EOG RESOURCES, INC. DIAMOND 31 FED COM NO. 3H REVISED 11/21/11

1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	1,185'
Top of Salt	1,435'
Base of Salt	5,000'
Lamar	5,255'
Bell Canyon	5,285'
Cherry Canyon	6,280'
Brushy Canyon	7,800'
Bone Spring Lime	9,235'
TD	9,499'

3. ESTIMATED DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS:

Upper Permian Sands	0- 400' Fresh	Water
Cherry Canyon	6,280'	Oil
Brushy Canyon	7,800'	Oil
Bone Spring Lime	9,235'	Oil

No other Formations are expected to give up oil, gas or fresh water in measurable quantities. Surface fresh water sands will be protected by setting 11.75" casing at 1.210° and circulating cement back to surface.

4. CASING PROGRAM - NEW



Hole		Csg				$\mathbf{DF_{min}}$	DF _{min}	\mathbf{DF}_{min}
Size	Interval		Weight	Grade	Conn	Collapse	Burst	Tension
14.75"	0-1210,	11.750"	42#	H40	STC	1.125	1.25	1.60
11.00"	0 - 4000'	8.625"	32#	J55	LTC	1.125	1.25	1.60
11.00"	4000'-5150'	8.625"	32#	HCK55	LTC	1.125	1.25	1.60
7.875"	0'-16,450'	5.5"	20#	P110 or HCP110	NSCC	1.125	1.25	1.60

EOG RESOURCES, INC. DIAMOND 31 FED COM NO. 3H

Cementing Program:

	No.	Wt.	Yld				
Depth	Sacks	lb/gal	Ft ³ /ft_	Slurry Description			
1,210'	350	13.5	1.73	Lead: Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5%			
				CaCl ₂ + 0.25 lb/sk Cello-Flake			
	200	14.8	1.34	Tail: Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake +			
	_			0.2% Sodium Metasilicate			
5,150'	700	12.7	2.22	Lead: Class 'C' + 1.50% R-3 + 0.25 lb/sk Cello-Flake +			
		-		2.0% Sodium Metasilicate + 10% Salt + 0.005 lb/sk Stati			
]			Free			
	200	14.8	1.32	Tail: Class 'C' + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free			
16,450'	150	10.8	3.68	Lead: 60:40:0 Class 'C' + 15.00 lb/sk BA-90 + 4.00% MPA-			
				5 + 3.00% SMS + 5.00% A-10 + 1.00% BA-10A + 0.80%			
				ASA-301 + 2.90% R-21 + 8.00 lb/sk LCM-1 + 0.005 lb/sk			
				Static Free			
	300	11.8	2.38	Middle: 50:50:10 Class 'H' + 0.80% FL-52 + 0.45% ASA-			
			ļ.	301 + 0.40% SMS + 2.00% Salt + 3.00 lb/sx LCM-1 +			
				0.20% R-21 + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static			
				Free			
	1400	14.2	1.28	Tail: 50:50:2 Class 'H' + 0.65% FL-52 + 0.20% CD-32 +			
				0.15% SMS + 2.00% Salt + 0.10% R-3 + 0.005 lb/sk Static			
				Free			

Note: Cement volumes based on bit size plus at least 25% excess in the open hole plus 10% excess in the cased-hole overlap section.

5. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:

Variance is requested to use a co-flex line between the BOP and choke manifold (instead of using a 4" OD steel line).

The minimum blowout preventer equipment (BOPE) shown in Exhibit #1 will consist of a double ram-type (10,000 psi WP) preventer and an annular preventer (5000-psi WP). Both units will be hydraulically operated and the ram-type will be equipped with blind rams on bottom and drill pipe rams on top. All BOPE will be tested in accordance with Onshore Oil & Gas order No. 2.

3000 psi BOPE is adequate for this application. Due to the 3000 psi BOPE requirement no FIT tests are planned.

Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 3000/250 psig and the annular preventer to 2500/250 psig. The surface casing will be tested to 1400 psi for 30 minutes.

EOG RESOURCES, INC. DIAMOND 31 FED COM NO. 3H

Before drilling out of the intermediate casing, the ram-type BOP and accessory equipment will be tested to 3000/250 psig and the annular preventer to 2500/250 psig. The intermediate casing will be tested to 2000 psi for 30 minutes.

Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets.

A hydraulically operated choke will be installed prior to drilling out of the intermediate casing shoe.

6. TYPES AND CHARACTERISTICS OF THE PROPOSED MUD SYSTEM:

The applicable depths and properties of the drilling fluid systems are as follows:

Depth	Туре	Weight (ppg)	Viscosity	Water Loss
0-1,210 /255	Fresh water + Gel	8.6-8.8	28-34	N/c
1,240' - 5,150'	Saturated Brine	10.0-10.2	28-34	N/c
5,150' - 8,962'	Cut Brine	8.6-9.5	28-34	N/c
8,962' - 16,450'	Cut Brine	8.6–9.5	28-34	N/c
Lateral				

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the wellsite at all times.

7. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT:

- (A) A kelly cock will be kept in the drill string at all times.
- (B) A full opening drill pipe-stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.
- (C) H₂S monitoring and detection equipment will be utilized from surface casing point to TD.

EOG RESOURCES, INC. DIAMOND 31 FED COM NO. 3H

8. LOGGING, TESTING AND CORING PROGRAM:

Open-hole logs are not planned for this well. See CoA

GR-CCL ·

Will be run in cased hole during completions phase of

operations.

9. ABNORMAL CONDITIONS, PRESSURES, TEMPERATURES AND POTENTIAL HAZARDS:

The estimated bottom hole temperature (BHT) at TD is 161 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 4110 psig. No hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. No major loss circulation zones have been reported in offsetting wells.

10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

The drilling operation should be finished in approximately one month. If the well is productive, an additional 90-120 days will be required for completion and testing before a decision is made to install permanent facilities.

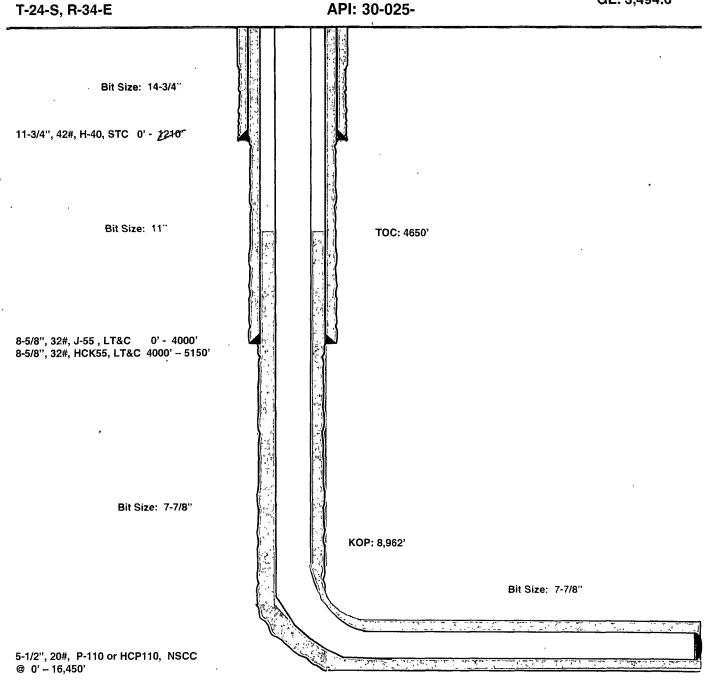
Diamond 31 Fed Com #3H **Pitchfork Ranch** Lea County, New Mexico

370' FNL 1310' FWL Section 31 T-24-S, R-34-E

Proposed Wellbore

KB: 3,524.0'

GL: 3,494.0'



Lateral: 16,450' MD, 9,499' TVD

BH Location: 2310' FNL & 1310' FWL

Section 6 T-25-S, R-34-E

OPERATOR CERTIFICATION

I 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 that presently exist; that I have full knowledge of State and Federal Laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true, and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements. Executed this 3/ day of October , 2011.

Name: Roger Motley

Position: Sr. Lease Operations ROW Representative

Address: P.O. Box 2267, Midland, TX 79705

Telephone: (432) 686-3642

Email: roger motley@eogresources.com

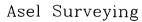
Signed

VICINITY MAP

		- K-4	33.02					- 12				
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34	35	36	31	32	33	34	35	36 QE/S	31	32	33	34
3	2	1	6	5	4	3	5	1	6	5	4	******
10	11	12	7	8	9	10	11	12	7	8	9	
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SEC. 31 TWP. 24-S RGE. 34-E
SURVEY N.M.P.M.
COUNTY LEA
DESCRIPTION 370' FNL & 1310' FWL
ELEVATION 3494.0
OPERATOR EOG RESOURCES, INC.

