

DATE IN 11/22/10 SUSPENSE ENGINEER D/LB LOGGED IN 11/22/10 TYPE NSL APP NO. 1032657630

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



Mack Eng
13837

2010 NOV 22 P 3:56 K2 State #1
30-005-64127

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]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

Cassanova
14591

[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.

Deana Weaver
Print or Type Name

Deana Weaver
Signature

Production Clerk
Title

11.19.2010
Date

dweaver@mec.com
e-mail Address



RECEIVED OCD

2010 NOV 22 P 1:31

Post Office Box 960
Artesia, NM 88211-0960
Office (575) 748-1288
Fax (575) 746-9539

November 19, 2010

Oil Conservation Division
Attn: Will Jones
1220 South St. Francis Dr.
Santa Fe, NM 87505

Case 14591

Dear Mr. Jones:

Mack Energy respectfully requests an administrative approval without notice and hearing of the following unorthodox well location.

Because of our desire to drill this well in a timely manner, we also request your approval be expedited. The well location and legal description is as follows:

K 2 State #1
180 FNL & 330 FEL
Sec. 36, T09S, R29E
Chaves County, New Mexico

The well will be completed in the San Andres formation in the Many Gates; San Andres Pool.
Attached to this application are the following exhibits.

- A.) Well location and acreage dedication plat (form C-102)(Exhibit A).
- B.) A plat showing the proposed unorthodox locations, the respective proration units, and the offsetting proration units (Exhibit B).
- C.) A map showing the reason for the unorthodox location, the BLM had Mack Energy move the location because of Sand Dunes and to achieve the best geological advantage. (Exhibit C).

This well is located in the NE/4 of the NE/4 of Sec.36 T09S R29E. The well is encroaching the NW/4 of the NW/4 of the Sec. 31 T09S R30E, SW/4 of the SW/4 of Sec. 30 T09S R30E and SE/4 of the SE/4 Sec. 25 T09S R29E. Offset operators have been notified and a list is provided.

Thank you for your assistance in this matter. If you have any questions, please feel free to call.

Sincerely,

MACK ENERGY CORPORATION

Deana Weaver

Deana Weaver
Production Clerk

DW
Enclosures

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102

DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 88210

OIL CONSERVATION DIVISION

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

DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410

11885 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

DISTRICT IV
11885 S. ST. FRANCIS DR., SANTA FE, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
	44670	Many Gates; San Andres
Property Code	Property Name	Well Number
38201	K2 FEDERAL STATE	1
OGRID No.	Operator Name	Elevation
013837	MACK ENERGY CORPORATION	4024'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	36	9-S	29-E		180	NORTH	330	EAST	CHAVES

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
A	36	9-S	29-E		330	NORTH	330	EAST	CHAVES

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
40			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

Y=908438.8 N X=621883.0 E GRID AZ.=179°54'25" HORZ. DIST.=150.0' SEE DETAIL Y=908437.7 N X=623201.2 E Y=907119.9 N X=621884.6 E Y=907120.1 N X=623202.7 E GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=908258.0 N X=622871.4 E LAT.=33.496130° N LONG.=103.930287° W BOTTOM HOLE LOCATION Y=908108.1 N X=622871.7 E DETAIL 4021.3' 4029.4' 600' 600' 4018.3' 4021.0'	OPERATOR CERTIFICATION I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Deana Weaver</i> 11/19/10 Signature Date Deana Weaver Printed Name 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. DATE SURVEYED 10/10 SIGNATURE & SEAL OF PROFESSIONAL SURVEYOR 12641 REG. NO. 10113 DATE 11/2/10 CERTIFICATE NO. GARY G. EIDSON 12641 RONALD J. EIDSON 3239
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SCANNED

