

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

N.M. Oil Cons. Div-Dist. 2  
1301 W. Grand Avenue  
Artesia, NM 88210

FORM APPROVED  
OMB No. 1004-0135  
Expires November 30, 2000

**SUNDRY NOTICES AND REPORTS ON WELLS**  
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.*

**SUBMIT IN TRIPLICATE - Other instructions on reverse side**

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

Matador Operating Company

3a. Address

310 W. Wall, Ste 906 Midland, TX 79703

3b. Phone No. (include area code)

915-680-9185

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

1700 FNL & 1980 FWL  
Sec 31, T18S, R31E

5. Lease Serial No.

NM0560352

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

8. Well Name and No.

West Shugart 31 Fed #2

9. API Well No.

30-015-31821

10. Field and Pool, or Exploratory Area

N. Hackberry; Morrow

11. County or Parish, State

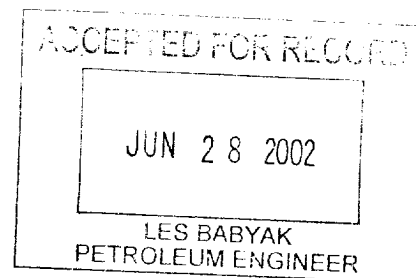
Eddy County, NM

**12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other <u>Completion</u>
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

See Attachment



14. I hereby certify that the foregoing is true and correct

Name (Printed/Typed)

Russ Mathis

Title Production Manager

Signature

*Russ Mathis*

Date 6/13/02

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Title

Date

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

# Matador Operating Company

API #30-015-31821  
Sec 31, T18S, R31E

West Shugart 31 Federal #2  
Lea County, NM

- 11/17/01 Clean location. Set anchors. MIRU Aries Well Service. NU 5K hydraulic BOP. Accumulator will not cycle BOP properly. ND BOP. RU Howco wireline. RIH with 4.7" gauge ring to tag at 110'. TOH with same. CCL and marks on tools indicate restriction in casing collar. SWI, SDON. Take delivery of 395 joints new 2-7/8" L-80 6.5# EUE 8rd Lone Star tubing. Clean and inspect threads. Transfer 3MMBTU Natco stack pack from Brantley Federal #1. This unit was purchased new February, 2001 and is A grade. Obstruction in casing is the 3rd casing connection below surface.
- 11/18/01 Pick up and TIH with 4.5" swedge, X-O, and 5 joints tubing. No tag or drag. TOH with same. TIH with 4.625" swedge, X-O, and 4 joints tubing to tag at 110' from surface. Jar down on swedge, will not clear casing. Swedge requires up to 30 points to pull free. Continue to work tools with little progress. TOH with same. Inspection of swedge shows drag marks around full OD of tool. NU 5K hydraulic BOP. Test same and casing to 5000 psi for 15 minutes - ok. TIH with tubing to 180' KB. Circulate 10 bbls clean fresh water. POH with tubing to 100'. Wait on Down Hole Video Co. RU same. RIH with camera. Inspect casing to find restriction in body of pipe immediately below collar. TOH with same. RD DHV. SWI, SDON. Received 6000' of used 2-7/8" J-55 EUE 8rd, tested to 5000 psi for our gas sales line.
- 11/19/01 RU Howco wireline for casing inspection log. TIH with tools and wireline. Pull log from 1000' to surface. Find nothing definitive. Log quality limited inside intermediate casing. POH with same. RIH with CBL, gamma ray, CCL and wireline. Tag **PBTD** at 12220'. Run CBL from **PBTD** to 12000' with no pressure. Re-run log from **PBTD** to TOC (5050') with 1500 psi. Correlate to Howco open hole log dated 11/11/01. POH with tools and wireline. RD Howco wireline. SWI, SDON.
- 11/20/01 RU Baker Atlas. RIH with multi finger ID caliper log to 500'. Ran log to surface and repeat. Log indicated anomaly at 110' measured depth. Anomaly showed reduction in ID, but tool was influenced by casing collar and therefore unable to clearly define anomaly. POH with same. RD Baker. RU Computalog. RIH with mutli arm ID caliper to 500'. Made first pass and repeat. Log showed ID of casing to be reduced to 4.76" ID (36 of 40 arms showed ID reduction with remainder 4 arms showing no reduction). Note: Computalog was run after Baker log due to limitations of Baker log. POH with same. RIH with 4.72" gauge ring to **PBTD**. POH with same. RD Computalog. SWI, SDON. Note: all previous depths for casing anomaly will be changed to 112' below ground level (112' + 18' = 130' KB - 3rd casing collar below ground level). ID anomaly is just below casing collar. Finished laying gas line. Continued building battery. Will **perforate** Lower Morrow am, 11/12/01.

