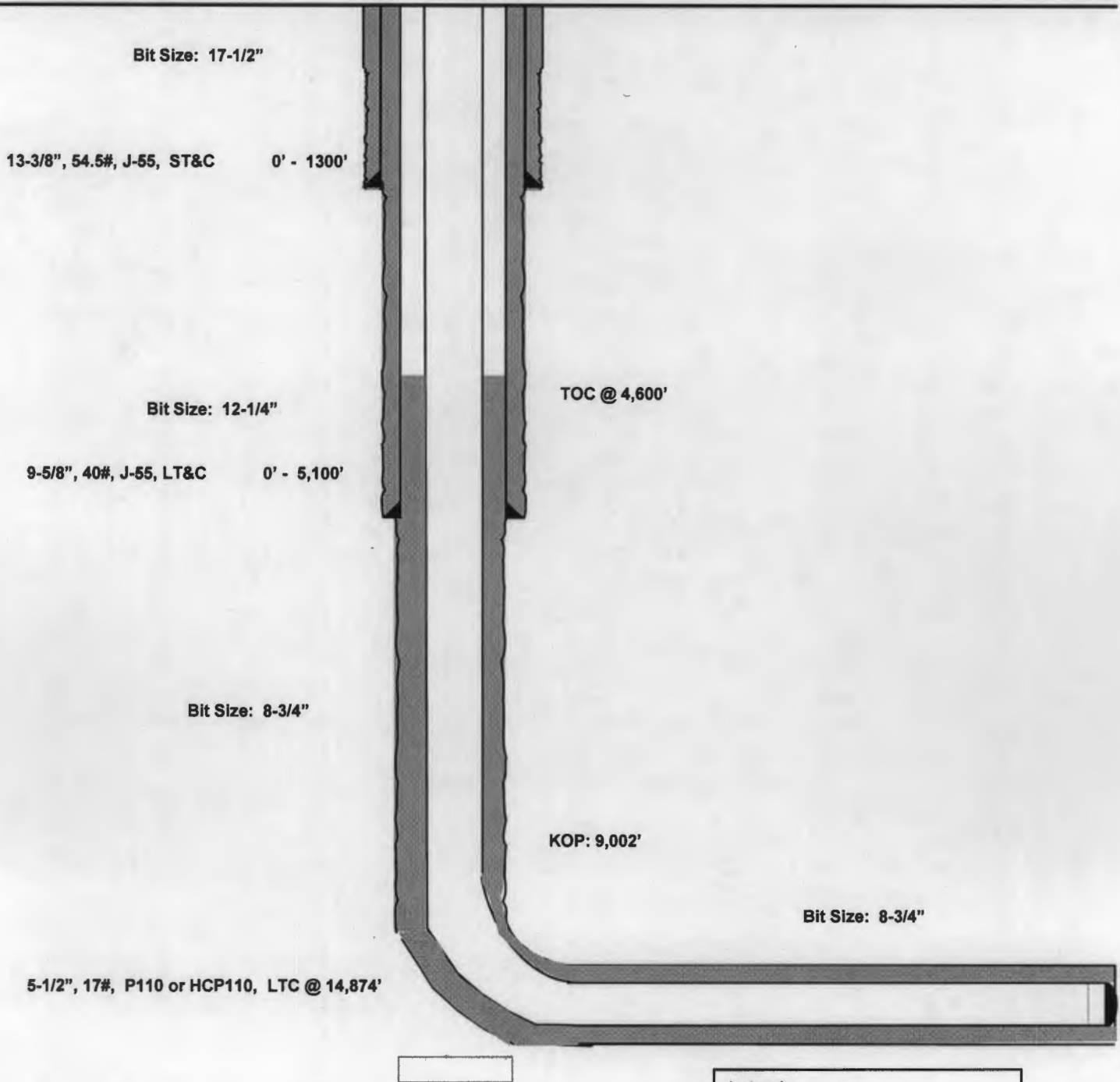
Lateral:  
14,842' MD, 9,524' TVD  
Upper Most Perf:  
50' FSL & 883' FEL  
Lower Most Perf:  
330' FNL & 876' FEL  
BH Location: 230' FNL & 876' FEL  
Section 26  
T-24-S, R-33-E

Hawk 35 Fed #10H  
Lea County, New Mexico  
Proposed Wellbore

500' FNL  
693' FEL  
Section 35  
T-24-S, R-33-E

API: 30-025-\*\*\*\*\*

KB: 3,557'  
GL: 3,527'



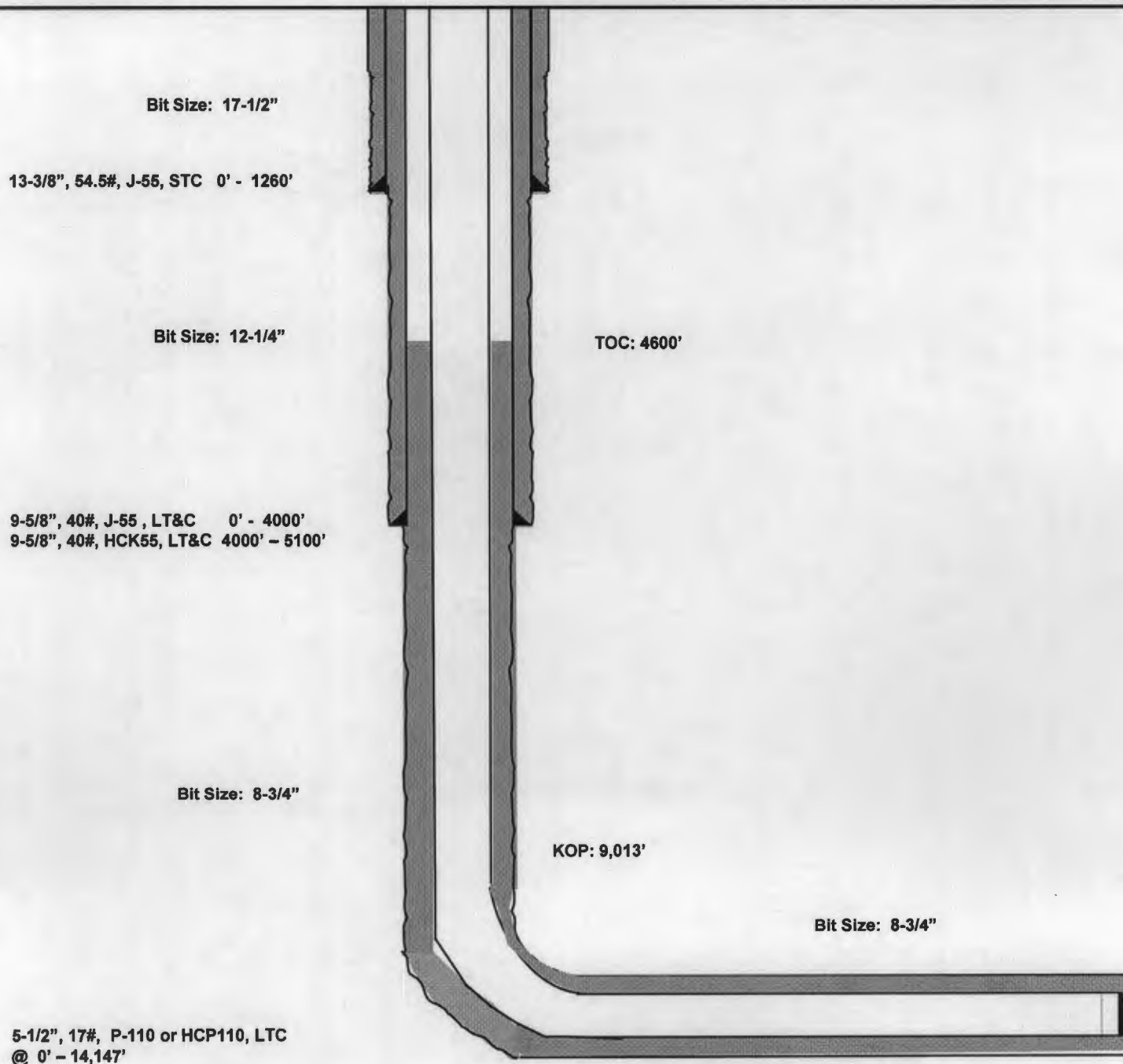
Lateral:  
14,874' MD, 9,524' TVD  
Upper Most Perf:  
50' FSL & 380' FEL  
Lower Most Perf:  
330' FNL & 380' FEL  
BH Location: 230' FNL & 380' FEL  
Section 26  
T-24-S, R-33-E

