



PHOENIX
TECHNOLOGY SERVICES

December 23, 2016

BC Operating
Attention: Regulatory Department
303 Veterans Airpark Lane #6101
PO Box 50820, Midland, TX. 70710
Midland, TX 79705

Re: BC Operating
Lackey 34 #1 SWD
Eddy County, NM
API #30-015-42998
Job No. 60639

NM OIL CONSERVATION
ARTESIA DISTRICT

FEB 06 2017

RECEIVED

Dear Regulatory Department;

Phoenix Technology Services, Inc. has filed the Survey Data Certification, Surveys, and Lease Plat for the above referenced well with the State of New Mexico Oil Conservation Division – District 2 via certified mail. A copy of the filing is attached for your records.

Name of Surveyor	Drain Hole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Jeff Arenas	1	694	3,544	12/17/16	12/19/16	MWD

Thank you for the opportunity to be of service. Please contact me if you have any questions or require additional information.

Best Regards,

Brittany Carley

Brittany Carley
Operations Administrator

Accepted for record - NMOCD

RL 2-17-17

Phoenix Technology Services SURVEY DATA CERTIFICATION



PHOENIX JOB NUMBER

60639

ENERGY COMPANY BC Operating INC

WELL NAME

Lackey 34 # 1 SWD

COUNTY & STATE

Eddy County, New Mexico

API WELL NUMBER

30-015-42998

PROPOSED DIRECTION

0.00

TIE-IN DATA						
MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
612.00 ft	611.97 ft	0.67	96.41	-2.91 ft	4.92 ft	MS Gyro

FIRST SURVEY DATE	FIRST SURVEY DEPTH	INCLIN	AZIMUTH
17-Dec-16	694.00 ft	1.00	84.80

SURVEY INSTRUMENT TYPE
Phoenix MWD

LAST SURVEY DATE	LAST SURVEY DEPTH	INCLIN	AZIMUTH
19-Dec-16	3,544.00 ft	0.30	74.00

TO THE BEST OF MY KNOWLEDGE I
CERTIFY THIS SURVEY DATA TO BE
TRUE AND CORRECT.

PROJECTED TD SURVEY DATE	PROJECTED TD SURVEY DEPTH	INCLIN	AZIMUTH
19-Dec-16	3,606.00 ft	0.30	74.00

Jeff Arenas

PRINT YOUR NAME ABOVE

Jeff arenas

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	7.51
DECLINATION OR GRID	GRID

12/2/2016

TODAY'S DATE

MWD SUPERVISOR 1

Jeff Arenas

DIRECTIONAL DRILLER 1

Ruben Cano

MWD SUPERVISOR 2

0

DIRECTIONAL DRILLER 2

0

12329 Cutten Rd., Houston, Texas 777066 (713)337-0600 (Voice), (713)337-0599 (Fax)



BC Operating, Inc.

Eddy County, New Mexico (NAD27)

Lackey SWD

#1

OH / Job #60639

Survey: Phoenix MWD Surveys

Standard Survey Report

21 December, 2016



PHOENIX
TECHNOLOGY SERVICES

Company:	BC Operating, Inc.	Local Co-ordinate Reference:	Well #1
Project:	Eddy County, New Mexico (NAD27)	TVD Reference:	GL + KB @ 3372.50usft (Patterson 244)
Site:	Lackey SWD	MD Reference:	GL + KB @ 3372.50usft (Patterson 244)
Well:	#1	North Reference:	Grid
Wellbore:	OH / Job #60639	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Patterson 244)	Database:	Compass 5000 GCR

Project	Eddy County, New Mexico (NAD27)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Lackey SWD		
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Site Position:		Northing:	458,367.43 usft	Latitude:	32° 15' 36.57956 N
From:	Map	Easting:	513,906.52 usft	Longitude:	104° 17' 18.04322 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.02 °