## Matador Operating Company

West Shugart 31 Federal #2  
Lea County, NM

API #30-015-31821  
Sec 31, T18S, R31E

- 11/21/01 RIH with 4.625" Arrow Set 1X **packer** to 200'. POH with same. RU Howco wireline. RIH with 3.125" casing guns loaded 3 SPF, 120 degree phasing to produce .35" entry hole (penetration depth will be provided at later date). **Perforate** Lower Morrow from 12102-12112' (31 holes) and 12077-12084' (22 holes) in 2 runs with one misfire. POH with same. RD Howco. Pick up and RIH with 2-7/8" x 5-1/2" 17# Arrow Set 1X **packer** (10K, 2.44" bore), on-off tool with 2.31" X **nipple**, and 363 joints new 2-7/8" L-80 6.5# EUE 8rd Lone Star tubing. Set **packer** at 11498' KB with 18 points compression. RU swab. Swab FL to 8000'. No gas show or obvious fluid entry. SWI, SD over Thanksgiving. Will monitor pressure. Set 2 300 bbl steel stock tanks and 1 200 bbl fiberglass water tank - all new.
- 11/22/01 SITP 0 psi
- 11/23/01 SITP 250 psi
- 11/24/01 SITP 625 psi
- 11/25/01 SITP 1300 psi, am report on 11/26, SITP 1400 psi
- 11/26/01 SITP 1400 psi. Opened well to pit and blew down on various chokes. 0 psi in 15 minutes. RU swab. IFL at 3800'. Made 2 swab runs, FFL at 6000'. Recovered 10 BW, a trace of oil and little to no gas. RU kill truck. Load tubing with 48 bbls 6% KCL water. Released on-off tool on top of **packer**. Reverse circulate 185 bbls 6% KCL water with **packer** fluid. Latch onto **packer** at 11491'. Tested casing, **packer** and on-off tool to 4000 psi for 5 minutes - ok. ND hydraulic BOP. NU 2-9/16" 5M tree, tested seals to 5000 psi. NU safety valve and choke to wing valve. 18K compression set on **packer**. RU swab. Swab well 3-1/2 hours, made 11 runs. IFL at surface, FFL at 6700'. Recovered 59 BW, no gas. SWI, SDON.
- 11/27/01 13 hours SITP 600 psi. Opened well and blew down to 0 psi in 15 minutes. RU swab. IFL at 4700'. Made 9 swab runs. FFL at 10000'. Recovered 25 BLW with scattered gas. No flow after swab. RU tree saver on 2-9/16" 5M flange. RU Schlumberger. Hold pre-job safety meeting. Pumped 10000 scf N2 pad ahead. **Acidize** Lower Morrow **perfs** 12077-84' and 12102-12' with 1700 gals of 3M elixir (90% methanol and 10% acetic **acid**) with 50 ball sealers in two groups of 25 each and 1000 scf N2/bbl of fluid. Average rate 4.5 BPM at 7300 psi, 300 psi break after balls on formation. Max pressure 7700 (from balls). ISIP 5750, 5 min 5307, 10 min 5118, 15 min 4991. RD tree saver and Schlumberger. RU flow back manifold. After 1 hour open well at 4:00 pm. TP 4100 psi. Surge balls off and let fall. 30 minute FTP 1050 psi on 26/64 choke. 1 hour FTP 550 psi on 32/64 choke. 2 hour FTP 30 psi. Leave well open to pit. Well decreased to no flow by 9:00 pm. Recovered estimated 50 bbls load water of 90 BTL. 40 BTLLTR. Note methanol dissipates when blown to atmosphere.
- 11/28/01 Well dead this morning. RD flowback manifold. RU swab lubricator. IFL at 8000'. FFL at 11000'. Made 7 runs in 5 hours. Recovered estimated 15 BLW. Stranded sand line on 2nd run. Cut 220' sand line off and pour new rope socket. Weak gas ahead of swab. No fluid recovered on last run. No blow behind run. SWI, SDON. 65 BTLR of 90 BTL. 25 BTLLTR. Note: will make swab run in am and install orifice well tester. Plan to **perforate** Middle Morrow 11/30/01.

## Matador Operating Company

West Shugart 31 Federal #2  
Lea County, NM

API #30-015-31821  
Sec 31, T18S, R31E

- 11/29/01 17 hrs. SITP @ 1050 psi, flow down on 32/64" choke. RU swab lbctr. IFL @ 8300'. Made 3 swab runs, FFL @ 11000', swab 2 hrs., RCVD est 5 BLW. Fair gas behind swab runs, RD LBRCTR., RU 2" orifice well tester  
1/4" plate, 33 psi, 66 mcf  
30 min., 1/4" plate, 45 psi, 82 mcf  
45 min., 3/8" plate, 22 psi, 107 mcf  
1.5 hrs, 3/8" plate, 26 psi, 119 mcf  
2.5 hrs, 3/8" plate, 27 psi, 122 mcf  
3.5 hrs, 3/8" plate, 28 psi, 125 mcf  
Left well flowing thru orifice tester overnight.  
3/8" plate, 31 psi, 134 mcf  
Swabbing
- 11/30/01 FTP 31 psi, 134 MCFD, flow down. RU swab lubricator. IFL at 9000'. Made 2 swab runs. Recovered 600' load water. Wait one hour between runs. Flow rate increased from 22 psi to 34 psi, 3/8" plate, 134 MCFD during hour wait. Made 3rd swab run. Recovered 200' load water. Good gas behind swab. Estimated 5 BLW recovered today. RD and release well service unit and rental equipment. 2 hour, 3/8" plate, 35 psi, 147 MCFD. Leave well flowing through orifice tester overnight. Palmer tank replaced 200 bbl fiberglass water tank at their expense.
- 12/01/01 0 oil, 155 MCF, 0 water, 38 tbg pressure  
12/02/01 0 oil, 158 MCF, 0 water, 39 tbg pressure. Pressure gauges to be run 12/03/01.
- 12/03/01 Current flow rate at 162 MCFD at 40 psi. MIRU Pro wireline and crane. TIH with tandem electronic pressure/temperature recorders, shut in tool and wireline, making flowing gradient stops each 2000'. Set shut in tool in X nipple at 11492'. TOH with setting tool and wireline. TIH with closing tool. Close shut in tool at 14:30 MST. Release tubing pressure to test tools. TOH with same. RD Pro. Leave well shut in.
- 12/04/01 SITP 1730 psi. Pressure is leaking past shut in tool. Will leave shut in.  
12/05/01 SITP 2650 psi  
12/06/01 SITP 2700 psi. Gauges to be pulled this am.  
12/07/01 0 oil, 0 MCF, 0 water, 2750 tbg pressure  
12/08/01 0 oil, 63 MCF, 0 water, 580 tbg pressure  
12/09/01 0 oil, 111 MCF, 0 water, 600 tbg pressure  
12/10/01 0 oil, 109 MCF, 0 water, 580 tbg pressure
- 12/10/01 Well on line flowing gas rate of 110 MCFD at 600 psi FTP. Gilbert's Lease Service on location to set stairs and landing for water tank, cover tank with screen, and repair leak in production unit. Pressure on production unit had to be released to repair leak..
- 12/11/01 MIRU Schlumberger frac equipment. RU TSI tree saver and flowback manifold. Frac Lower Morrow perfs 12077-84 and 12102-12 with 32570 lbs 20/40 Baurite, 851 bbls water and 54 tons of CO2, down 2-7/8" tubing. ATP 10000, ATR 18.9 BPM. Well screened out when 2.5 PPA stage hit perfs so 25406 lbs of sand was placed in formation.