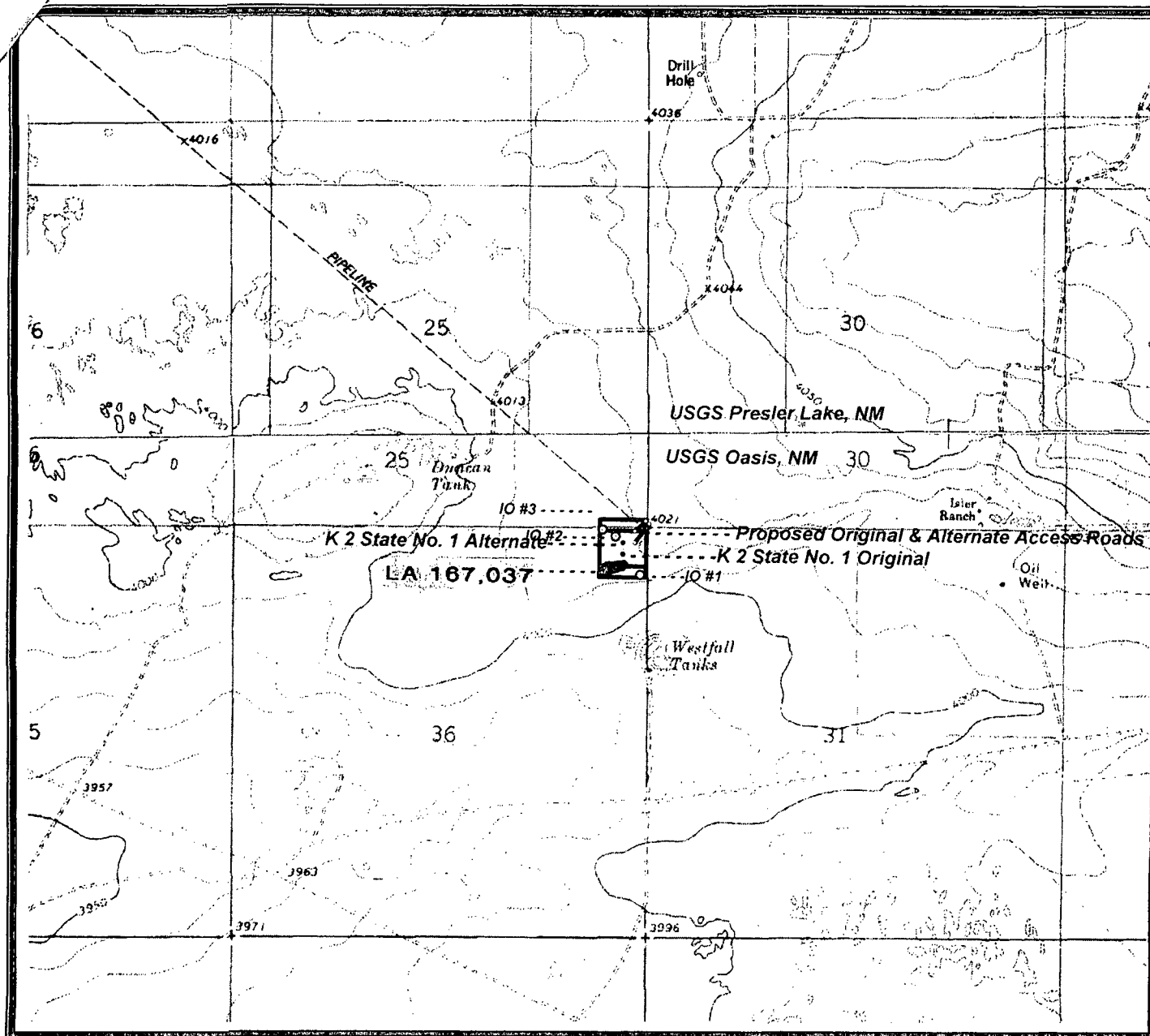


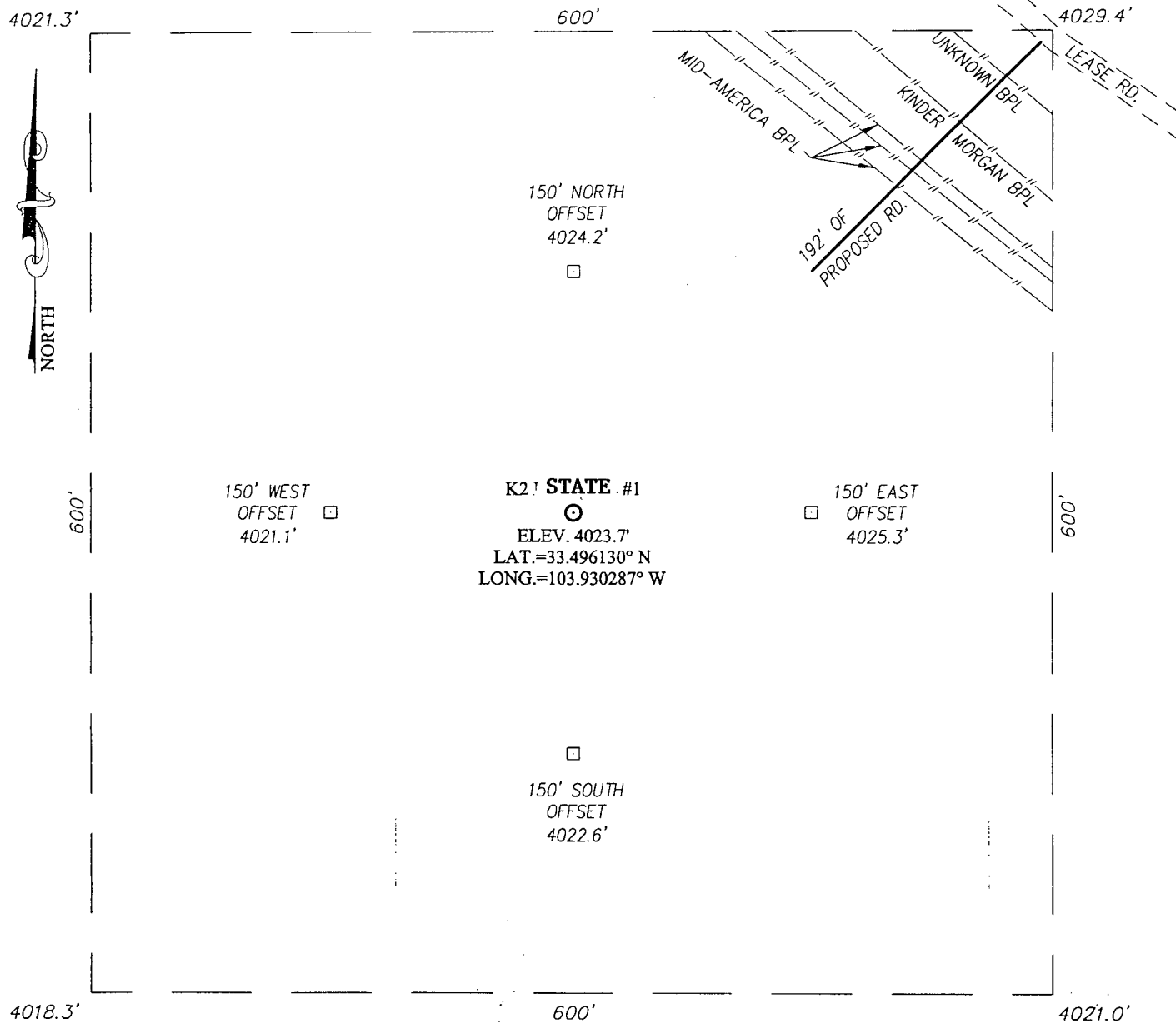
Figure 1: Survey Area
Mack Energy Corporation
Proposed K2 State Number 1 Original and Alternate Well Locations,
Associated Access Roads and Site LA 167,037
Sections 25 and 36, T.9S, R.29E
USGS Oasis, NM (1973) and Presler Lake, NM (1978) 7.5' topo maps
Chaves County, New Mexico
Scale 1:24,000