SCALE: 1" = 2 MILES



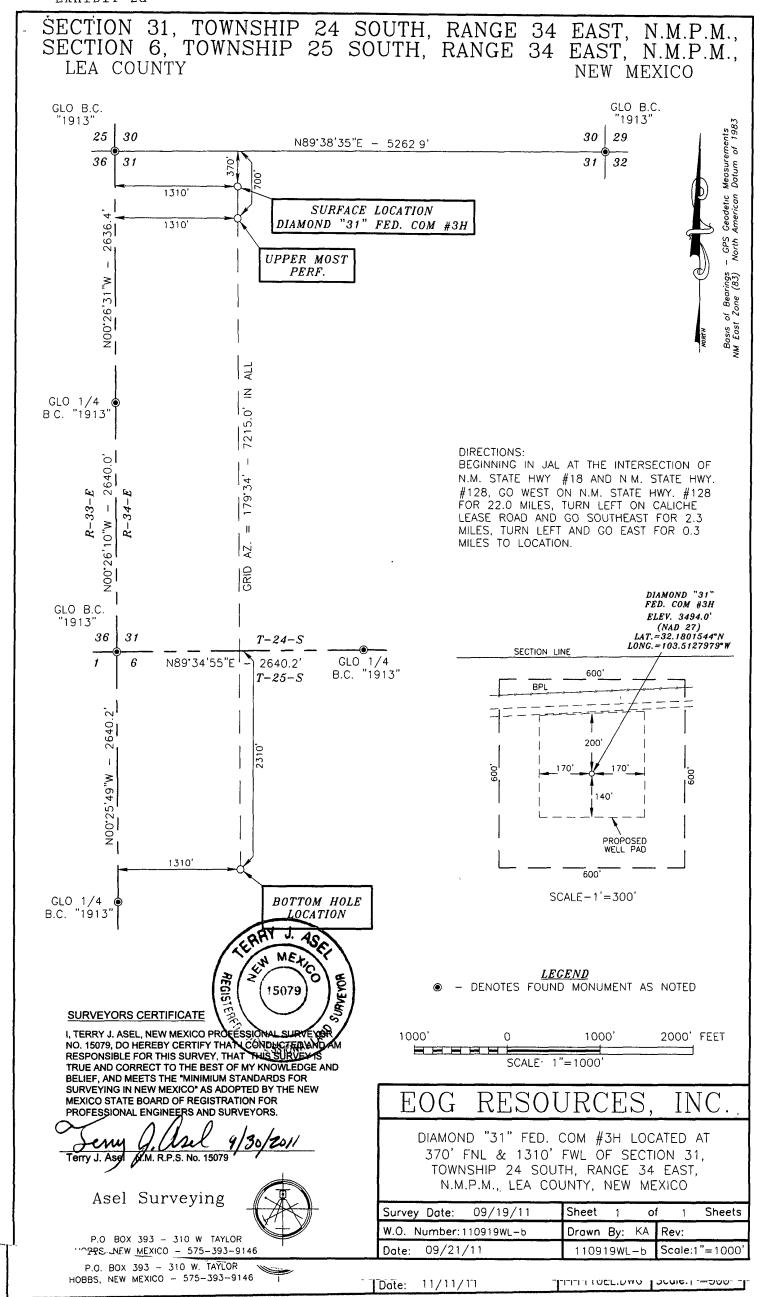


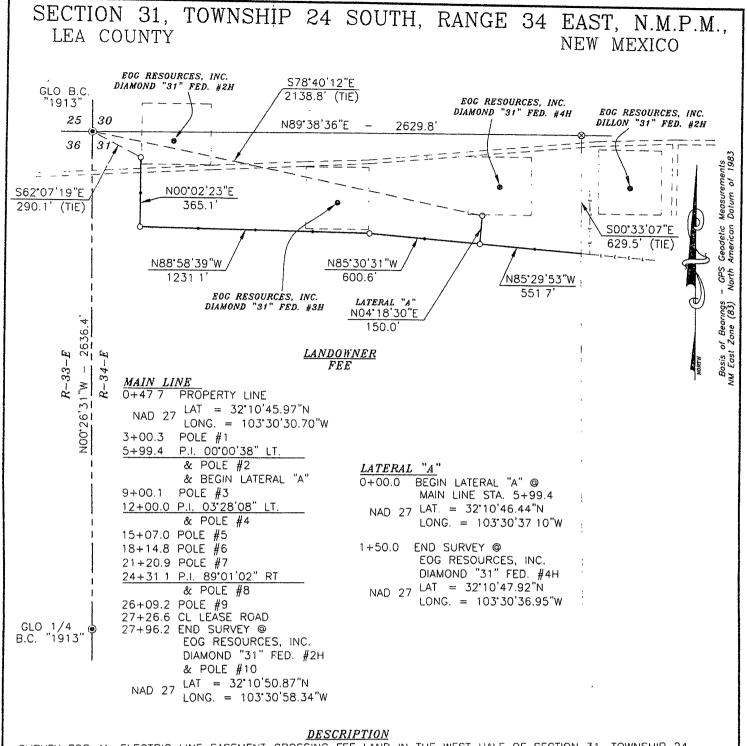
P.O BOX 393 - 310 W. TAYLOR HOBBS, NEW MEXICO - 575-393-9146

LEASE DIAMOND "31" FED. COM #3H

DIRECTIONS BEGINNING IN JAL AT THE INTERSECTION OF N.M. STATE HWY #18 AND N.M. STATE HWY. #128, GO WEST ON N.M. STATE HWY. #128 FOR 22.0 MILES, TURN LEFT ON CALICHE LEASE ROAD AND GO SOUTHEAST FOR 2.3 MILES, TURN LEFT AND GO EAST FOR 0.3 MILES TO LOCATION.







SURVEY FOR AN ELECTRIC LINE EASEMENT CROSSING FEE LAND IN THE WEST HALF OF SECTION 31, TOWNSHIP 24 SOUTH, RANGE 34 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

.

BEGINNING AT A POINT ON THE EAST LINE OF THE WEST HALF OF SAID SECTION 31 WHICH LIES SOO 33'07"E - 629.5 FEET FROM THE NORTH QUARTER CORNER OF SAID SECTION 31, THEN N85'29'53"W - 551.7 FEET; THEN N85'30'31"W - 600.6 FEET; THEN N88'58'39"W - 1231.1 FEET; THEN N00'02'23"E - 365.1 FEET TO A POINT WHICH LIES S62'07'19"E - 290 1 FEET FROM THE NORTHWEST CORNER OF SAID SECTION 31

BEGINNING AT MAIN LINE STATION 5+99.4, THEN NO4'18'30"E - 150.0 FEET TO A POINT WHICH LIES S78'40'12"E - 2138.8 FEET FROM THE NORTHWEST CORNER OF SAID SECTION 31

TOTAL LENGTH EQUALS 2898.5 FEET OR 175.67 RODS.

ERRY ASE J. METICO AUN 15079 SURVEYORS CERTIFICATE

I, TERRY J. ASEL, NEW MEXICO PROFESSIONAL SURVEYOR

NO. 15079, DO HEREBY CERTIFY THAT TRENDUCTED AND
RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS SURVEYORS CERTIFICATE SURVEYOR

TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND MEETS THE "MINIMIUM STANDARDS; FOR SURVEYING IN NEW MEXICO" AS ADOPTED BY THE NEW MEXICO STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND SURVEYORS.