**Dragon 36 State #1H  
Pitchfork Ranch  
Lea County, New Mexico  
Revised 1/6/14  
Proposed Wellbore**

**220' FSL  
550' FWL  
Section 36  
T-24-S, R-33-E**

**API: 30-025-40923**

**KB: 3,521'  
GL: 3,491'**



**Lateral: 14,147' MD, 9,463' TVD**

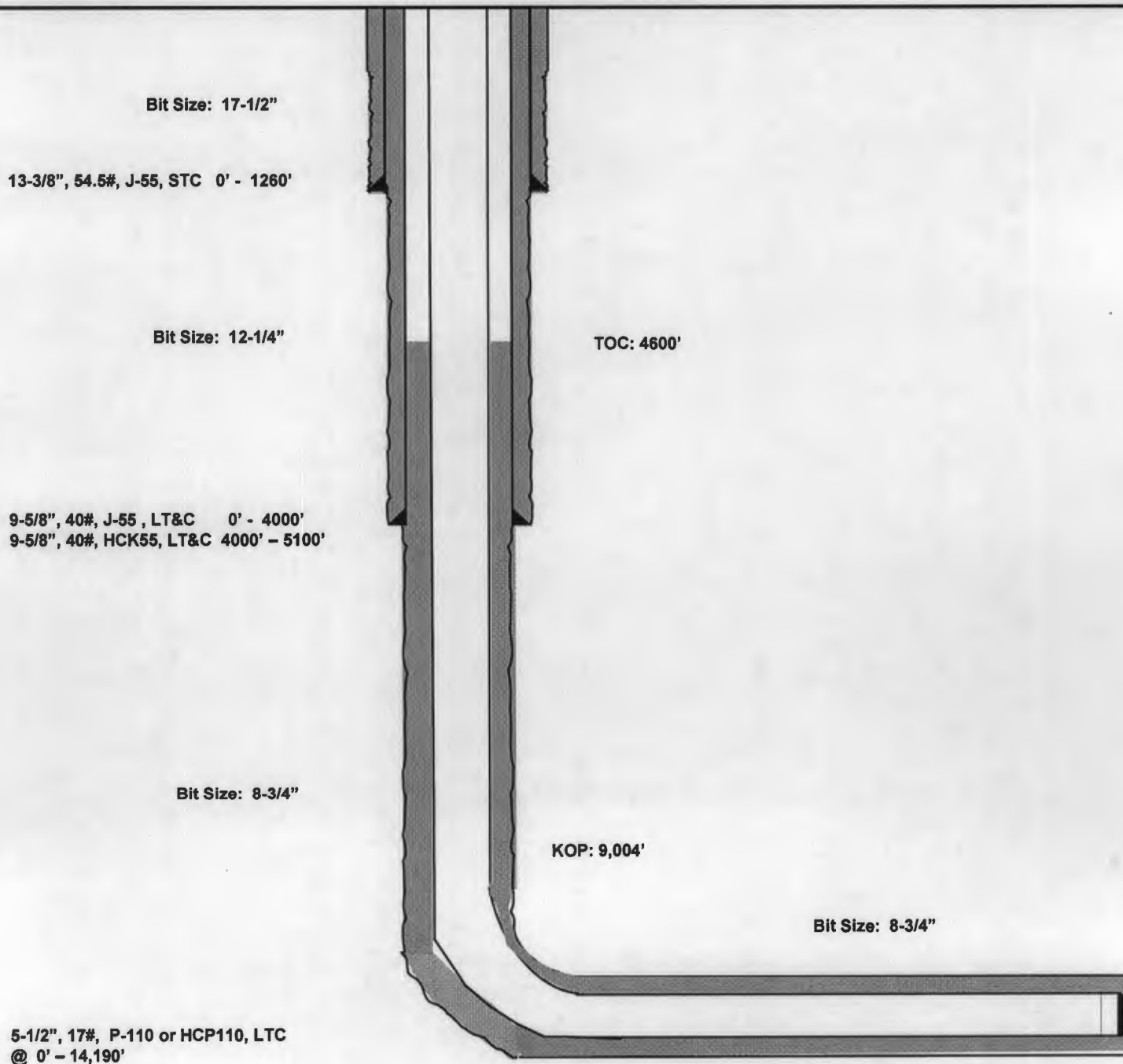
**BH Location: 230' FNL & 380' FWL  
Section 36  
T-24-S, R-33-E**

**Dragon 36 State #2H  
Pitchfork Ranch  
Lea County, New Mexico  
Revised 1/6/14  
Proposed Wellbore**

**220' FSL  
580' FWL  
Section 36  
T-24-S, R-33-E**

**API: 30-025-40924**

**KB: 3,521'  
GL: 3,491'**



**Lateral: 14,190' MD, 9,463' TVD**

**BH Location: 230' FNL & 883' FWL  
Section 36  
T-24-S, R-33-E**

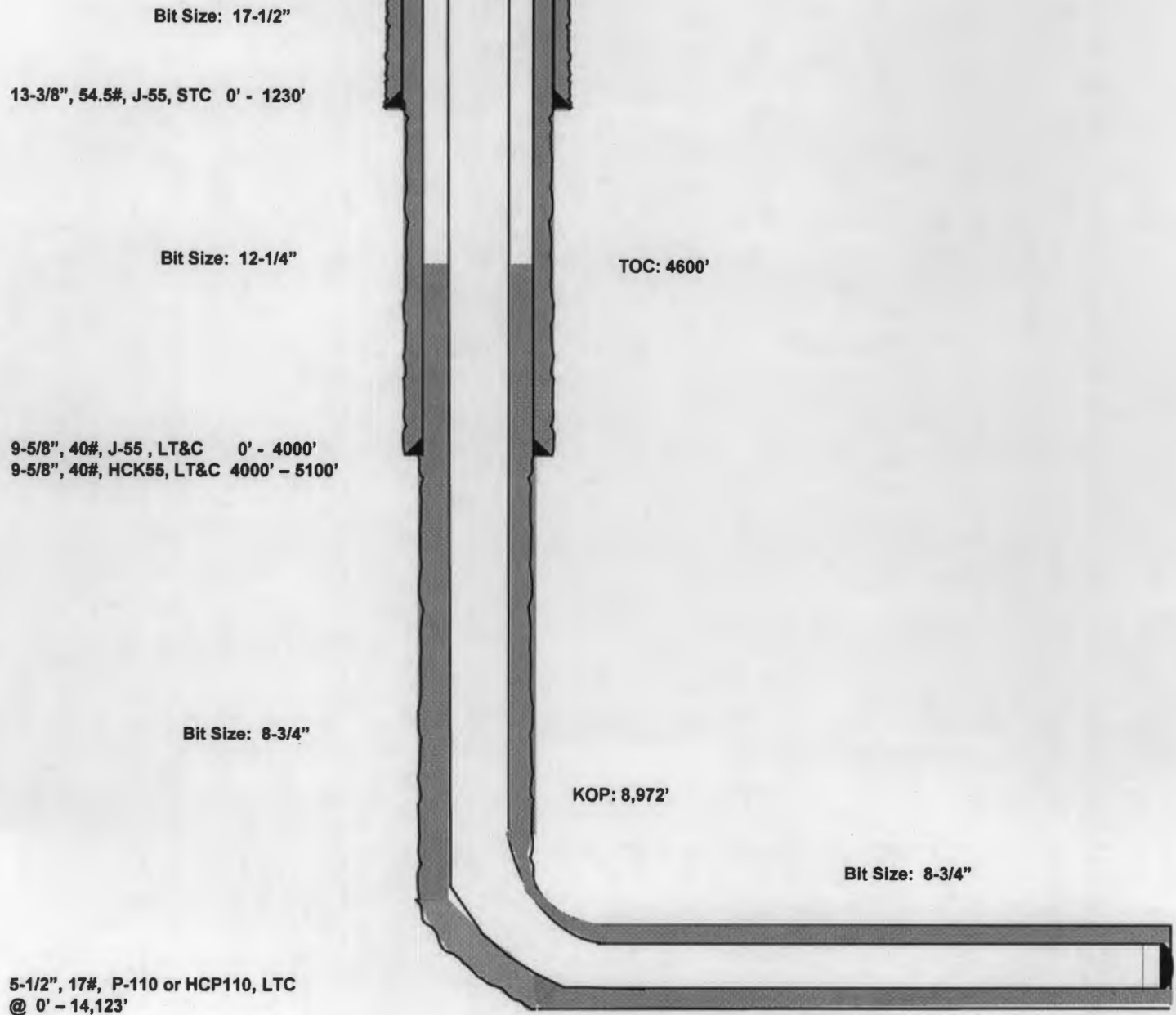
Dragon 36 State #3H  
Pitchfork Ranch  
Lea County, New Mexico