# Matador Operating Company

West Shugart 31 Federal #2  
Lea County, NM

API #30-015-31821  
Sec 31, T18S, R31E

**Frac** pump schedule is provided below. RD **frac** equipment. SITP after 1.5 hours at 4200 psi. OWTP on 18/64 choke. Recovered a large amount of sand. Continued flowing overnight with FTP decreasing to 95 psi at 6:00 am 12/12/01. Recovered an estimated 300 BF. All CO2 and water at report time. 551 BTLTR.

<u>Stage Name</u>	<u>Slurry Rate</u>	<u>Fluid Name</u>	<u>Fluid Volume</u>	<u>Proppant Name</u>	<u>Prop Mass</u>	<u>CO2 Rate</u>	<u>Total Rate</u>
Prepad	7.7	WF140	4132	None	0	0.0	18

Step rate test: 8936 psi at 18 BPM, 7750 at 14.3, 7132 psi at 9.3 BPM. ISIP 5450, 3.5 min 5030.

Pad	13.9	YF340 LP H 25Q	14999	None	0	5.0	18.9
1.5 ppa	13.6	YF340 LP H 25Q	3378	20/40 Bauxite	2152	5.3	18.9
1.0 ppa	13.6	YF340 LP H 25Q	3377	20/40 Bauxite	4437	5.4	19.0
1.5 ppa	13.6	YF340 LP H 25Q	3377	20/40 Bauxite	6686	5.1	18.7
2.0 ppa	13.6	YF340 LP H 25Q	3378	20/40 Bauxite	8900	5.0	18.6
2.5 ppa	4.2	YF340 LP H 25Q	3100	20/40 Bauxite	10395	1.9	

Note fluid name: YF340LP H25Q is 35# Gaur with Titanium X linker and 25 quality CO2.

- 12/12/01 Continue flowback increasing choke to full open. Continue to recover estimated 5 bph fluid at 30 psi FTP. RU Pro Wireline. RIH with 2.25" gauge ring to tag at 12178' slick line measure. POH with same. RD pro. MIRU Key swab unit. FL first run at 3800' and scattered. Made 3 swab runs. Recovered est 18 bbls fluid to pit. Gas blow behind swab. Pull tube gas sample shows 20% CO2. Leave well open to pit. SDON.
- 12/13/01 Well open to pit overnight. Light blow before first swab run. Continue swab. FL first run at 2400' and scattered. Gas blow behind swab. Recovered estimated 50 BW with FL at 11000'. Made one swab run per hour. Recovered 300' gas cut fluid each of 3 runs. 20 psi gas behind swab, decreasing to light blow. SWI, SDON. Preparing to **perforate** 12/14/01.
- 12/14/01 18 hour SITP 820 psi. RD Key swab unit. RU Baker Atlas wireline, 10K lubricator and grease. RIH with 2.125" gauge ring, CCL and wireline. Tag sand at corrected depth of 12186', bottom end of **packer** at 12506'. FL appears to be at 8600'. POH with same. RIH with 2.125" strip guns loaded 6 spf with 0 degree phase Predator charges for .29" EH and 28.4" penetration, CCL, gamma ray, and wireline. **Perforate** 11920-11932 (72 holes). Pressure increased from 850 psi to 900 psi in 4 minutes. POH with same. RIH and **perforated** 11780-11790" (60 holes) with same guns as before. Pressure increased from 950 psi to 1000 psi in 5 minutes after perforating. POH with same. SITP 1020 psi. RD Baker Atlas. Release tubing pressure to pit, no fluid. RU Key swab unit. FL first run at 4000'. Made 4 runs total with FL higher each run. Well flowed gas with heavy water spray. Leave well open to pit on 20/64 choke.