N↑

Southern New Mexico Archaeological Services, Inc.

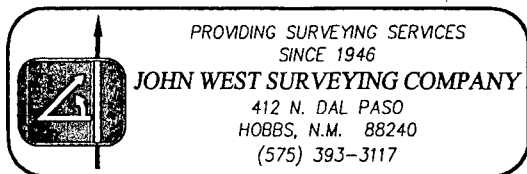
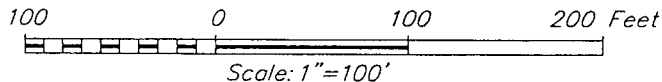
SCANNED

SECTION 36, TOWNSHIP 9 SOUTH, RANGE 29 EAST, N.M.P.M.,
CHAVES COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF U.S. HWY. #380 & CATO ROAD, GO NORTH ON CATO ROAD APPROX. 5.0 MILES. TURN LEFT AND GO WEST APPROX. 2.5 MILES TO A PROPOSED ROAD SURVEY. FOLLOW ROAD SURVEY SOUTHWEST APPROX. 192 FEET. THIS LOCATION STAKE IS APPROX. 212 FEET SOUTHWEST.



MACK ENERGY CORPORATION

K2 STATE #1 WELL
LOCATED 180 FEET FROM THE NORTH LINE
AND 330 FEET FROM THE EAST LINE OF SECTION 36,
TOWNSHIP 9 SOUTH, RANGE 29 EAST, N.M.P.M.,
CHAVES COUNTY, NEW MEXICO

Survey Date: 5/20/10		Sheet 1 of 1 Sheets	
W.O. Number: 10.11.0766		Dr By: DSS	Rev 1: N/A
Date: 5/27/10		10110766	Scale: 1"=100'



An Operating Unit of Smith International, Inc.

DIRECTIONAL SURVEY REPORT

MACK ENERGY

K2 STATE #1

CHAVES COUNTY, NEW MEXICO

PREPARED BY: FRANCISCO SINISTERRA

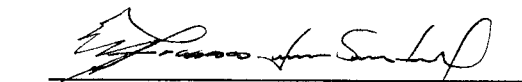
DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) JOSH SNEED
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 09-15-10 TO 09-23-10
5. STATE IN WHICH SURVEY WAS PERFORMED: NEW MEXICO
6. LOCATION OF WELL: CHAVES COUNTY, NM
7. TYPE OF SURVEY(S) PERFORMED: MWD
8. COMPLETE IDENTIFICATION OF WELL:

MACK ENERGY
K2 STATE #1
RIG: SILVER OAK #2
API: 30-005-64127

9. SURVEY CERTIFIED FROM: 2653 TO 7469 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE DISPLACED AT 162.48 FEET ON A BEARING OF 185.54 DEGREES FROM THE CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 7518.00 FEET, ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.


FRANCISCO SINISTERRA
M/LWD SERVICE COORDINATOR

PathFinder Energy Services, Inc.

BHL Report

Page 01/01
Tie-in Date: 09/14/2010
Date Completed: 09/23/2010

MACK ENERGY
K2 STATE #1
CHAVES COUNTY, NM
Rig:SILVER OAK 2
PathFinder Office Supervisor: FRANCISCO SINISTERRA
PathFinder Field Engineers:JOSH SNEED

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:33.29.46.0681 N LON:103.55.49.0343 W
GRID Reference:NAD27 new mexico east Transverse Mercator
Ref GRID Coord: X: 622871.4000 Y: 908258.0000
North Aligned To:GRID NORTH
Total Magnetic Correction: 7.72° EAST TO GRID
Vertical Section Plane: 183.47
Survey Vert. Reference: 17.50' Kelly Bushing To Ground
Altitude:4024.00' Ground To MSL