220' FSL  
1965' FWL  
Section 36  
T-24-S, R-33-E

Proposed Wellbore

API: 30-025-

KB: 3,510'  
GL: 3,480'



Lateral: 14,123' MD, 9,450' TVD

BH Location: 230' FNL & 1660' FWL  
Section 36  
T-24-S, R-33-E

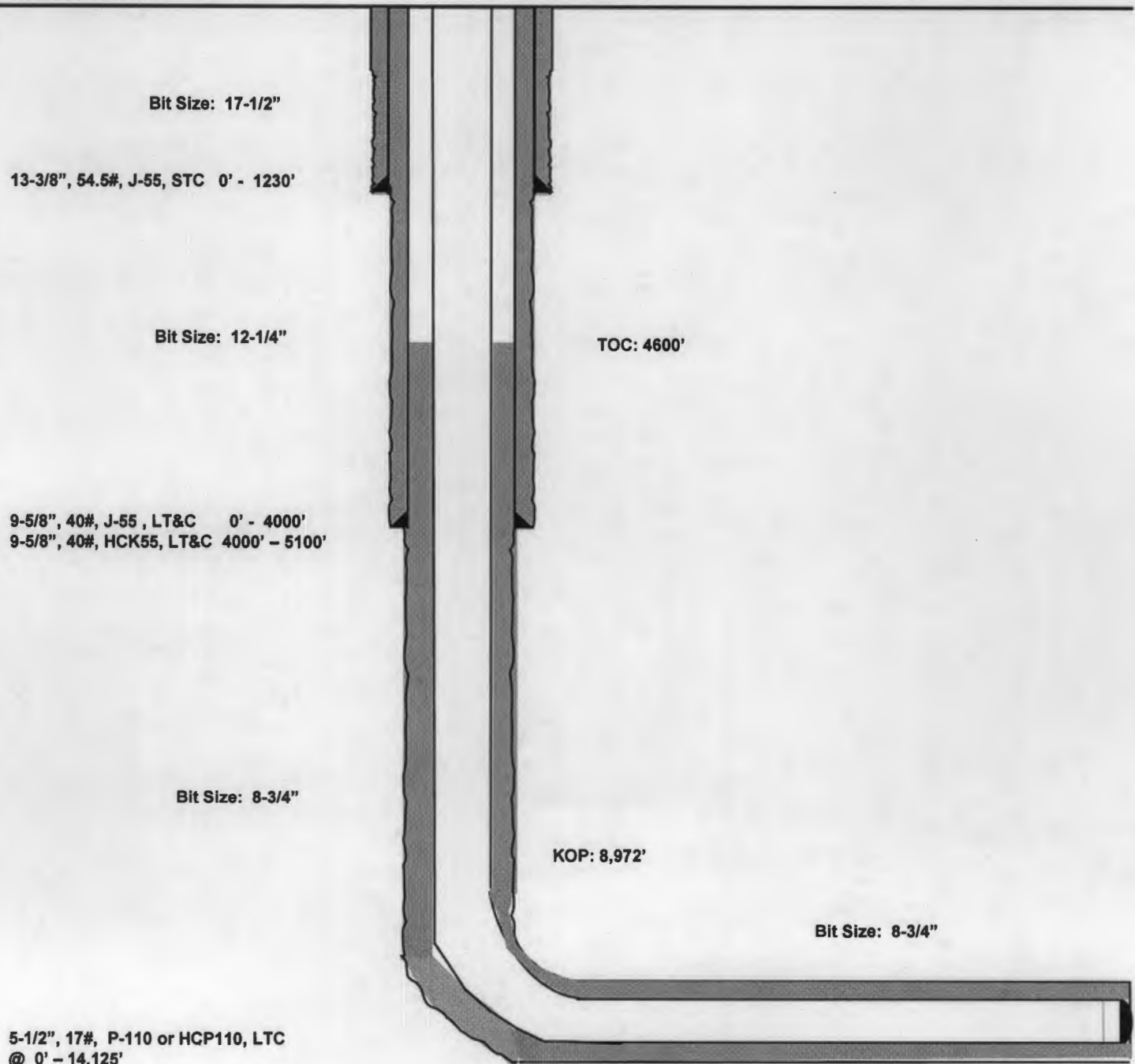
Dragon 36 State #4H  
Pitchfork Ranch  
Lea County, New Mexico

220' FSL  
1995' FWL  
Section 36  
T-24-S, R-33-E

Proposed Wellbore

API: 30-025-

KB: 3,509'  
GL: 3,479'