## Matador Operating Company

West Shugart 31 Federal #2  
Lea County, NM

API #30-015-31821  
Sec 31, T18S, R31E

- 12/15/01 Open to pit overnight on 20/64 choke. Light blow and FTP of 40 psi. Continue swab. FL first run at 1700' and scattered. Recovered 34 BW with FL decreasing to 11000'. Made 1 run per hour recovering 225' - 400' of fluid per run. 40 psi gas blow behind swab dropping to light blow before next run. Estimate fluid recovered this report at 40 BW. Left well open to pit on 20/64 choke. SDON.
- 12/16/01 Open to pit overnight on 20/64 choke. Light blow and FTP of 80 psi. Continue swab. FL first run at 400' and scattered. Recovered 12 BW with FL decreasing to 11000' in 3 runs. Made 1 run per hour recovering 250' - 300' fluid per run. Recovered total of 15 BW. RU orifice tester for gas volume. SDON. Sustained flow rate of 155 MCFD at 38 psi FTP as of 10:00 pm 12/16/01.
- 12/17/01 Open to pit over night through orifice tester with .375" plate. Flow rate varied throughout night from 160-80 mcf/d at 40 - 16 psi respectively. Some fluid with skim of condensate produced to pit (< 5 bbl). Continue swab. FL first run @ 2300' and scattered. Pull swab from 11000' after second run. Make hourly runs recovering 200 - 400 feet of fluid per run. Gas behind swab gets stronger (up to 70 psi). TF recovered this report: 22 bbls (est). Leave open to pit. SDON
- 12/18/01 Open to pit over night through orifice tester with .375" plate. Flow rate varied throughout night from 155-80 mcf/d. Continue Swab. FL first run @ 2700' and scattered. Made 4 swab runs from 11300'. Last run < 35' fluid recovered. RU Schlumberger. Pump 10 bbl acetic **acid**. Dump estimated 1000 lb 20/40 **frac** sand down tbg. Well pressures up stopping sand dump. Wait on more **acid**. 2 hr SITP 750 psi. Pump 15 bbls **acid**, mixed with 800 lb 20/40 sand followed by 200 lb 100 mesh sand. Pump 2 bbl clean **acid** to flush. Leave **acid** pump and lines in place for N2 & **acid** job next AM. Tbg on vacuum. SD and wait 6-1/2 hr for sand to settle. RU Pro wireline. TIH w/ tbg and locator and wireline. Tag sand @ 12042' (depth corrected to open hole log). TOH w/same. RD Pro Wireline. 14 hr SITP 1200 psi. SDON
- 12/19/01 RU Tree saver. RU Schlumberger to stimulate **perforations** 11780-90, 11920-32. Job calls for 2500 gals 3M Acetic **acid**, with 1000 scf/bbl N2 in all fluid with 100 ball sealers. Pressure test lines to 10K. Pressured tubing/casing annulus to 600 psi. Pumped 25000 scf N2 ahead to energize fluid used to drop sand 12/18/01. Started fluid with N2 at combined rate of 6 bpm. Increased annulus to 1100 psi. With 13 bbls fluid away, the annulus communicated. Pressure increased to 4200 psi. SD. Bled annulus to 2000 with tubing pressure falling. Started pumping at 1.8 bpm fluid with combined rate of 4 bpm including N2. Tubing pressure increased to 6560 psi and annulus to 4810 psi with 18 more bbls away. Decreased rate to 1 bpm fluid with N2 for 2 BPM total. Pumped 5 more bbls fluid with tubing pressure at 6510 and casing at 4850 psi. Cut fluid and continued to pump N2 for flush. Pumped a total of 13 bbls of N2 for flush. Tubing pressure 6680 psi, casing 4880 psi at .5 bpm N2. Pressures slowly increased due to fluid displacement. SD job. Total N2 pumped 98000 scf. Total **acid** 36 bbls. Est 22 bbls of nitrified **acid** entered **perforations**. Bled casing pressure to 2000 psi while bleeding tubing below 5000 psi. Removed tree saver. RU flowback equipment. Open tubing after 1 hour 30 minutes with tubing pressure at 3780 psi and casing at 2150 psi. Started bleeding casing with tubing pressure falling. Opened tubing to choke with pressure

## Matador Operating Company

West Shugart 31 Federal #2  
Lea County, NM

API #30-015-31821  
Sec 31, T18S, R31E

decreasing to 650 psi in 2 hours with 27 bbls fluid return. The casing pressure decreased to a vacuum. Well unloaded one more hour gaining 10 bbls and died. RIH with swab. IFL 1500'. Following runs, fluid level increased up and down from 150' to 1500'. Well would unload for 15-20 minutes between runs. SD after 9 runs with a total of 87 bbls fluid recovered. Left well open to tank. At 5:00 am CST, well had unloaded a total of 142 bbls **acid** and annulus fluid. The casing started to blow at 4:30 am. Shut in annulus with pressure increasing to 95 psi at report time. Well is making some gas with 14 bbls fluid recovered the last 2 hours.