Measured Depth	7518.00	(feet)
Inclination	0.97	(deg)
Azimuth	308.55	(deg)
True Vertical Depth	7502.29	(feet)
Vertical Section	162.37	(feet)
Survey X cord	622855.68	(feet)
Survey Y cord	908096.25	(feet)
Survey Lat	33.49568564 N	(deg)
Survey Lon	103.93034092 W	(deg)
Rectangular Corr. N/S	161.72 S	(feet)
Rectangular Corr. E/W	15.70 W	(feet)
Closure Distance	162.48	(feet)
Direction of Closure	185.54	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

MACK ENERGY
K2 STATE #1
CHAVES COUNTY, NM
Rig: SILVER OAK 2
PathFinder Office Supervisor: FRANCISCO SINISTERRA
PathFinder Field Engineers: JOSH SNEED

Survey Horiz. Reference: WELLHEAD
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Total Magnetic Correction: 7.72° EAST TO GRID
Vertical Section Plane: 183.47
Survey Vert. Reference: 17.50' Kelly Bushing To Ground
Altitude: 4024.00' Ground To MSL

Survey Calculations by RX5 V6.03B using Minimum Curvature

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	Rectangular Offsets (ft)	TOTAL (ft)	Closure Dist Dir (ft) (deg)	DLS (dg/100ft)
TIE IN TO TELEDRIFT SURVEYS @ 2537' MD									
THE FOLLOWING ARE PATHFINDER SURVEYS									
2537.00	1.00	43.22	2536.76	0.00	-13.44	12.04 N	23.46 E	26.37@ 62.83	0.00
2653.00	0.88	28.32	2652.74	116.00	-15.02	13.56 N	24.58 E	28.07@ 61.11	0.23
2748.00	0.70	21.37	2747.74	95.00	-16.24	14.74 N	25.13 E	29.14@ 59.60	0.21
2780.00	0.18	11.23	2779.73	32.00	-16.47	14.98 N	25.21 E	29.33@ 59.29	1.64
2811.00	0.97	198.73	2810.73	31.00	-16.27	14.78 N	25.14 E	29.16@ 59.56	3.71
2906.00	5.19	195.14	2905.57	95.00	-11.28	9.86 N	23.76 E	25.72@ 67.45	4.44
3002.00	8.18	193.80	3000.91	96.00	-0.31	0.96 S	20.99 E	21.02@ 92.63	3.12
3097.00	10.82	191.08	3094.60	95.00	15.18	16.28 S	17.67 E	24.02@ 132.66	2.82
3192.00	12.31	192.50	3187.67	95.00	34.02	34.92 S	13.76 E	37.53@ 158.49	1.60
3288.00	11.61	193.68	3281.59	96.00	53.64	54.30 S	9.26 E	55.08@ 170.32	0.77
3383.00	11.17	193.38	3374.71	95.00	72.11	72.54 S	4.87 E	72.70@ 176.16	0.47
3478.00	10.90	192.24	3467.96	95.00	90.05	90.27 S	0.84 E	90.27@ 179.47	0.36
3573.00	10.73	191.40	3561.27	95.00	107.69	107.71 S	2.81 W	107.75@ 181.50	0.24
3669.00	9.76	190.30	3655.74	96.00	124.62	124.48 S	6.03 W	124.63@ 182.78	1.03
3764.00	8.35	191.27	3749.55	95.00	139.45	139.17 S	8.82 W	139.45@ 183.63	1.49
3859.00	5.72	185.88	3843.83	95.00	151.01	150.64 S	10.66 W	151.02@ 184.05	2.85
3954.00	3.17	181.35	3938.54	95.00	158.37	157.98 S	11.20 W	158.38@ 184.06	2.71
4049.00	1.41	158.89	4033.46	95.00	162.06	161.70 S	10.84 W	162.06@ 183.84	2.05
4113.00	0.97	138.26	4097.44	64.00	163.15	162.84 S	10.20 W	163.15@ 183.58	0.95
4176.00	0.97	128.02	4160.44	63.00	163.83	163.56 S	9.42 W	163.83@ 183.30	0.27
4272.00	0.44	73.98	4256.43	96.00	164.17	163.96 S	8.43 W	164.18@ 182.94	0.83
4367.00	0.44	72.46	4351.43	95.00	163.92	163.75 S	7.73 W	163.93@ 182.70	0.01
4462.00	0.70	0.32	4446.42	95.00	163.21	163.06 S	7.38 W	163.23@ 182.59	0.74
4557.00	0.70	341.79	4541.42	95.00	162.09	161.93 S	7.56 W	162.10@ 182.67	0.24

PathFinder Energy Services, Inc.