Jerry J. Asel N.M. R.P.S. No. 15079 11/14/2011

Asel Surveying

P.O. BOX 393 - 310 W. TAYLOR HOBBS, NEW MEXICO - 575-393-9146

LEGEND

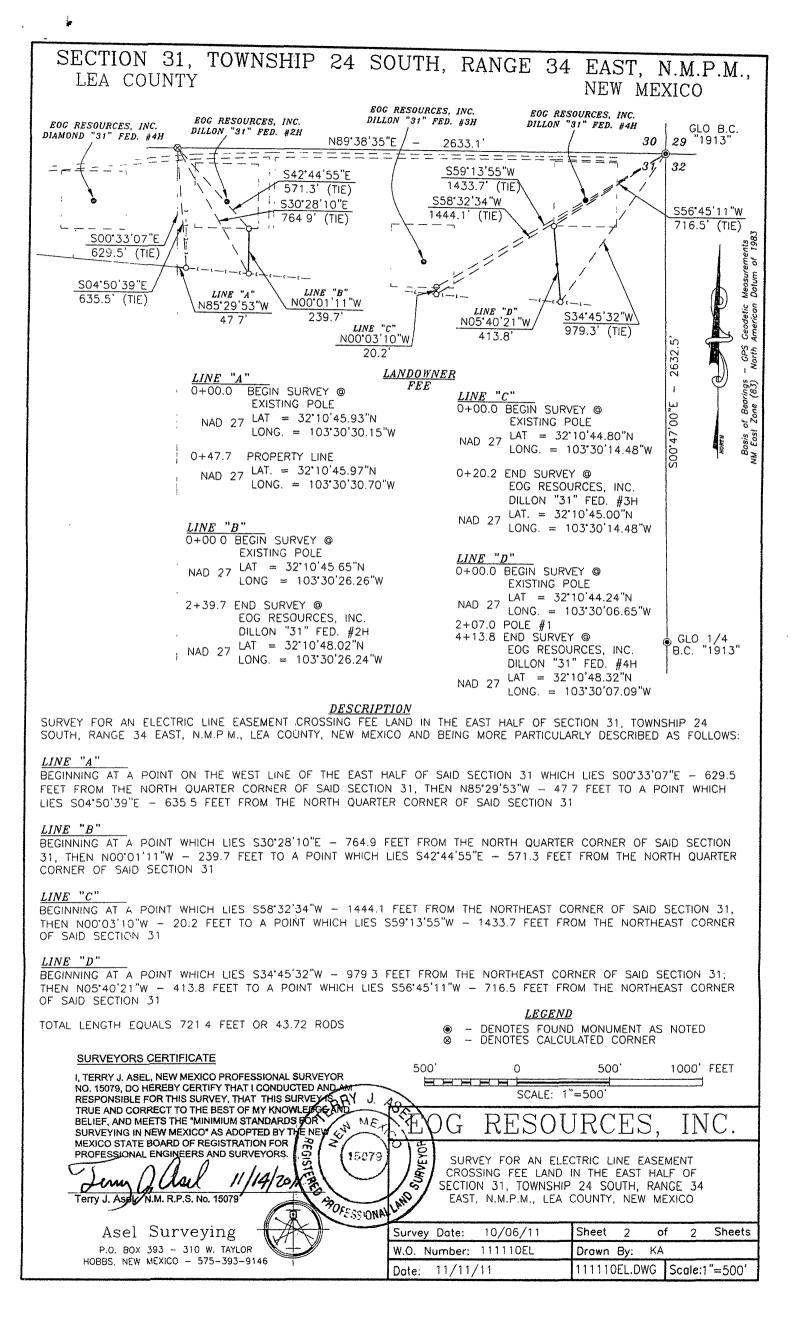
DENOTES FOUND MONUMENT AS NOTED DENOTES CALCULATED CORNER

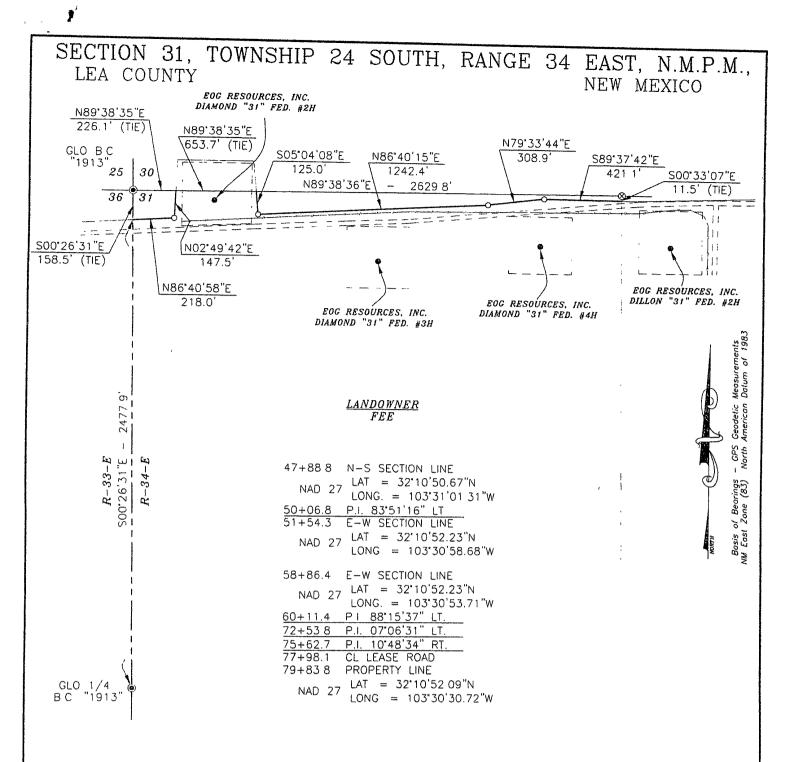
500' 500' 1000' FEET 0 1"=500 SCALE:

RESOURCES EOG

SURVEY FOR AN ELECTRIC LINE EASEMENT CROSSING FEE LAND IN THE WEST HALF OF SECTION 31, TOWNSHIP 24 SOUTH, RANGE 3 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO

Survey Date: 10/06/11	Sheet 1 of 2 Sheets
W.O. Number: 111110EL	Drawn By: KA
Date: 11/11/11	111110EL.DWG Scale:1"=500'





DESCRIPTION

SURVEY FOR A PIPELINE EASEMENT CROSSING FEE LAND IN THE WEST HALF OF SECTION 31, TOWNSHIP 24 SOUTH, RANGE 34 EAST, N.M.P M., LEA COUNTY, NEW MEXICO AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE WEST LINE OF SAID SECTION 31 WHICH LIES SO0'26'31"E - 158.5 FEET FROM THE NORTHWEST CORNER OF SAID SECTION 31, THEN N86'40'58"E - 218.0 FEET; THEN N02'49'42"E - 147.5 FEET TO A POINT ON THE NORTH LINE OF SAID SECTION 31 WHICH LIES N89'38'35"E - 226.1 FEET FROM THE NORTHWEST CORNER OF SAID SECTION 31, BEGINNING AGAIN ON THE NORTH LINE OF SAID SECTION 31 WHICH LIES N89'38'35"E 653.7 FEET FROM THE NORTHWEST CORNER OF SAID SECTION 31, THEN SO5'04'08"E - 125 0 FEET; THEN N86'40'15"E 1242.4 FEET; THEN N79'33'44"E - 308.9 FEET, THEN S89'37'42"E - 421 1 FEET TO A POINT ON THE EAST LINE THE WEST HALF OF SECTION 31 WHICH LIES S00'33'07"E - 11 5 FEET FROM THE NORTH QUARTER CORNER OF SAID SECTION 31

TOTAL LENGTH EQUALS 2462 9 FEET OR 149 27 RODS



SURVEYORS CERTIFICATE

I, TERRY J. ASEL, NEW MEXICO PROFESSIONAL SURVEYOR'

NO. 15079, DO HEREBY CERTIFY THAT I CONSUCTED AND AM
RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEYAS
TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND
BELIEF, AND MEETS THE "MINIMIUM STANDARDS FOR
SURVEYING IN NEW MEXICO" AS ADOPTED BY THE NEW SURVEYING IN NEW MEXICO" AS ADOPTED BY THE NEW MEXICO STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND SURVEYORS.

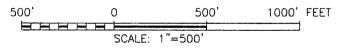
N.M. R.P.S. No. 15079 Jenny () Terry J. Asel 1