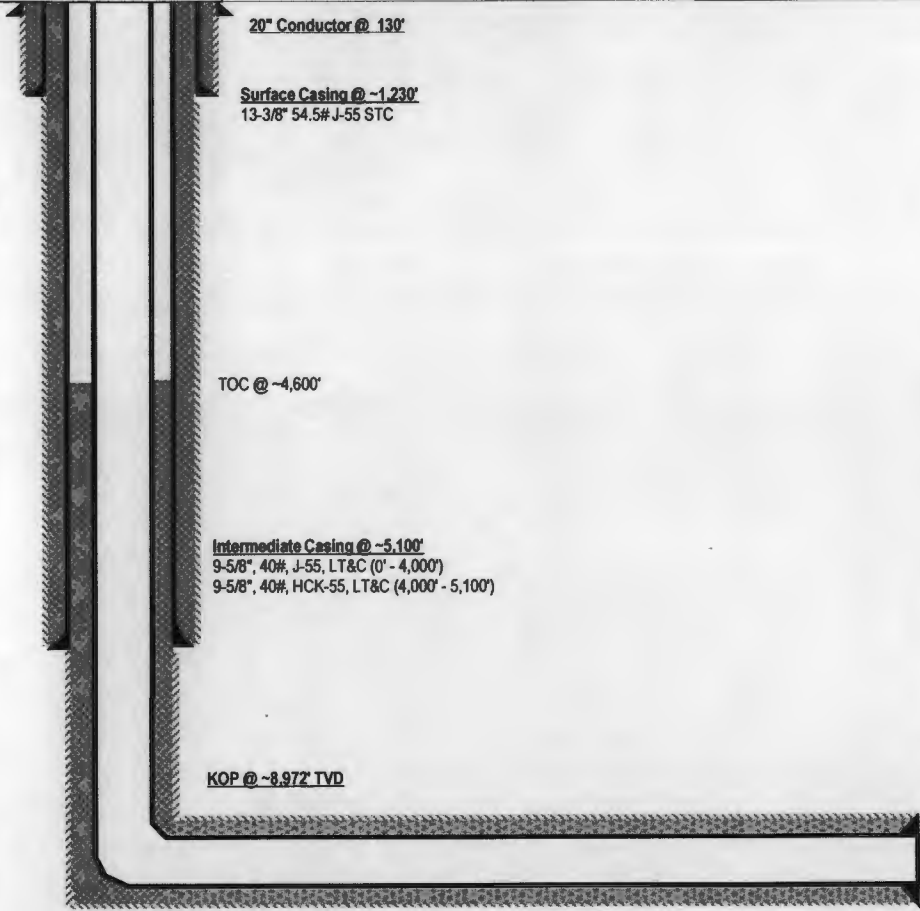


Lateral: 14,125' MD, 9,450' TVD

BH Location: 230' FNL & 2310' FWL  
Section 36  
T-24-S, R-33-E




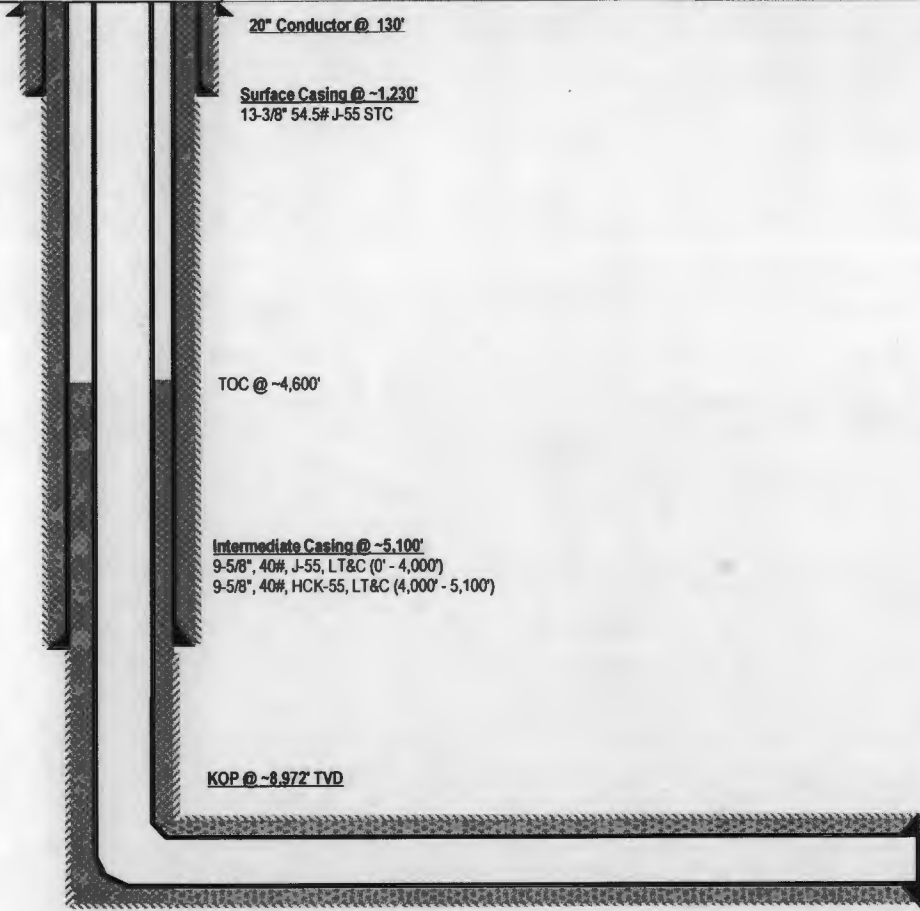
# PROPOSED WELL SKETCH

DEPTH (ft)	MARKERS (KB)	LITHOLOGY	OGRID: 7377 API: 30-025-40927 AFE: 105471 SPUD: FRR: RIG: Patterson #452	<b>Dragon 36 State #5H</b> <b>Red Hills Field</b> <b>Lea County, New Mexico</b>	SURF: 220' FSL & 1995' FEL LOC: Sec. 36 SURVEY: T-24-S, R-33-E GL: 3471.0' KB: 3498.5' ZERO: 27.5' AGL	HOLE SIZE	MW (ppg)	MUD	BHST (°F)	LOT (ppg)	EVALUATION
2,000'	Rustler - 1200'			20" Conductor @ 130'		17-1/2"	8.6	FW		N/A	
	T/ Salado - 1440'			Surface Casing @ ~1,230' 13-3/8" 54.5# J-55 STC			9.0		86		
3,000'							10.0				
5,000'	B / Salado - 4970'					12-1/4"		Brine			
	Lamar - 5225'			TOC @ ~4,600'							
	Bell Canyon - 5255'										
6,000'											
	Cherry Canyon - 6235'									NA	
7,000'				Intermediate Casing @ ~5,100' 9-5/8", 40#, J-55, LT&C (0' - 4,000') 9-5/8", 40#, HCK-55, LT&C (4,000' - 5,100')			10.2				
									117		
8,000'	Brushy Canyon - 7805'			KOP @ ~8,972' TVD			8.4			N/A	
9,000'	Leonard - 9090'					8-3/4"		WBM			
	Bone Spring Lime - 9270'										
10,000'	PTD - ~9,450'			Production Casing @ ~14,125' MD, 9,450' TVD 5-1/2" 17# HCP-110 LTC			9.3				
11,000'									140		