Survey Report

MACK ENERGY
K2 STATE #1
CHAVES COUNTY, NM
RIG: SILVER OAK 2

Page 02/03

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)	Closure Dist Dir (ft) (deg)	DLS (dg/100ft)
4653.00	0.70	340.85	4637.41	96.00	161.00	160.82 S 7.93 W	161.01@ 182.82	0.01
4748.00	0.18	299.18	4732.41	95.00	160.40	160.20 S 8.25 W	160.41@ 182.95	0.61
4843.00	0.26	269.45	4827.40	95.00	160.35	160.13 S 8.60 W	160.36@ 183.07	0.14
4938.00	0.26	292.61	4922.40	95.00	160.30	160.05 S 9.02 W	160.30@ 183.22	0.11
5033.00	0.35	310.44	5017.40	95.00	160.05	159.77 S 9.43 W	160.05@ 183.38	0.14
5129.00	0.35	303.64	5113.40	96.00	159.73	159.42 S 9.90 W	159.73@ 183.55	0.04
5224.00	0.44	314.79	5208.40	95.00	159.34	159.00 S 10.40 W	159.34@ 183.74	0.12
5319.00	0.53	276.10	5303.40	95.00	159.08	158.70 S 11.10 W	159.09@ 184.00	0.35
5414.00	0.18	108.83	5398.39	95.00	159.10	158.70 S 11.39 W	159.11@ 184.11	0.74
5510.00	0.53	94.19	5494.39	96.00	159.15	158.78 S 10.81 W	159.15@ 183.89	0.37
5605.00	0.44	93.20	5589.39	95.00	159.15	158.84 S 10.01 W	159.15@ 183.60	0.09
5700.00	0.62	82.27	5684.38	95.00	159.05	158.79 S 9.13 W	159.05@ 183.29	0.22
5795.00	0.62	90.02	5779.38	95.00	158.92	158.72 S 8.11 W	158.92@ 182.92	0.09
5891.00	0.18	160.96	5875.38	96.00	159.03	158.86 S 7.54 W	159.04@ 182.72	0.61
5986.00	0.44	130.31	5970.38	95.00	159.38	159.24 S 7.21 W	159.40@ 182.59	0.32
6081.00	0.53	116.38	6065.37	95.00	159.77	159.67 S 6.54 W	159.80@ 182.35	0.16
6176.00	0.44	95.65	6160.37	95.00	159.96	159.90 S 5.79 W	160.00@ 182.07	0.21
6272.00	0.26	246.61	6256.37	96.00	160.07	160.02 S 5.62 W	160.12@ 182.01	0.71
6367.00	0.26	214.08	6351.37	95.00	160.35	160.29 S 5.94 W	160.40@ 182.12	0.15
6462.00	0.53	233.83	6446.36	95.00	160.82	160.72 S 6.41 W	160.85@ 182.28	0.31
6557.00	0.70	229.54	6541.36	95.00	161.50	161.36 S 7.21 W	161.52@ 182.56	0.19
6653.00	0.88	221.67	6637.35	96.00	162.49	162.29 S 8.15 W	162.50@ 182.87	0.22
6748.00	0.62	237.23	6732.34	95.00	163.36	163.11 S 9.06 W	163.37@ 183.18	0.35
6843.00	0.44	243.54	6827.34	95.00	163.85	163.56 S 9.82 W	163.85@ 183.44	0.20
6938.00	0.35	230.14	6922.34	95.00	164.23	163.90 S 10.37 W	164.23@ 183.62	0.13
7034.00	0.44	226.29	7018.33	96.00	164.70	164.35 S 10.86 W	164.70@ 183.78	0.10
7129.00	0.53	231.65	7113.33	95.00	165.26	164.87 S 11.47 W	165.27@ 183.98	0.11
7225.00	0.62	319.29	7209.33	96.00	165.19	164.75 S 12.16 W	165.20@ 184.22	0.83

PathFinder Energy Services, Inc.

Survey Report

MACK ENERGY
K2 STATE #1
CHAVES COUNTY, NM
RIG:SILVER OAK 2

Page 03/03

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)	Closure Dist Dir (ft) (deg)	DLS (dg/100ft)
7320.00	0.97	308.96	7304.32	95.00	164.35	163.86 S	164.38@ 184.58	0.40
7415.00	0.97	311.19	7399.30	95.00	163.39	162.82 S	163.45@ 185.04	0.04
7469.00	0.97	308.55	7453.30	54.00	162.85	162.24 S	162.93@ 185.30	0.08
STRAIGHT-LINE PROJECTION TO BIT @ 7518'								
7518.00	0.97	308.55	7502.29	49.00	162.37	161.72 S	162.48@ 185.54	0.00



ENERGY SERVICES

TIE-IN SURVEY INFORMATION SHEET

CLIENT INFORMATION

CLIENT:	MACK ENERGY		
LEASE / WELL No.:		K2 STATE #1	
WELL LOCATION:	CHAVES COUNTY, NM		
COUNTY / STATE / COUNTRY:	CHAVES	NM	USA
RIG:	SILVER OAK 2		
API WELL No:	30-005-64127		
JOB No:	700000243-WT-WT		
P.O. / AFE No.			
DIRECTIONAL COMPANY:	PATHFINDER ENERGY		

WELL SITE INFORMATION

MAGNETIC DECLINATION:			
On Wall Plat:	7.72	LWD Calculated:	7.72
		Agreed Upon:	7.72
X =	622871.400000	Feet	Y = 908258.000000
			Feet
SITE LATITUDE:	33° 29' 46.0681"	SITE LONGITUDE:	103° 55' 49.0343"
GRID SYSTEM:	TRUE ☐ UTM ☐ LAMBERT ☒	ZONE:	
PROPOSED DRIFT DIRECTION:	183.47°		
KELLY BUSHING ELEVATION:	4041.5		
ALTITUDE:	4041.5	Feet	WATER DEPTH: 4024
			Feet