Well:	#1				
Well Position	+N/-S	0.00 usft	Northing:	458,367.43 usft	Latitude: 32° 15' 36.57956 N
	+E/-W	0.00 usft	Easting:	513,906.52 usft	Longitude: 104° 17' 18.04322 W
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft	Ground Level: 3,344.00 usft

Wellbore	OH / Job #60639				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	12/14/2016	7.53	60.02	48,110

Design	Surveys (Patterson 244)				
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Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	0.00

Survey Program	Date 12/21/2016				
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From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
694.00	3,606.00	Phoenix MWD Surveys (OH / Job #60639)	MWD+HDGM	OWSG Rev.2 MWD + HDGM

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
612.00	0.67	96.41	611.97	-2.91	4.92	-2.91	0.00	0.00	0.00
Tie In									
694.00	1.00	84.80	693.96	-2.90	6.11	-2.90	0.45	0.40	-14.16
First Phoenix MWD Survey									
786.00	1.50	86.60	785.94	-2.75	8.11	-2.75	0.55	0.54	1.96
971.00	2.80	50.90	970.81	0.24	14.03	0.24	0.98	0.70	-19.30
1,156.00	2.90	12.50	1,155.60	7.66	18.55	7.66	1.01	0.05	-20.76
1,249.00	1.90	40.73	1,248.52	11.12	20.07	11.12	1.63	-1.08	30.35
1,341.00	3.10	128.70	1,340.46	10.72	23.01	10.72	3.89	1.30	95.62
1,434.00	1.80	148.70	1,433.37	7.90	25.73	7.90	1.65	-1.40	21.51

Company:	BC Operating, Inc.	Local Co-ordinate Reference:	Well #1
Project:	Eddy County, New Mexico (NAD27)	TVD Reference:	GL + KB @ 3372.50usft (Patterson 244)
Site:	Lackey SWD	MD Reference:	GL + KB @ 3372.50usft (Patterson 244)
Well:	#1	North Reference:	Grid
Wellbore:	OH / Job #60639	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Patterson.244)	Database:	Compass 5000 GCR

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
1,526.00	0.60	293.60	1,525.36	6.86	26.04	6.86	2.52	-1.30	157.50	
1,620.00	1.50	307.70	1,619.34	7.81	24.61	7.81	0.99	0.96	15.00	
1,712.00	0.50	223.30	1,711.33	8.26	23.39	8.26	1.67	-1.09	-91.74	
1,804.00	1.20	177.30	1,803.32	7.00	23.16	7.00	1.01	0.76	-50.00	
1,897.00	0.70	359.80	1,896.32	6.60	23.20	6.60	2.04	-0.54	-190.86	
1,991.00	1.60	14.60	1,990.30	8.44	23.53	8.44	1.00	0.96	15.74	
2,086.00	0.60	311.90	2,085.28	10.06	23.49	10.06	1.50	-1.05	-66.00	
2,180.00	0.80	269.30	2,179.27	10.38	22.47	10.38	0.58	0.21	-45.32	
2,274.00	0.80	271.20	2,273.26	10.38	21.16	10.38	0.03	0.00	2.02	
2,368.00	1.00	270.50	2,367.25	10.40	19.68	10.40	0.21	0.21	-0.74	
2,463.00	0.90	254.50	2,462.24	10.21	18.13	10.21	0.30	-0.11	-16.84	
2,557.00	0.40	202.10	2,556.23	9.71	17.30	9.71	0.77	-0.53	-55.74	
2,579.00	0.50	200.80	2,578.23	9.55	17.24	9.55	0.46	0.45	-5.91	
2,678.00	0.50	272.10	2,677.23	9.16	16.65	9.16	0.59	0.00	72.02	
2,740.00	0.50	286.40	2,739.23	9.25	16.12	9.25	0.20	0.00	23.06	
2,835.00	0.50	274.40	2,834.22	9.40	15.31	9.40	0.11	0.00	-12.63	
2,929.00	0.40	292.00	2,928.22	9.55	14.60	9.55	0.18	-0.11	18.72	
3,023.00	0.40	300.50	3,022.22	9.84	14.01	9.84	0.06	0.00	9.04	
3,116.00	0.50	301.40	3,115.22	10.22	13.38	10.22	0.11	0.11	0.97	
3,211.00	0.30	312.00	3,210.21	10.60	12.85	10.60	0.22	-0.21	11.16	
3,304.00	0.00	121.80	3,303.21	10.76	12.66	10.76	0.32	-0.32	0.00	
3,399.00	0.10	70.30	3,398.21	10.79	12.74	10.79	0.11	0.11	0.00	
3,492.00	0.20	95.50	3,491.21	10.80	12.98	10.80	0.13	0.11	27.10	
3,544.00	0.30	74.00	3,543.21	10.83	13.20	10.83	0.26	0.19	-41.35	
Final Phoenix MWD Survey										
3,606.00	0.30	74.00	3,605.21	10.92	13.51	10.92	0.00	0.00	0.00	
Projection to TD										