Drig Eng: R. Brosig  
 Date: 3/15/2014


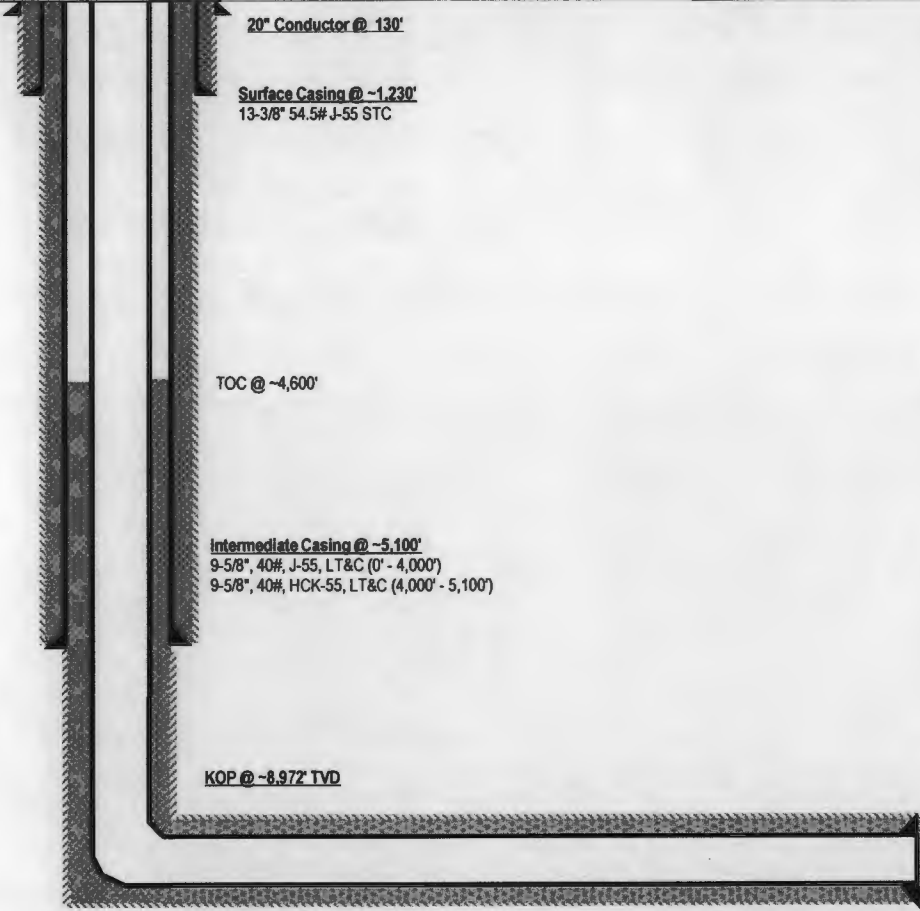


# PROPOSED WELL SKETCH

DEPTH (ft)	MARKERS (KB)	LITHOLOGY	OGRID: 7377 API: 30-025-40928 AFE: 105472 SPUD: FRR: RIG: Patterson #452	<b>Dragon 36 State #6H</b> <b>Red Hills Field</b> <b>Lea County, New Mexico</b>	SURF: 220' FSL & 1965' FEL LOC: Sec. 36 SURVEY: T-24-S, R-33-E GL: 3471.0' KB: 3498.5' ZERO: 27.5' AGL	HOLE SIZE	MW (ppg)	MUD	BHST (°F)	LOT (ppg)	EVALUATION
2,000'	Rustler - 1200'	 Salt	 20" Conductor @ 130'  Surface Casing @ ~1,230' 13-3/8" 54.5# J-55 STC  TOC @ ~4,600'  Intermediate Casing @ ~5,100' 9-5/8", 40#, J-55, LT&C (0' - 4,000') 9-5/8", 40#, HCK-55, LT&C (4,000' - 5,100')  KOP @ ~8,972' TVD  Production Casing @ ~14,121' MD, 9,450' TVD 5-1/2" 17# HCP-110 LTC			17-1/2"	8.6	FW		N/A	
	T/ Salado - 1440'						9.0		86		
3,000'							10.0				
5,000'	B / Salado - 4970'					12-1/4"		Brine			
	Lamar - 5225'										
	Bell Canyon - 5255'										
6,000'											
	Cherry Canyon - 6235'									NA	
7,000'						10.2					
									117		
8,000'	Brushy Canyon - 7805'						8.4			N/A	
9,000'	Leonard - 9090'					8-3/4"		WBM			
	Bone Spring Lime - 9270'										
10,000'	PTD - ~9,450'						9.3				
11,000'									140		

Drig Eng: R. Brosig  
 Date: 3/15/2014

# PROPOSED WELL SKETCH

DEPTH (ft)	MARKERS (KB)	LITHOLOGY	OGRID: 7377 API: 30-025-40929 AFE: 105473 SPUD: FRR: RIG: Nomac #133	<b>Dragon 36 State #7H</b> <b>Red Hills Field</b> <b>Lea County, New Mexico</b>	SURF: 220' FSL & 715' FEL LOC: Sec. 36 SURVEY: T-24-S, R-33-E GL: 3479.0' KB: 3501.5' ZERO: 22.5' AGL	HOLE SIZE	MW (ppg)	MUD	BHST (°F)	LOT (ppg)	EVALUATION
2,000'	Rustler - 1200'			20" Conductor @ 130'		17-1/2"	8.6	FW		N/A	
	T/ Salado - 1440'			Surface Casing @ ~1,230' 13-3/8" 54.5# J-55 STC			9.0		86		
3,000'							10.0				
5,000'	B / Salado - 4970'					12-1/4"		Brine			
	Lamar - 5230'			TOC @ ~4,600'							
	Bell Canyon - 5260'										
6,000'											
	Cherry Canyon - 6240'									NA	
7,000'				Intermediate Casing @ ~5,100' 9-5/8", 40#, J-55, LT&C (0' - 4,000') 9-5/8", 40#, HCK-55, LT&C (4,000' - 5,100')			10.2				
									117		
8,000'	Brushy Canyon - 7815'			KOP @ ~8,972' TVD			8.4			N/A	
9,000'	Leonard - 9100'					8-3/4"		WBM			
	Bone Spring Lime - 9280'										
10,000'	PTD - ~9,450'			Production Casing @ ~14,119' MD, 9,450' TVD 5-1/2" 17# HCP-110 LTC			9.3				
11,000'									140		

Drig Eng: K. Castille  
Date: 3/15/2014

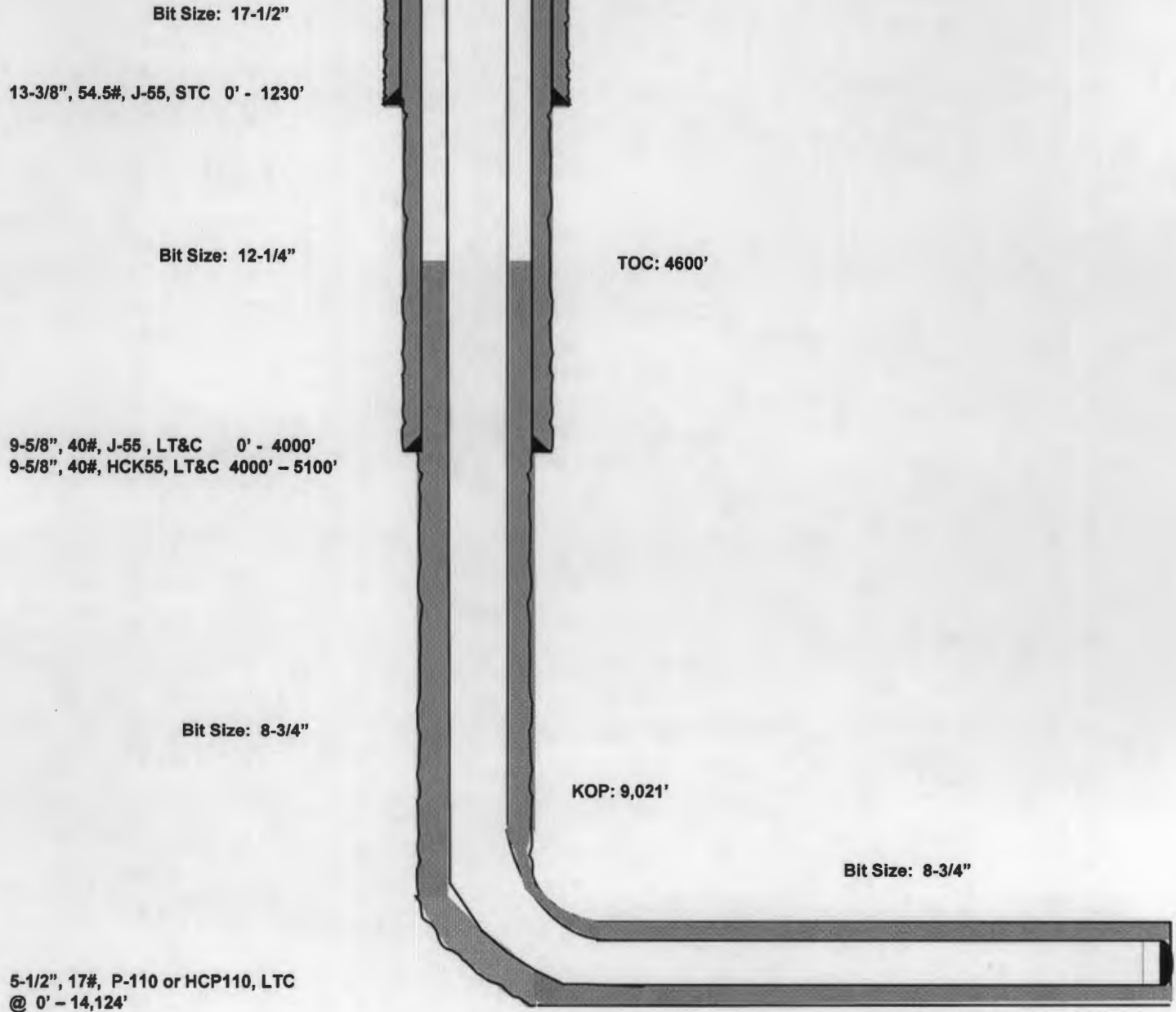
Dragon 36 State #9H  
Pitchfork Ranch  
Lea County, New Mexico