TIE-IN SURVEY

MEASURED DEPTH:	2537		
DRIFT ANGLE:	1		
DRIFT DIRECTION:	43		
TRUE VERTICAL DEPTH:	2536.76		
VERTICAL SECTION:	-13.53		
RECTANGULAR COORDINATE (N / S) :	12.13		
RECTANGULAR COORDINATE (E / W) :	23.41		
CLOSURE DISTANCE / DIRECTION:	26.37	62.6	
SURVEY CALCULATION METHOD:	AA ☐	MC ☐	RC ☐ BT ☐
SOURCE OF TIE-IN DATA (COMPANY):	TELEDRIFT		
COPY OF TIE-IN SURVEY REPORT	☒ YES		☒ NO

WELL PLAN

KICKOFF DEPTH:	2653	TOTAL DEPTH:	7518
KICKOFF ANGLE:	0	MAX ANGLE:	13°

PES Engineers: JOSH SNEED

**Signature of both field engineers required if applicable

Directional Driller: KEVIN JEZEK

DATE: 14-Sep-2010

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

MACK ENERGY
K2 STATE #1
CHAVES COUNTY, NEW MEXICO
Rig:SILVER OAK 2

Fri Sep 10 10:12:07 2010

Coordinates

Latitude: 33.496130 N (33 deg. 29 min. 46.0681 sec.)
Longitude: 103.930287 W (-103 deg. 55 min. 49.0343 sec.)
Elevation: 4041.50 feet.
Calculation Date: Sep/10/2010

Magnetic Calculations

Model: IGRF2010
Dip Angle: 61.3132 degrees
Total Magnetic Field: 0.49413 gauss
Magnetic Declination: 7.944477 degrees
Horizontal Intensity: 0.237192 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.944477 Degr

Transverse Mercator Grid Calculations NAD27

Grid System: Transverse Mercator: new mexico east
Ellipsoid: Clarke 1866
X: 622871.4000 feet
Y: 908258.0000 feet
True to Grid: (convergence) -0.222436 degrees
Magnetic to Grid: 7.722041 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.722041 Degr.

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

MACK ENERGY
K2 STATE #1
CHAVES COUNTY, NM
Rig: SILVER OAK 2

Tue Sep 21 10:41:38 2010

Coordinates

Latitude: 33.496130 N (33 deg. 29 min. 46.0681 sec.)
Longitude: 103.930287 W (-103 deg. 55 min. 49.0343 sec.)
Elevation: 4041.50 feet.
Calculation Date: Sep/10/2010

Magnetic Calculations

Model: IGRF2010
Dip Angle: 61.3132 degrees
Total Magnetic Field: 0.49413 gauss
Magnetic Declination: 7.944477 degrees
Horizontal Intensity: 0.237192 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.944477 Degs

Transverse Mercator Grid Calculations NAD27

Grid System: Transverse Mercator: new mexico east
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To Convert a Magnetic Dir. to a GRID dir. Add 7.722041 Degs.



Mack Energy

Chaves County

K2 State

#1

OH

Survey: Teledrift

Pathfinder X & Y Survey Report

24 September, 2010

PATHFINDER®

A Schlumberger Company



Pathfinder

Pathfinder X & Y Survey Report



A Schlumberger Company

Company: Mack Energy
Project: Chaves County
Site: K2 State
Well: #1
Wellbore: OH
Design: OH

Local Co-ordinate Reference:
TVD Reference: WELL @ 4041.50ft (Original Well Elev)
MD Reference: WELL @ 4041.50ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Well #1
WELL @ 4041.50ft (Original Well Elev)
WELL @ 4041.50ft (Original Well Elev)
Grid
Minimum Curvature
Midland Database

Project		Chaves County	
Map System:	US State Plane 1927 (Exact solution)		
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		
Site			
K2 State			
Site Position:	Northing: 908,258.000 ft Latitude: 33° 29' 46.068 N		
From:	Map	Easting: 622,871.400 ft Longitude: 103° 55' 49.034 W	
Position Uncertainty:	0.00 ft	Slot Radius: "	Grid Convergence: 0.22 °
Well			
#1			
Well Position	+N/-S 0.00 ft	Northing: 908,258.000 ft	Latitude: 33° 29' 46.068 N
	+E/-W 0.00 ft	Easting: 622,871.400 ft	Longitude: 103° 55' 49.034 W
Position Uncertainty	0.00 ft	Wellhead Elevation: ft	Ground Level: 4,024.00 ft
Wellbore			
OH			
Magnetics	Model Name	Sample Date	Dip Angle Field Strength
	IGRF200510	09/03/10	(°) (nT)
		7.93	61.33 49,445
Design			
OH			
Audit Notes:			
Version:	1.0	Phase:	Tie On Depth:
		ACTUAL	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			Direction
			(°)
			183.47



Pathfinder

Pathfinder X & Y Survey Report

PATHFINDER
A Schlumberger Company

Company: Mack Energy
Project: Chaves County
Site: K2 State
Well: #1
Wellbore: OH
Design: OH

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #1
WELL @ 4041.50ft (Original Well Elev)
WELL @ 4041.50ft (Original Well Elev)
Grid
Minimum Curvature
Midland Database