- 12/20/01 Open to tank overnight. SICP 310 psi. Recovered 141 BW to this point. Continued swab. FL first run at 3460'. Fluid light and scattered. Recovered 46 BW and 3 BO. Last 4 runs, swab from 11300'. Checked fluid level of annulus with Echo Meter. Find FL at 346 joints (363 joints in hole). Last swab run of day, recovered 2 BW. Leave well flowing through orifice tester. AM report 12/21/01, - flowing 230 MCFD.
- 12/21/01 Flow overnight through orifice tester. No fluid recovered. SICP slowly increased to 810 psi. Gas flow rate of 235 MCFD is steady. Continued swab. FL first run at 4200' and scattered. Pulled swab from 8000'. Recovered 6 BW. Second run from 8000', well flowed. Casing pressure broke to 550 psi. RD Key. Put on line. MIRU Joe's Well Service. Shut down for holidays.
- 12/22/01 0 oil, 55 MCF, 0 water, 510 tbg pressure
- 12/23/01 0 oil, 120 MCF, 0 water, 540 tbg pressure
- 12/24/01 0 oil, 2 MCF, 0 water, 1150 tbg pressure, shut in on high line pressure
- 12/25/01 0 oil, 62 MCF, 0 water, 2100 tbg pressure, shut in on high line pressure
- 12/26/01 The well is shut in. Tubing pressure 1700 psi, casing 1500 psi. Bled tubing and casing. Recovered 22 bbls total fluid. RIH with swab to 11000' and did not recover any fluid. Pumped 100 bbls 6% KCL in tubing and 120 bbls in casing. ND tree. Pulled wrap around and NU BOP. Released **packer** and pulled 30 stands of tubing. Pumped 35 bbls 6% KCL in casing. Closed BOP. LWOTT. SDON. Total water pumped was 245 bbls.
- 12/27/01 Well is open to tank with a slight blow. POH with total of 363 joints 2-7/8" EUE 8rd L-80 6.5# tubing and 5-1/2" **packer**. There was 50% of the rubber missing from the **packer**. Loaded hole with 25 bbls 6% KCL. RU Howco wireline. RIH with 4.645" gauge ring and junk basket. Tagged sand at 12035'. **Perforate** 11920-32 and 11780-90 with 3-3/8" Millennium .48" entry hole, 42" penetration on 120 degree phasing. RD Howco wireline. Loaded hole with 3 bbls 6% KCL. LWOTT, SDON.
- 12/28/01 RIH with BHA and tubing. Tested **packer** to 7500 psi and tubing to 9000 psi above slips. Set **packer** and pack off with 25-30 points. Released TOSSD and circulate hole with 240 bbls 6% KCL containing Pro-Kem **packer** fluid. Engage TOSSD. Pulled 15 points over to confirm latch. ND BOP. Installed BO2 bushing, wrap around and tree. Tested tree and BO2 bushing to 5000 psi. Landed tree with 20 points compression on **packer**. Tested wrap around, BO2 bushing and seal ring to 5000 psi. Left well open to tank and SDON.

# Matador Operating Company

West Shugart 31 Federal #2  
Lea County, NM

API #30-015-31821  
Sec 31, T18S, R31E

## Tubing Detail:

2-7/8" EUE 8rd WL re-entry guide	0.45
Howco 2.313 XN nipple	1.41
1 joint 2-7/8" EUE 8rd L-80 6.5#	31.74
5-1/2" x 2-7/8" PLS 17-20# packer 50 points shear 4.6 OD	4.00
5-1/2" x 2-7/8" GIB XL on and off tool with 2.313 X profile	2.00
362 jts 2-7/8" EUE 8rd L-80 6.5#	11442.72
363 jts tubing and tools	11482.32
KB Adjustment	15.00
	11497.32

12/29/01 Well is open to tank. Started swabbing. IFL surface, 2nd 800', 3rd 1800', 4th 2800', 5th 3800', 6th 3500', 7th 3000', 8th 2000'. Tubing unloaded to pit. Switch flow to tank. Swabbed and flowed estimated 75 bbls water. Put well through production equipment. Last reading 310 MCFD rate.

12/30/01 23 oil, 119 MCF, 0 water, 490 tbg pressure

12/31/01 2 oil, 62 MCF, 20 water, 490 tbg pressure

01/01/02 0 oil, 70 MCF, 0 water, 500 tbg pressure

01/02/02 Current flow rate has increased from 70 mcf to 690 mcf. Fluid has increased from zero to 5 BO and 20 BW. In 6 hours, flow rate dropped to 0 with occasional surges to rates of 80 mcf. Blew well to tank. RU swab. FL first run at 5000' and scattered. Made 5 runs, last run from 10500'. Recovered 16 BW. Dropped 6 soap sticks. Put on line. SDON.

01/03/02 FTP 540 psi. 16 hour gas sales 80 MCF with current flow rate of 40 MCFD. No fluid overnight. Blew well to tank, flowed 3 BW. RU swab. FL first run at 6500' and scattered. Pull swab from 10600' second run. Made hourly runs, recovered 200' fluid per run. Made 8 runs total. Recovered 17 bbls total fluid. Estimate 5% oil cut. Send water sample to Dowell in Hobbs. Dropped 6 soap sticks. Put on line. SDON.

## Water Sample:

### Anions ppm

Chlorides 26127

Sulfates 0

Carbonates 0

Bicarbonates 601

### Cations ppm

Calcium 1050

Magnesium 212

Iron 339

Sodium 15279

01/04/02 FTP 480 psi. Current flow rate at 180 MCFD. No fluid overnight. Monitored for 8 hours. Flow rate varied but remained above 140 MCFD. Sent crew home. Left on line.