220' FSL  
2428' FWL  
Section 36  
T-24-S, R-33-E

Proposed Wellbore

API: 30-025-

KB: 3,504'  
GL: 3,474'



Lateral: 14,124' MD, 9,462' TVD

BH Location: 230' FNL & 2390' FWL  
Section 36  
T-24-S, R-33-E

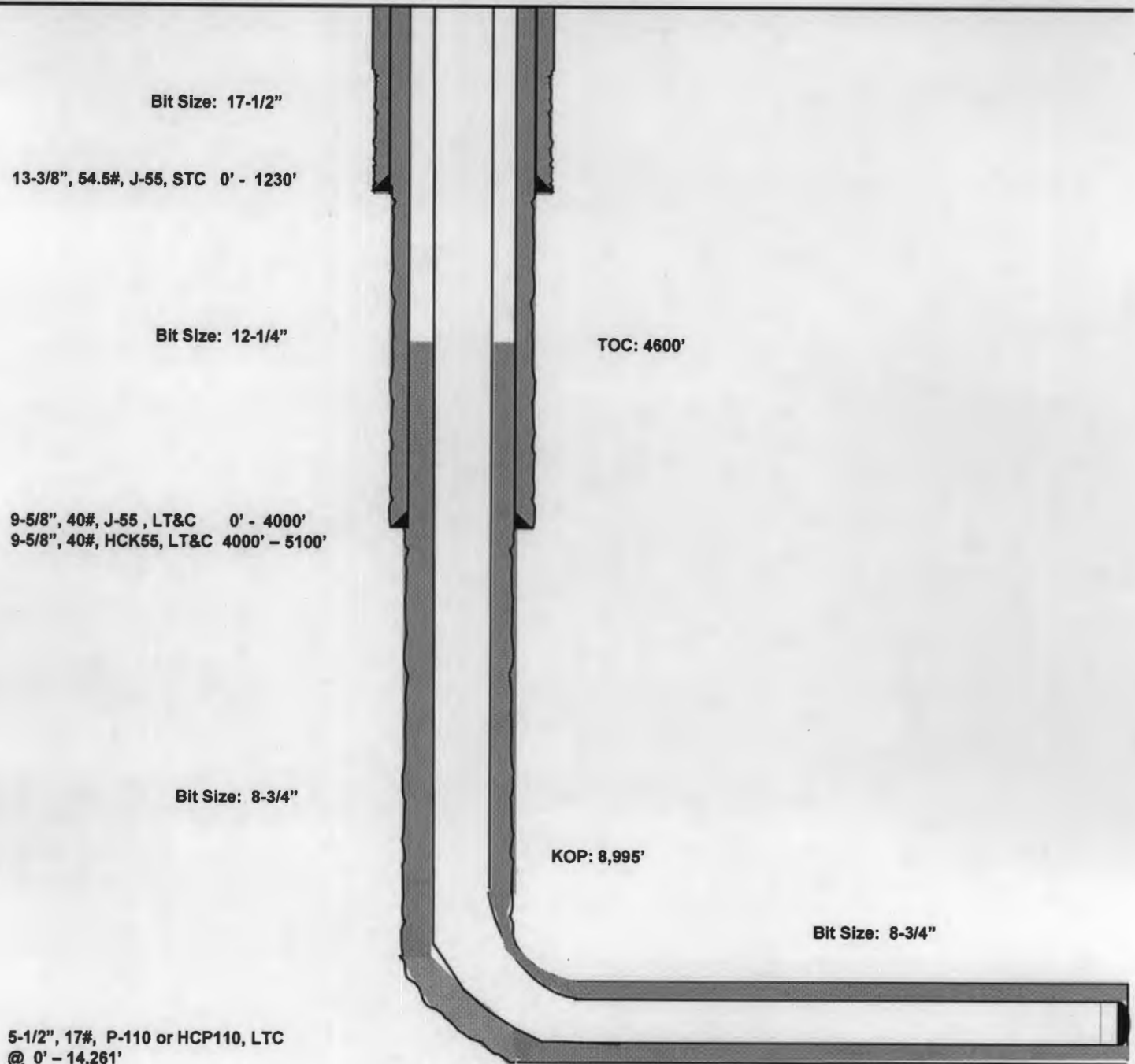
Dragon 36 State #10H  
Pitchfork Ranch  
Lea County, New Mexico

220' FSL  
2458' FWL  
Section 36  
T-24-S, R-33-E

Proposed Wellbore

API: 30-025-

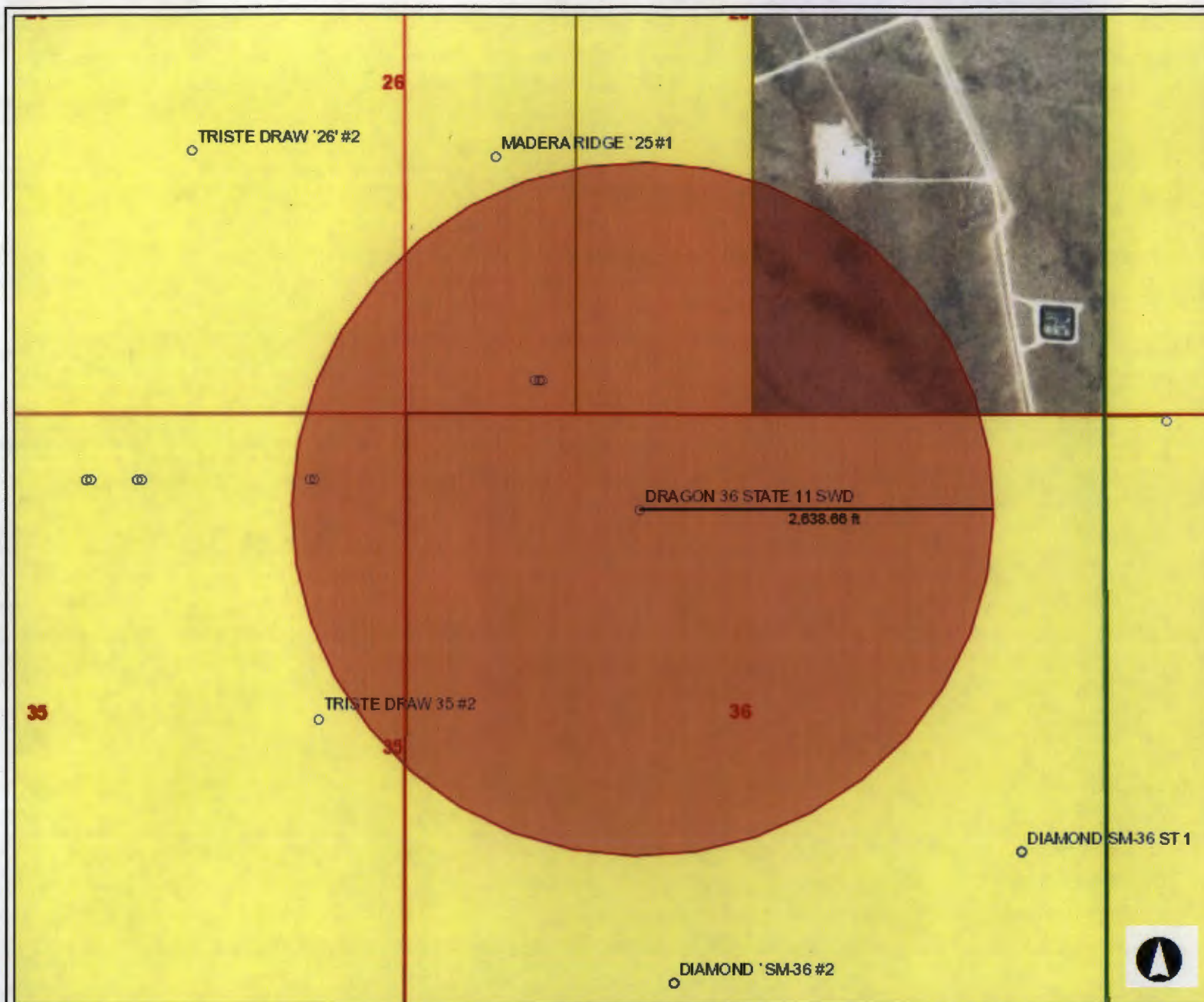
KB: 3,503'  
GL: 3,473'