Survey Program		Date		09/24/10	
From (ft)	To (ft)	Survey (Wellbore)		Description	
157.00	2,537.00	Teledrift (OH)		MWD - Standard	
2,553.00	5,700.00	MWD #1 (OH)		MWD - Standard	

Survey	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVOSS (ft)	N/S (ft)	EW (ft)	V. Sec (ft)	D/Leg (°/100ft)	Northing (ft)	Easting (ft)
	0.00	0.00	0.00	0.00	-4,041.50	0.00	0.00	0.00	0.00	908,258.00	622,871.40
	157.00	0.10	169.22	157.00	-3,884.50	-0.13	0.03	0.13	0.06	908,257.87	622,871.43
	307.00	0.40	314.22	307.00	-3,734.50	0.10	-0.33	-0.08	0.32	908,258.10	622,871.07
	453.00	0.20	66.22	453.00	-3,588.50	0.56	-0.46	-0.53	0.35	908,258.56	622,870.94
	608.00	0.10	41.22	608.00	-3,433.50	0.77	-0.12	-0.76	0.08	908,258.77	622,871.28
	751.00	0.30	51.22	751.00	-3,290.50	1.10	0.25	-1.11	0.14	908,259.10	622,871.65
	951.00	0.40	116.22	950.99	-3,090.51	1.12	1.29	-1.19	0.19	908,259.12	622,872.69
	1,126.00	0.70	105.22	1,125.98	-2,915.52	0.57	2.87	-0.74	0.18	908,258.57	622,874.27
	1,284.00	0.90	73.22	1,283.97	-2,757.53	0.67	4.99	-0.97	0.30	908,258.67	622,876.39
	1,444.00	0.30	14.22	1,443.96	-2,597.54	1.44	6.29	-1.82	0.49	908,259.44	622,877.69
	1,602.00	1.10	85.22	1,601.95	-2,439.55	1.97	7.91	-2.44	0.66	908,259.97	622,879.31
	1,789.00	1.10	69.22	1,788.92	-2,252.58	2.76	11.37	-3.44	0.16	908,260.76	622,882.77
	1,948.00	1.50	44.22	1,947.88	-2,093.62	4.79	14.25	-5.64	0.43	908,262.79	622,885.65
	2,110.00	1.30	57.22	2,109.83	-1,931.67	7.30	17.27	-8.34	0.23	908,265.30	622,888.67
	2,269.00	1.10	43.22	2,268.79	-1,772.71	9.39	19.84	-10.58	0.22	908,267.39	622,891.24
	2,423.00	0.90	66.22	2,422.77	-1,618.73	10.96	21.96	-12.27	0.29	908,268.96	622,893.36
	2,537.00	1.00	43.22	2,536.76	-1,504.74	12.04	23.46	-13.44	0.34	908,270.04	622,894.86
PBHL(K2 Fed #1)											



Pathfinder
Pathfinder X & Y Survey Report



Company: Mack Energy
Project: Chaves County
Site: K2 State
Well: #1
Wellbore: OH
Design: OH

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well #1
WELL @ 4041.50ft (Original Well Elev)
WELL @ 4041.50ft (Original Well Elev)
Grid
Minimum Curvature
Midland Database

Targets

Target Name
- hit/miss target
- Shape
PBHL(K2 Fed #1)
- survey misses target center by 1324.87ft at 2537.00ft MD (2536.76 TVD, 12.04 N, 23.46 E)
- Point

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL(K2 Fed #1)	0.00	0.00	3,850.00	-159.90	-9.70	908,098.100	622,861.700	33° 29' 44.486 N	103° 55' 49.156 W

Checked By: _____

Approved By: _____

Date: _____

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

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

1. Operator Name and Address MACK ENERGY CORP PO BOX 960 ARTESIA, NM 88211		2. OGRID Number 13837
		3. API Number 30-05-64127
4. Property Code 38201	5. Property Name K2 STATE	6. Well No. 001

7. Surface Location

UL - Lot A	Section 36	Township 09S	Range 29E	Lot Idn A	Feet From 180	N/S Line N	Feet From 330	E/W Line E	County CHAVES
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8. Pool Information

MANY GATES;WOLFCAMP	44680
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Additional Well Information

9. Work Type New Well	10. Well Type OIL	11. Cable Rotary	12. Lease Type State	13. Ground Level Elevation 4024
14. Multiple N	15. Proposed Depth 7500	16. Formation Wolfcamp	17. Contractor	18. Spud Date 6/25/2010
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water
Pit: Linear Synthetic ☐ mills thick Clay ☐ Pit Volume: bbls Drilling Method: Closed Loop System ☐ Fresh Water ☒ Brine ☐ Diesel Oil-based ☐ Gas/Air ☐				

19. Proposed Casing and Cement Program

Type	Hole Size	Casing Type	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	17.5	13.375	48	800	800	0
Int1	12.25	8.625	32	2600	1300	0
Prod	7.875	5.5	17	7500	1085	0

Casing/Cement Program: Additional Comments

--

Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
DoubleRam	3000	3000	

I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOCD guidelines ☐ a general permit ☐ or an (attached) alternative OCD-approved plan ☐ . Printed Name: Electronically filed by Jerry Sherrell Title: Production Clerk Email Address: jerrys@mackenergycorp.com Date: 6/8/2010 Phone: 505-748-1288	OIL CONSERVATION DIVISION	
	Approved By: Randy Dade	
	Title: District Supervisor	
	Approved Date: 6/18/2010	Expiration Date: 6/18/2012
	Conditions of Approval Attached	