# Matador Operating Company

West Shugart 31 Federal #2  
Lea County, NM

API #30-015-31821  
Sec 31, T18S, R31E

01/05/02	0 oil, 100 MCF, 0 water, 920 tbg pressure
01/06/02	3 oil, 149 MCF, 5 water, 510 tbg pressure
01/07/02	7 oil, 177 MCF, 9 water, 500 tbg pressure
01/08/02	5 oil, 169 MCF, 6 water, 500 tbg pressure
01/09/02	7 oil, 177 MCF, 7 water, 500 tbg pressure
01/10/02	6 oil, 174 MCF, 4 water, 500 tbg pressure
01/11/02	4 oil, 173 MCF, 3 water, 500 tbg pressure
01/12/02	0 oil, 60 MCF, 0 water, 2500 tbg pressure, hi-lo tripped at 12:00 pm
01/13/02	6 oil, 204 MCF, 3 water, 1400 tbg pressure
01/14/02	5 oil, 153 MCF, 3 water, 1600 tbg pressure, 2 soap sticks
01/15/02	4 oil, 43 MCF, 3 water, 550 tbg pressure
01/16/02	5 oil, 170 MCF, 8 water, 550 tbg pressure, 2 soap sticks
01/17/02	3 oil, 137 MCF, 6 water, 1100 tbg pressure
01/18/02	3 oil, 140 MCF, 5 water, 5500 tbg pressure, 2 soap sticks
01/19/02	7 oil, 142 MCF, 14 water, 1720 tbg pressure
01/20/02	5 oil, 200 MCF, 2 water, 2100 tbg pressure, shut in, high line pressure. Gas company has temporarily stopped taking gas. Hope to be back on 1/21/02.
01/21/02	0 oil, 0 MCF, 0 water, 2700 tbg pressure, shut in, back on at 1:30 pm 01/21/02.
01/22/02	4 oil, 190 MCF, 0 water, 1200 tbg pressure, 2 soap sticks
01/23/02	6 oil, 165 MCF, 3 water, 760 tbg pressure, 2 soap sticks
01/24/02	3 oil, 144 MCF, 2 water, 1800 tbg pressure. Well was shut in due to ice plug between wellhead and stack. RU Pro wireline. RIH with 1.91" gauge ring and wireline. Tag at 11936'. POH with same. No restrictions. RD Pro. Leave well on line.
01/25/02	8 oil, 164 MCF, 8 water, 510 tbg pressure. FTP 500 psi. Current flow rate 145 MCFD. RU Baker Atlas wireline and crane. RIH with 1.6875" production logging tools and wireline. Correlate to Howco open hole log dated 11/11/01. Pull log from 11950' - 11700'. Sustained flow rate during log of 140-240 MCFD at 500 psi surface pressure. POH with same. RD Baker. Leave on line.
01/26/02	6 oil, 175 MCF, 4 water, 1800 tbg pressure. Found safety valve shut in.
01/27/02	1 oil, 158 MCF, 10 water, 1000 tbg pressure
01/28/02	3 oil, 164 MCF, 7 water, 500 tbg pressure, 2 soap sticks
01/29/02	1 oil, 157 MCF, 8 water, 1700 tbg pressure, hi lo shut in, on at 2 pm
01/30/02	3 oil, 140 MCF, 4 water, 1150 tbg pressure, hi lo shut in, on at 8:00 am
01/31/02	2 oil, 200 MCF, 3 water, 1300 tbg pressure, hi lo shut in, on at 10:30 am
02/01/02	6 oil, 157 MCF, 7 water, 1200 tbg pressure
02/02/02	7 oil, 231 MCF, 4 water, 2200 tbg pressure, hi lo shut in, gathering line frozen
02/03/02	0 oil, 0 MCF, 0 water, 2500 tbg pressure, gathering line frozen
02/04/02	0 oil, 0 MCF, 0 water, 2700 tbg pressure, gathering line frozen
02/05/02	0 oil, 0 MCF, 0 water, 2800 tbg pressure, gathering line frozen, on at 10:00 am
02/06/02	2 oil, 200 MCF, 3 water, 2000 tbg pressure
02/07/02	5 oil, 172 MCF, 0 water, 1600 tbg pressure. SWI in preparation for <b>frac</b> . SITP after 12 hours at 1600 psi. MIRU Dowell Schlumberger <b>frac</b> equipment. <b>Frac</b> Morrow <b>perfs</b> 11780-90 and 11920-32' with 18757 lbs 20-40 Baurite and 27552 gals 35 lb x-link Borate down 2-7/8" tubing at 15 BPM and 9500 ATP. Fluid was energized with 20% N2. ISIP 5700, 15 min 5380.

# Matador Operating Company

**West Shugart 31 Federal #2**  
Lea County, NM

**API #30-015-31821**  
Sec 31, T18S, R31E

Pump schedule as follows:

Stage Name	Liquid Slurry rate	Fluid Name	Proppant Name	Prop Mass	N2 Rate	Total Injection rate
Prepad	3.9	WF135	None	0	0	3.9
Pad	6.9	YF135	None	0	4648	8.8
.5 ppa	11.4	YF135	20/40 Bauxite	1415	7890	14.6
1.0 ppa	11.4	YF135	20/40 Bauxite	2435	7740	14.6
1.5 ppa	11.5	YF135	20/40 Bauxite	3749	7551	14.5
2.0 ppa	11.5	YF135	20/40 Bauxite	11156	7599	14.6
Flush	2.4	WF135	None	3	468	2.6

SITP after 2 hours at 4600 psi

OWTP on 18/64 choke at 4000 psi

Flow to pit overnight on various chokes. Flowing N2 and water to pit at 175 FTP on 24 choke at report time.

02/08/02 0 oil, 0 MCF, 0 water, 70 tbg pressure, 1500 csg pressure, flowing back **frac**

02/09/02 2 oil, 0 MCF, 3 water, 410 tbg pressure, 120 csg pressure, put on at 7:30 am

02/10/02 16 oil, 389 MCF, 27 water, 440 tbg pressure, 120 csg pressure. Current rate at 609 MCFD.