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
612.00	611.97	-2.91	4.92	Tie In	
694.00	693.96	-2.90	6.11	First Phoenix MWD Survey	
3,544.00	3,543.21	10.83	13.20	Final Phoenix MWD Survey	
3,606.00	3,605.21	10.92	13.51	Projection to TD	

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 & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number		² Pool Code		³ Pool Name	
⁴ Property Code		⁵ Property Name LACKEY 34			⁶ Well Number 1
⁷ OGRID No. 160825		⁸ Operator Name B.C. OPERATING, INC.			⁹ Elevation 3344

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
L	34	T23S	R26E		2480'	SOUTH	235'	WEST	EDDY

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

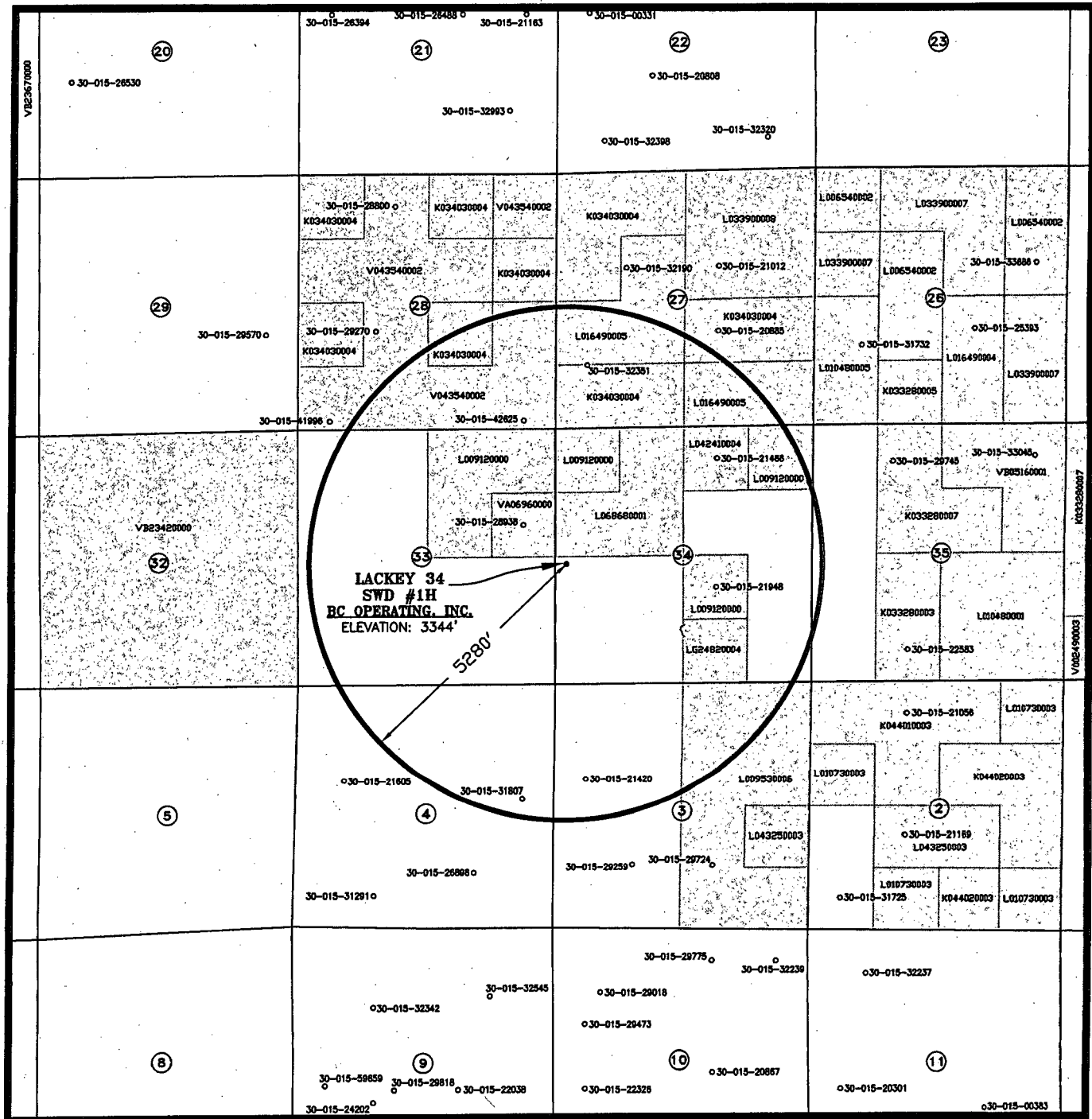
¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.