Asel Surveying

P.O. BOX 393 - 310 W. TAYLOR HOBBS, NEW MEXICO - 575-393-9146

<u>LEGEND</u>

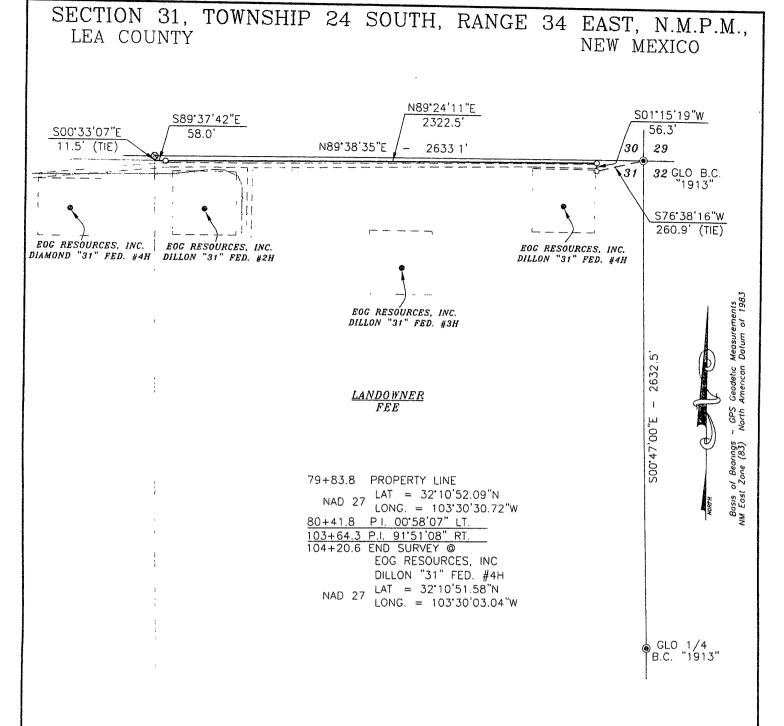
DENOTES FOUND MONUMENT AS NOTED DENOTES CALCULATED CORNER



RESOURCES, INC. EOG

SURVEY FOR A GAS PIPELINE EASEMENT CROSSING FEE LAND IN THE WEST HALF OF SECTION 31, TOWNSHIP 24 SOUTH, RANGE 34 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO

Survey Date: 10/06/11	Sheet 1 of 2 Sheets
W.O. Number: 111110PL	Drawn By: KA
Date: 11/10/11	111110PL.DWG Scale:1"=500'



DESCRIPTION

SURVEY FOR A PIPELINE EASEMENT CROSSING FEE LAND IN THE EAST HALF SECTION 31, TOWNSHIP 24 SOUTH, RANGE 34 EAST, NMPM, LEA COUNTY, NEW MEXICO AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS.

BEGINNING AT A POINT ON THE WEST LINE OF THE EAST HALF OF SAID SECTION 31 WHICH LIES S00°33'07"E - 11.5 FEET FROM THE NORTH QUARTER CORNER OF SAID SECTION 31, THEN S89°37'42"E - 58.0 FEET; THEN N89°24'11"E - 2322.5 FEET, THEN S01°15'19"W - 56.3 FEET TO A POINT WHICH LIES S76°38'16"W - 260.9 FEET FROM THE NORTHEAST CORNER OF SAID SECTION 31

TOTAL LENGTH EQUALS 2436.8 FEET OR 147 68 RODS.



SURVEYORS CERTIFICATE

I, TERRY J. ASEL, NEW MEXICO PROFESSIONAL SURVEYOR NO. 15079, DO HEREBY CERTIFY THAT I CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND MEETS THE "MINIMIUM STANDARDS FOR SURVEYING IN NEW MEXICO." AS ADOPTED BY THE NEW MEXICO STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND SURVEYORS.