02/11/02 17 oil, 550 MCF, 29 water, 480 tbg pressure, 120 csg pressure

02/12/02 15 oil, 575 MCF, 26 water, 1800 tbg pressure, 120 csg pressure, hi-lo shut

02/13/02 6 oil, 350 MCF, 3 water, 2500 tbg pressure, 120 csg pressure, frozen

02/14/02 10 oil, 233 MCF, 0 water, 2050 tbg pressure, 80 csg pressure, Hi-Lo shut

02/15/02 18 oil, 360 MCF, 8 water, 1200 tbg pressure, 80 csg pressure

02/16/02 25 oil, 537 MCF, 29 water, 700 tbg pressure, 80 csg pressure

02/17/02 21 oil, 577 MCF, 23 water, 5200 tbg pressure, 80 csg pressure

02/18/02 19 oil, 578 MCF, 19 water, 450 tbg pressure, 80 csg pressure

02/19/02 16 oil, 564 MCF, 15 water, 500 tbg pressure

02/20/02 15 oil, 540 MCF, 13 water, 500 tbg pressure

02/21/02 15 oil, 550 MCF, 11 water, 500 tbg pressure

02/22/02 15 oil, 540 MCF, 6 water, 510 tbg pressure

02/23/02 12 oil, 528 MCF, 9 water, 510 tbg pressure

02/24/02 13 oil, 541 MCF, 14 water, 510 tbg pressure

02/25/02 18 oil, 514 MCF, 14 water, 500 tbg pressure

02/26/02 16 oil, 507 MCF, 4 water, 500 tbg pressure

02/27/02 11 oil, 500 MCF, 8 water, 500 tbg pressure

02/28/02 13 oil, 490 MCF, 10 water, 510 tbg pressure

3/1/2002 6 oil, 400 MCF, 5 water, 2200 tbg pressure, gathering line froze at 4:00 pm

3/2/2002 4 oil, 110 MCF, 3 water, 1200 tbg pressure

3/3/2002 7 oil, 341 MCF, 0 water, 1600 tbg pressure, trash in choke

3/4/2002 12 oil, 266 MCF, 0 water, 1800 tbg pressure, trash in choke

3/5/2002 24 oil, 440 MCF, 17 water, 750 tbg pressure

3/6/2002 17 oil, 530 MCF, 14 water, 500 tbg pressure

3/7/2002 17 oil, 515 MCF, 10 water, 500 tbg pressure

3/8/2002 12 oil, 500 MCF, 7 water, 520 tbg pressure

3/9/2002 13 oil, 485 MCF, 11 water, 520 tbg pressure

## **Matador Operating Company**

**West Shugart 31 Federal #2**  
Lea County, NM

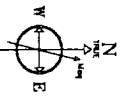
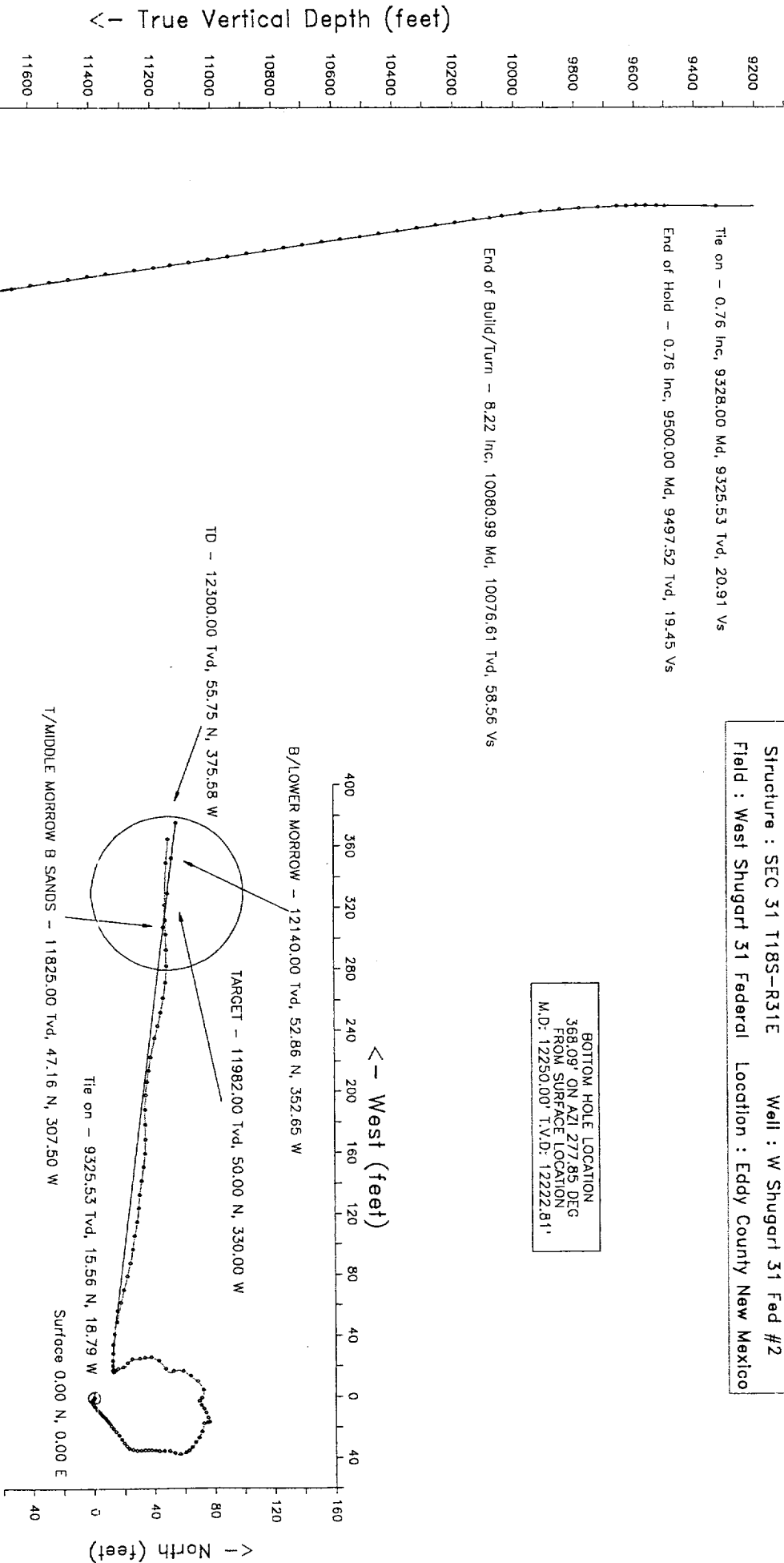
**API #30-015-31821**  
Sec 31, T18S, R31E