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.

¹⁶ SECTION 28 SECTION 27 SECTION 26 SECTION 33 SECTION 34 SECTION 35 SURFACE HOLE LOCATION 2480' FNL 235' FVL NAD 83, SPCS NM EAST X:555088.59' / Y:458425.34' LAT:32.26027852N / LON:104.28884715W NAD 27, SPCS NM EAST X:513906.52' / Y:458367.43' LAT:32.26016099N / LON:104.28834534W 235' 2480' SECTION 33 T23S-R26E SECTION 34 SECTION 35 SECTION 4 T24S-R26E SECTION 3 SECTION 2						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 _____ Date _____ Printed Name _____ E-mail Address _____	
						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. DECEMBER 12, 2014 Date of Survey _____ Signature and Seal of Professional Surveyor _____ Certificate Number _____	
						21653 LLOYD P. SHORT PROFESSIONAL SURVEYOR NEW MEXICO	
						21653 LLOYD P. SHORT	

EXISTING LEASE & WELL MAP

LACKEY SWD #1
 2480' FSL & 235' FWL
 SEC. 34 TWP. 23-S RGE. 26-E
 SURVEY: N.M.P.M.
 COUNTY: EDDY
 U.S.G.S. TOPOGRAPHIC MAP: KITCHEN COVE, N.M.