Jerry J. Asel 11/14/2011 Terry J. Asel N.M. R.P.S. No. 15079

Asel Surveying

P.O. BOX 393 - 310 W. TAYLOR HOBBS, NEW MEXICO - 575-393-9146

<u>LEGEND</u>

⊕ - DENOTES FOUND MONUMENT AS NOTED
 ⊗ - DENOTES CALCULATED CORNER

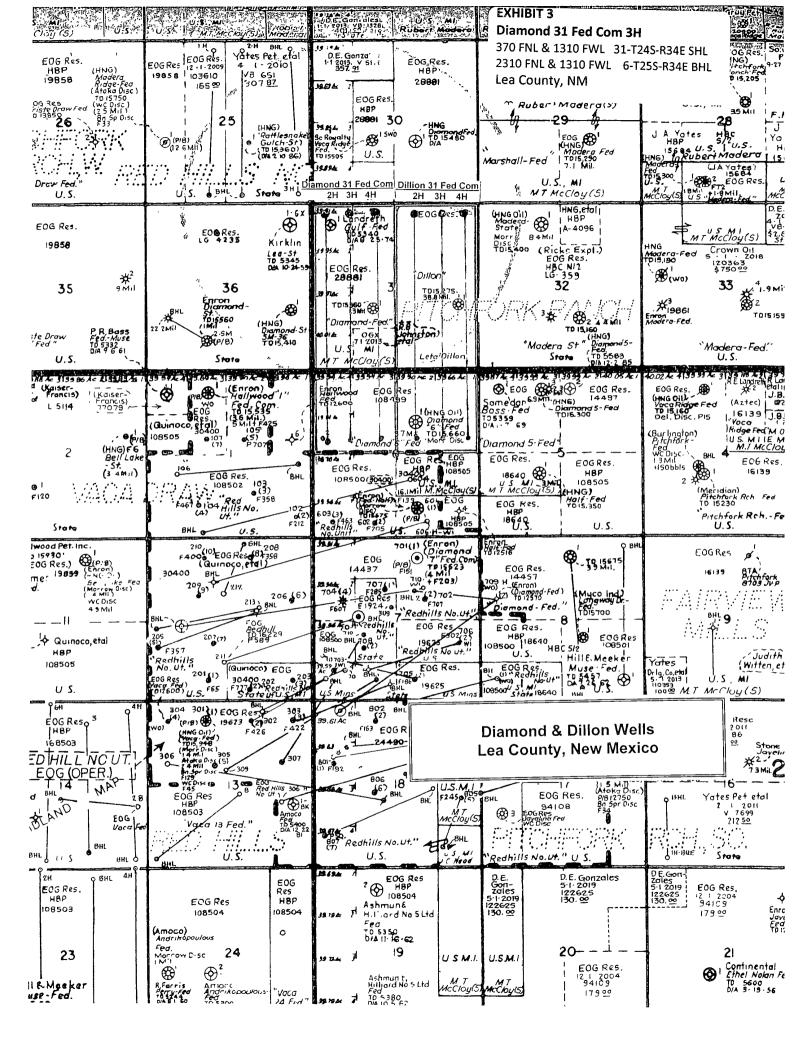
500' 0 500' 1000' FEET

SCALE: 1"=500'

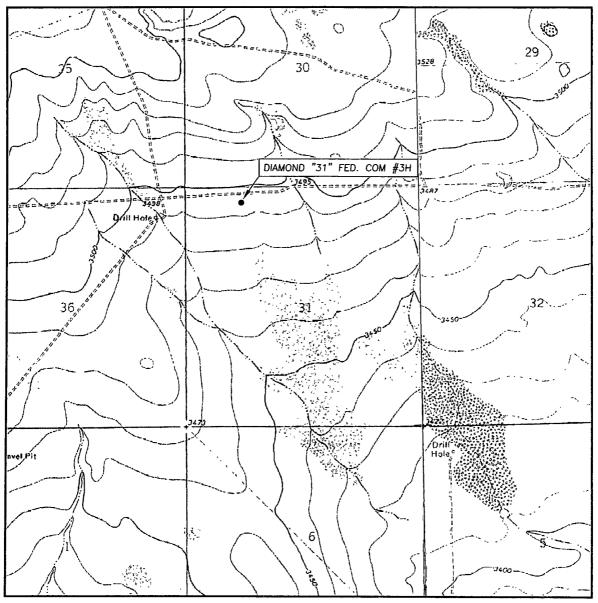
EOG RESOURCES, INC.

SURVEY FOR A GAS PIPELINE EASEMENT CROSSING FEE LAND IN THE EAST HALF OF SECTION 31, TOWNSHIP 24 SOUTH, RANGE 34 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO

Survey Date: 10/06/11	Sheet 2 c	f 2	Sheets
W.O. Number: 111110PL	Drawn By: KA		
Date: 11/10/11	111110PL.DWG	Scale:	1"=500'



LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'

SEC. 31 TWP. 24—S RGE. 34—E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 370' FNL & 1310' FWL

ELEVATION 3494.0'

OPERATOR EOG RESOURCES, INC.

LEASE DIAMOND "31" FED. COM #3H

U.S.G S. TOPOGRAPHIC MAP

BELL LAKE, N.M.

Asel Surveying
P.O. BOX 393 - 310 W. TAYLOR
HOBBS, NEW MEXICO - 575-393-9146