Lateral: 14,261' MD, 9,463' TVD

BH Location: 230' FNL & 2390' FEL  
Section 36  
T-24-S, R-33-E





### Legend

- EOG Well top
  - Title Opinions
  - Unit & Pooling Agreement
  - EOG Leases
- Land Calendar Legend**
- ▨ EXPIRATION
  - ▨ OBLIGATION
  - ▨ PAYMENT
- EOG\_Google\_Imagery



Half Mile Radius Around  
Dragon 36 St #11 SWD

Author: S. Brannan

2,535.9 0 1,267.97 2,535.9Feet

1: 15,216

Projection: WGS\_1984\_Web\_Mercator\_Auxiliary\_Sphere

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Date: 2/13/2014



**EOG Resources, Inc.**  
4000 North Big Spring, Suite 500  
Midland, TX 79705  
(915) 686-3600

March 6, 2014

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

State of New Mexico  
310 Old Santa Fe Trail  
Santa Fe, NM 87504

Re: Application of EOG Resources, Inc. for administrative approval of  
Dragon 36 State SWD No. 11 – Lea County, New Mexico.  
Application for a Water Disposal Injection well

Ladies and Gentlemen:

Enclosed please find a copy of the application of EOG Resources, Inc. (Oil Conservation Division Form C-108) in the above-referenced matter for approval of a Water Disposal Injection Well: the Dragon 36 State SWD No. 11 located 720 feet from the North line and 1760 feet from the West line of Section 36, Township 24 South, Range 33 East, NMPM, Lea County, New Mexico. EOG proposes to re-inject water produced from the Bone Spring formation into the Delaware Sand formation at a measured depth of 5200 feet to 7800 feet. This injection will occur with a maximum injection pressure of 2600 psi and a maximum injection rate of 10000 barrels of water per day as fully described in the application.

This application is provided to you as owner of the surface of the land upon which the subject well is located. If you object to this application your objection must be filed in writing with the Santa Fe Office of the Oil Conservation Division located at 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505 within 15 days of the date of this letter. If there is no objection, the Division Director may approve this application.

Sincerely,

EOG RESOURCES, INC.

A handwritten signature in black ink, appearing to read "Stan Wagner", with a long horizontal flourish extending to the right.

Stan Wagner  
Regulatory Analyst

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

State of New Mexico Land Office  
310 Old Santa Fe Trail  
Santa Fe, NM 87504

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

**X**

- ☐ Agent  
☐ Addressee

B. Received by (Printed Name)

J Padilla

C. Date of Delivery

3-10-14

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

- ☒ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

2. Article Number

(Transfer from service \_\_\_\_\_)

7013 1090 0000 1557 3431

# Affidavit of Publication

State of New Mexico,  
County of Lea.

I, DANIEL RUSSELL  
PUBLISHER

of the Hobbs News-Sun, a  
newspaper published at Hobbs, New  
Mexico, do solemnly swear that the  
clipping attached hereto was  
published in the regular and entire  
issue of said newspaper, and not a  
supplement thereof for a period

of 1 issue(s).

Beginning with the issue dated

February 23, 2014

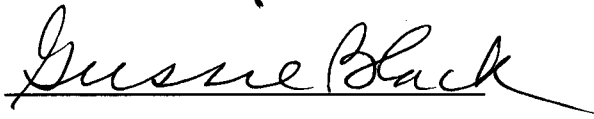
and ending with the issue dated

February 23, 2014



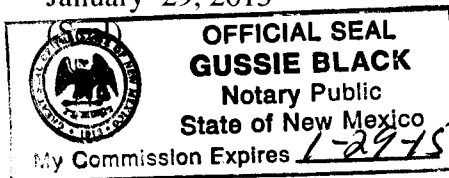
PUBLISHER

Sworn and subscribed to before me  
this 24th day of  
February, 2014



Notary Public

My commission expires  
January 29, 2015



This newspaper is duly qualified to  
publish legal notices or  
advertisements within the meaning of  
Section 3, Chapter 167, Laws of  
1937 and payment of fees for said  
publication has been made.



**LEGAL NOTICE**  
February 23, 2014

EOG Resources, Inc., P.O.  
Box 2267, Midland, TX  
79702, will file form C-108  
(Application for  
Authorization to Inject) with  
the New Mexico Oil  
Conservation Division  
seeking administrative  
approval for a water  
injection well.

The Dragon 36 State SWD  
No. 11 is located 720' FNL  
& 1780' FWL, Section 36,  
Township 24 South, Range  
33 East, Lea County, New  
Mexico. Injection water will  
be sourced from area wells  
producing from the Bone  
Spring formation. The  
injection water will be  
injected into the Delaware  
formation at a depth of  
5200'-7800', a maximum  
surface pressure of 2600  
psi, and a maximum rate of  
10000 BWIPD.

All interested parties  
opposing the action must file  
objections or requests for  
hearing with the Oil  
Conservation Division, 1220  
South St. Francis Dr., Santa  
Fe, New Mexico 87505,  
within 15 days. Additional  
information may be obtained  
by contacting Stan Wagner  
at P.O. Box 2267, Midland,  
TX 79702, or 432-686-3600.  
#28786

01105308

00131437

STAN WAGNER  
EOG RESOURCES, INC.  
P.O. BOX 2267  
MIDLAND, TX 79702



## Goetze, Phillip, EMNRD

---

**From:** Stan\_Wagner@eogresources.com  
**Sent:** Tuesday, May 13, 2014 2:15 PM  
**To:** Goetze, Phillip, EMNRD  
**Subject:** Pending SWD Application - Dragon 36 State SWD #11 (30-025-41615)  
**Attachments:** Dragon 36 State SWD 11.pdf

Good afternoon Phillip,

I hate to bother you, but its time for today's question. Attached is a revised C-108 for the application of the subject well. Drilling is now proposing to change the casing design from 3 strings to 2. My questions to you are may we substitute the attached C-108 in the application since it has not yet been worked. EOG is the only operator within the 1/2 mile radius of review.

Also, since the well is due to spud in June, may I relay to drilling that this casing design is acceptable to OCD for this SWD pending the final order ? If the casing design is ok with Santa Fe, I will sundry the district to change the APD.

Thank you, as always, for your help.

Stan Wagner  
EOG Resources - Midland Regulatory  
432-686-3689

*(See attached file: Dragon 36 State SWD 11.pdf)*

## Goetze, Phillip, EMNRD

---

**From:** Stan\_Wagner@eogresources.com  
**Sent:** Tuesday, June 03, 2014 10:00 AM  
**To:** Goetze, Phillip, EMNRD  
**Subject:** Fw: Pending SWD Application - Dragon 36 State SWD #11 (30-025-41615)

Good morning Phillip,

I hate to bother you again, I know you are extremely busy. Do you have an answer regarding the proposed 2 string casing design for the subject well ?