DISTRICT I
1625 N. FRENCH DR., HOBBBS, NM 88240

DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410

DISTRICT IV
11885 S. ST. FRANCIS DR., SANTA FE, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
11885 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-005-64127	Pool Code	Pool Name
Property Code	Property Name K2 FEDERAL	Well Number 1
OGRID No.	Operator Name MACK ENERGY CORPORATION	Elevation 4024'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	36	9-S	29-E		180	NORTH	330	EAST	CHAVES

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
A	36	9-S	29-E		330	NORTH	330	EAST	CHAVES

Dedicated Acres	Joint or Infill	Consolidation Code	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

Y=908438.8 N X=621883.0 E GRID AZ.=179°54'25" HORZ. DIST.=150.0' Y=907119.9 N X=621884.6 E Y=908437.7 N X=623201.2 E Y=907120.1 N X=623202.7 E GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=908258.0 N X=622871.4 E LAT.=33.496130° N LONG.=103.930287° W BOTTOM HOLE LOCATION Y=908108.1 N X=622871.7 E	SEE DETAIL DETAIL	OPERATOR CERTIFICATION I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature _____ Date _____ Printed Name _____ 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. Date Surveyed <u>MAY 20, 2010</u> DSS Signature & Seal of Professional Surveyor <i>GARY G. EIDSON</i> 9/2/10 Certificate No. GARY G. EIDSON 12641 RONALD J. EIDSON 3239
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**K2 State #1
Notification List**

WesPac Energy, LLC

P.O. Box 311687

New Braunfels, TX 78131-1687

Hanson Operating Company, Inc.

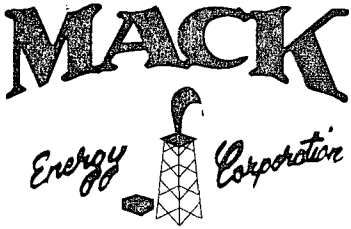
P.O. Box 1515

Roswell, NM 88202-1515

Bright & Company

4228 N. Central Expwy., Suite 300

Dallas, TX 75206-6534



Post Office Box 960
Artesia, NM 88211-0960
Office (575) 748-1288
Fax (575) 746-9539

November 19, 2010

VIA CERTIFIED MAIL 7009 2820 0004 4193 0461
CERTIFIED RETURN RECEIPT MAIL

Hanson Operating Company, Inc.
P.O. Box 1515
Roswell, NM 88202-1515

Dear Sir or Madam:

This letter will serve as a notice that Mack Energy Corporation has requested administrative approval from the NMOCD for an unorthodox San Andres oil well location for the K2 State #1 under Rule 104.F-(3). The location for this well is 180 FNL & 330 FEL of Section 36-T9S-R29E, Chaves County, New Mexico.

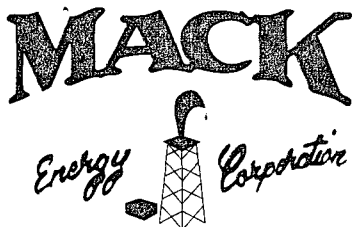
Should your company have any objection, it must be filed in writing within twenty (20) days from the date of this notice. The Division Director may approve the unorthodox location if no objection to the unorthodox location has been made within the 20 days after the application has been received.

Sincerely,

Deana Weaver
Production Clerk

DW

Enclosures



Post Office Box 960
Artesia, NM 88211-0960
Office (575) 748-1288
Fax (575) 746-9539

November 19, 2010

VIA CERTIFIED MAIL 7009 2820 0004 4193 0478
CERTIFIED RETURN RECEIPT MAIL

Bright & Company
4228 N. Central Expwy., Suite 300
Dallas, TX 75206-6534

Dear Sir or Madam:

This letter will serve as a notice that Mack Energy Corporation has requested administrative approval from the NMOCD for an unorthodox San Andres oil well location for the K2 State #1 under Rule 104.F. (3). The location for this well is 180 FNL & 330 FEL of Section 36-T9S-R29E, Chaves County, New Mexico.

Should your company have any objection, it must be filed in writing within twenty (20) days from the date of this notice. The Division Director may approve the unorthodox location if no objection to the unorthodox location has been made within the 20 days after the application has been received.

Sincerely,

A handwritten signature in cursive script that reads "Deana Weaver".

Deana Weaver
Production Clerk

DW

Enclosures



Post Office Box 960
Artesia, NM 88211-0960
Office (575) 748-1288
Fax (575) 746-9539

November 19, 2010

VIA CERTIFIED MAIL 7009 2820 0004 4193 0454
CERTIFIED RETURN RECEIPT MAIL

WesPac Energy, LLC
P.O. Box 311687
New Braunfels, TX 78131-1687

Dear Sir or Madam:

This letter will serve as a notice that Mack Energy Corporation has requested administrative approval from the NMOCD for an unorthodox San Andres oil well location for the K2 State #1 under Rule 104.F. (3). The location for this well is 180 FNL & 330 FEL of Section 36-T9S-R29E, Chaves County, New Mexico.

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Deana Weaver
Production Clerk

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Enclosures