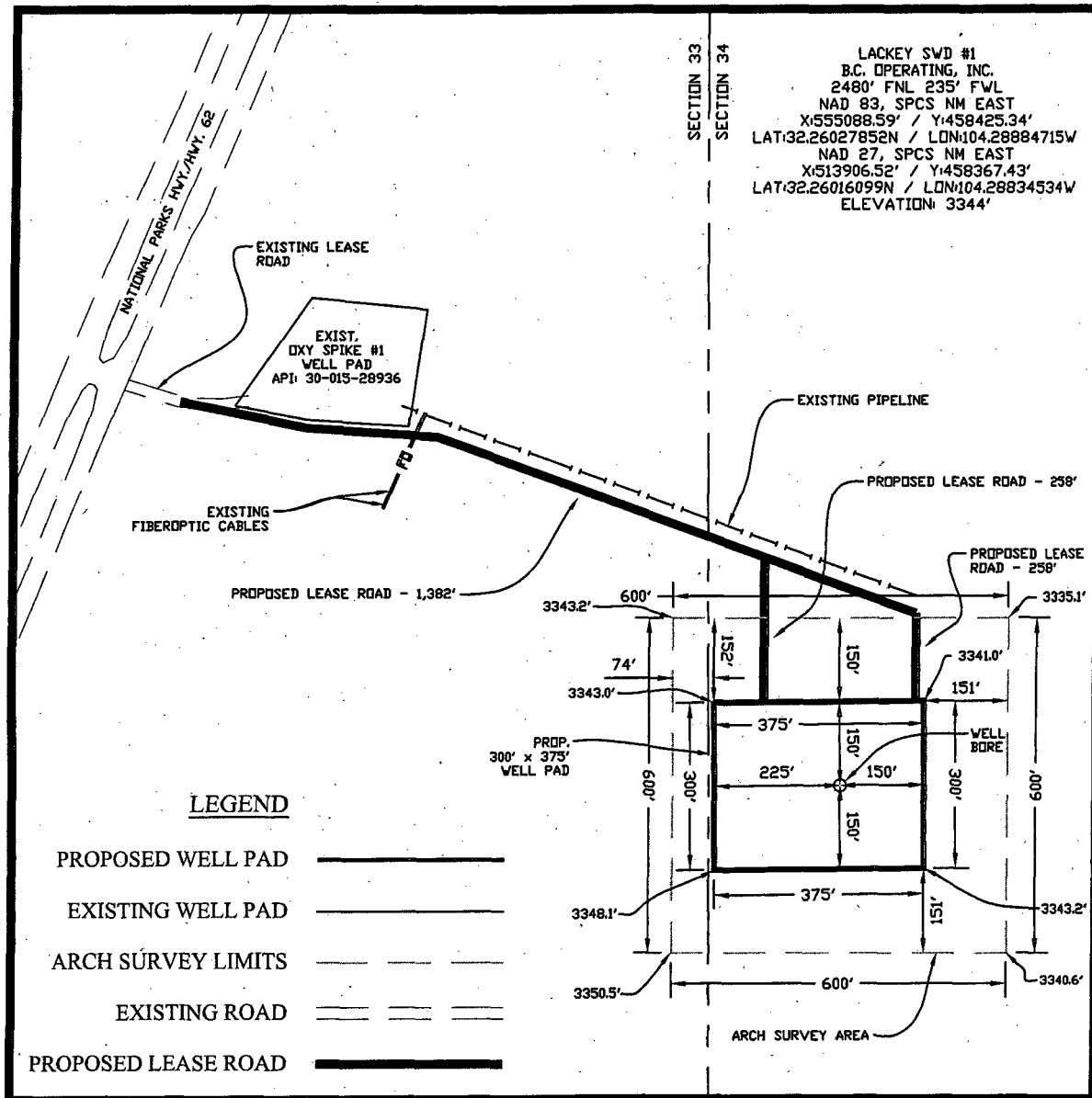
WELL PAD TOPO

SEC. 34 TWP. 23-S RGE. 26-E

SURVEY: N.M.P.M.

COUNTY: EDDY

U.S.G.S. TOPOGRAPHIC MAP: KITCHEN COVE, N.M.



DIRECTIONS TO LOCATION:

FROM THE INTERSECTION OF U.S. HIGHWAY 62 AND STATE HIGHWAY 396 TRAVEL
NORTHEAST ON U.S. HIGHWAY 62 FOR 3.0 MILES TO EXISTING LEASE ROAD ON THE
RIGHT. TRAVEL SOUTHEAST ON LEASE ROAD FOR 0.3 MILES TO PROPOSED WELL PAD
1023 FEET TO THE SOUTHEAST.

150' 0' 150' 300'
SCALE: 1" = 300'

PREPARED BY:
R-SQUARED GLOBAL, LLC
1309 LOUISVILLE AVENUE, MONROE, LA 71201
318-323-6900 OFFICE
JOB No. R3525_001