I just need to tell drilling if the design is acceptable, pending the final order for the approved permit. We spoke with Paul Kautz in Hobbs and he approved the 2 sting design. They will be moving to this well shortly.

Thank you,

Stan Wagner  
EOG Resources - Midland Regulatory  
432-686-3689

----- Forwarded by Stan Wagner/EOGResources on 06/03/2014 10:50 AM -----

From: Stan Wagner/EOGResources  
To: "Goetze, Phillip, EMNRD" <[Phillip.Goetze@state.nm.us](mailto:Phillip.Goetze@state.nm.us)>,  
Date: 05/13/2014 03:14 PM  
Subject: Pending SWD Application - Dragon 36 State SWD #11 (30-025-41615)

---

Good afternoon Phillip,

I hate to bother you, but its time for today's question. Attached is a revised C-108 for the application of the subject well. Drilling is now proposing to change the casing design from 3 strings to 2. My questions to you are may we substitute the attached C-108 in the application since it has not yet been worked. EOG is the only operator within the 1/2 mile radius of review.

Also, since the well is due to spud in June, may I relay to drilling that this casing design is acceptable to OCD for this SWD pending the final order ? If the casing design is ok with Santa Fe, I will sundry the district to change the APD.

Thank you, as always, for your help.

Stan Wagner  
EOG Resources - Midland Regulatory  
432-686-3689

[attachment "Dragon 36 State SWD 11.pdf" deleted by Stan Wagner/EOGResources]



# C-108 Review Checklist:

Received 03/26/14

Add. Request: [change to casing design] Reply Date: \_\_\_\_\_ Suspended: \_\_\_\_\_

[Ver 13]

PERMIT TYPE: WFX / PMX / SWD

Number: 1486

Permit Date: 06/05/14

Legacy Permits/Orders: None

Well No. 11 Well Name(s): Dragon 36 State SWD

API: 30-0 25-41615 Spud Date: TBD New or Old: N (UIC Class II Primacy 03/07/1982)

Footages 720 FNL / 1760 FWL Lot — or Unit C Sec 36 Tsp 24S Rge 33E County Lea

General Location: ~17 mi W of Sal; N of Paduca Break Pool: SWD, Delaware Pool No.: 916100

BLM 100K Map: Sal Operator: EOG Resources, Inc. OGRID: 7377 Contact: Stan Wagner

COMPLIANCE RULE 5.9: Total Wells: 511 Inactive: 1 Fincl Assur: Yes Compl. Order? No IS 5.9 OK? Yes Date: 06/05/14

WELL FILE REVIEWED ☒ Current Status: APD; casing program change - two strings only

WELL DIAGRAMS: NEW: Proposed ☒ or RE-ENTER: Before Conv. ☐ After Conv. ☐ Logs in Imaging: (None)

Planned Rehab Work to Well: [New casing program: 05/13/2014] Above

Well Construction Details:		Sizes (in)	Setting	Cement	Cement Top and
		Borehole / Pipe	Depths (ft)	(Sx) or Cf	Determination Method
Planned <input checked="" type="checkbox"/> or Existing <u>Surface</u>		<u>12 1/4 / 95/8</u>	<u>0 to 1230</u>	<u>700</u>	<u>Cir to surf</u>
Planned <input checked="" type="checkbox"/> or Existing <u>Interm/Prod</u>		<u>8 3/4 / 7</u>	<u>0 to 7800</u>	<u>1300</u>	<u>Cir to surf</u>
Planned <input type="checkbox"/> or Existing <u>Interm/Prod</u>		<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Planned <input type="checkbox"/> or Existing <u>Prod/Liner</u>		<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Planned <input type="checkbox"/> or Existing <u>Liner</u>		<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Planned <input checked="" type="checkbox"/> or Existing <u>OH / PERF</u>		<u>8 3/4 / 7</u>	<u>5200 to 7800</u>	<u>Inj Length 2600</u>	
Injection Stratigraphic Units:		Depths (ft)	Injection or Confining Units	Completion/Operation Details:	
Adjacent Unit: Litho. Struc. Por.				Drilled TD <u>NA</u>	PBTD <u>NA</u>
Confining Unit: <u>Litho</u> Struc. <u>Por</u>				NEW TD <u>7800</u>	NEW PBTD <u>780</u>
Proposed Inj Interval TOP: <u>5200</u>			<u>Salado</u>	NEW Open Hole <input type="checkbox"/> or NEW Perfs <input checked="" type="checkbox"/>	
Proposed Inj Interval BOTTOM: <u>7800</u>			<u>Perm C DMG</u>	Tubing Size <u>3 1/2</u> in. Inter Coated? <u>Yes</u>	
Confining Unit: Litho. Struc. <u>Por</u>			<u>Top of DMG</u>	Proposed Packer Depth <u>5200</u> ft	
Adjacent Unit: Litho. Struc. Por.			<u>Brushy DMG</u>	Min. Packer Depth <u>5100</u> (100 ft limit)	
			<u>Bone Springs</u>	Proposed Max. Surface Press <u>2600</u> psi	
				Admin. Inj. Press. <u>1040</u> (0.2 psi per ft)	
AOR: Hydrologic and Geologic Information					
POTASH: R-111-P <u>Noticed?</u> <u>NA</u> BLM Sec Ord <u>NA</u> WIPP <u>Noticed?</u> <u>NA</u> SALT/SALADO T: <u>—</u> B: <u>—</u> CLIFF HOUSE <u>NA</u>					
FRESH WATER: Aquifer <u>Saltwater alluvial / Ogallala</u> Max Depth <u>&lt; 20'</u> HYDRO AFFIRM STATEMENT By Qualified Person <input checked="" type="checkbox"/>					
NMOSE Basin: <u>Carlsbad</u> CAPITAN REEF: thru <input type="checkbox"/> adj <input checked="" type="checkbox"/> <u>NA</u> No. Wells within 1-Mile Radius? <u>0</u> FW Analysis <u>NA</u>					
Disposal Fluid: Formation Source(s) <u>Bone Springs</u> Analysis? <u>Yes</u> On Lease <input type="checkbox"/> Operator Only <input checked="" type="checkbox"/> or Commercial <input type="checkbox"/>					
Disposal Int: Inject Rate (Avg/Max BWPD): <u>5200/10000</u> Protectable Waters? <u>UNK</u> Source: <u>None cited</u> System: Closed <input checked="" type="checkbox"/> or Open <input type="checkbox"/>					
HC Potential: Producing Interval? <u>No</u> Formerly Producing? <u>No</u> Method: Logs/DST/P&A/Other <u>potential</u> 2-Mile Radius Pool Map <input type="checkbox"/>					
AOR Wells: 1/2-M Radius Map? <u>Yes</u> Well List? <u>Yes</u> Total No. Wells Penetrating Interval: <u>2</u> Horizontals? <u>2</u>					
Penetrating Wells: No. Active Wells <u>2</u> Num Repairs? <u>0</u> on which well(s)? <u>one completed / one Drilling</u> Diagrams? <u>Yes</u>					
Penetrating Wells: No. P&A Wells <u>0</u> Num Repairs? <u>0</u> on which well(s)? <u>—</u> Diagrams? <u>NA</u>					
NOTICE: Newspaper Date <u>03/06/2014</u> Mineral Owner <u>SLO</u> Surface Owner <u>SLO</u> N. Date <u>03/06/14</u>					
RULE 26.7(A): Identified Tracts? <u>Yes</u> Affected Persons: <u>EOG only operator</u> N. Date <u>—</u>					

Permit Conditions: Issues: Confirm casing design change with district - PK on 06/05

Add Permit Cond: CBL / Salinity calculation / mudlog for injection interval