3/10/2002      11 oil, 485 MCF, 10 water, 500 tbg pressure  
3/11/2002      13 oil, 470 MCF, 6 water, 520 tbg pressure. FINAL REPORT.

# MATADOR PETROLEUM CORP.

Structure : SEC 31 118S-R31E Well : W Shugart 31 Fed #2  
Field : West Shugart 31 Federal Location : Eddy County New Mexico

BOTTOM HOLE LOCATION  
368.09' ON AZI 277.85 DEG  
FROM SURFACE LOCATION  
M.D: 12250.00' T.V.D: 12222.81'



8 Aug 2001 (Survey: 8001)  
Magnetic North is 4.08 degree East of True North  
To convert azimuths from Magnetic to True add 4.08 deg

Vertical Section (feet) ->

Azimuth 278.62 with reference 0.00 S, 0.00 W from West Shugart 31 Fed #2



Created by adrygon  
Date plotted : 19-Nov-2001  
Plot Reference is PROPS.  
Coordinates are in feet reference West Shugart 31 Fed #2.  
True Vertical Depth are reference rotary table.  
MATEDYPVA  
--- Baker Hughes INTEQ ---

MATADOR PETROLEUM CORP.  
SEC 31 T18S-R31E

W Shugart 31 Fed #2  
West Shugart 31 Fed #2  
West Shugart 31 Federal  
Eddy County New Mexico

S U R V E Y L I S T I N G

by  
Baker Hughes INTEQ

Your ref : MWD survey  
Our ref : svy1826  
License :

Date printed : 19-Nov-2001  
Date created : 1-Nov-2001  
Last revised : 12-Nov-2001

Field is centred on n32 10 0.000, w104 5 0  
Structure is centred on n32 10 0.000, w104 5 0

Slot location is n32 9 43.177, w104 4 36.968  
Slot Grid coordinates are N 927077.515, E 841561.023  
Slot local coordinates are 1700.00 S 1980.00 E

Projection type: lambert - Texas Central (4203), Spheroid: Clarke - 1866  
Reference North is True North

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S	Dogleg Deg/100ft	Vert Sect
0.00	0.00	0.00	0.00	0.00 N	0.00 E	0.00
100.00	0.41	124.42	100.00	0.20 S	0.30 E	-0.32
200.00	0.63	130.42	199.99	0.76 S	1.01 E	-1.12
300.00	0.82	111.42	299.99	1.38 S	2.10 E	-2.28
400.00	0.72	71.97	399.98	1.45 S	3.37 E	-3.55
500.00	0.94	52.06	499.97	0.75 S	4.62 E	-4.68
600.00	1.36	53.33	599.95	0.46 N	6.21 E	-6.08
700.00	0.90	54.11	699.93	1.63 N	7.80 E	-7.47
800.00	1.02	36.91	799.91	2.80 N	8.97 E	-8.45
900.00	1.01	61.18	899.90	3.94 N	10.28 E	-9.57
1000.00	0.89	44.78	999.89	4.92 N	11.60 E	-10.73
1100.00	0.90	37.21	1099.87	6.10 N	12.62 E	-11.57
1200.00	0.86	51.57	1199.86	7.19 N	13.69 E	-12.46
1300.00	0.77	49.23	1299.85	8.10 N	14.79 E	-13.41
1400.00	0.86	49.00	1399.84	9.04 N	15.87 E	-14.34
1500.00	1.01	54.44	1499.83	10.04 N	17.16 E	-15.46
1600.00	1.19	58.20	1599.81	11.10 N	18.75 E	-16.88
1700.00	1.46	52.80	1699.78	12.42 N	20.65 E	-18.56
1800.00	1.66	45.41	1799.75	14.21 N	22.70 E	-20.31
1900.00	1.74	57.48	1899.70	16.04 N	25.01 E	-22.32
2000.00	1.83	54.16	1999.65	17.79 N	27.58 E	-24.60
2100.00	1.52	53.15	2099.61	19.52 N	29.94 E	-26.68
2200.00	1.39	50.56	2199.58	21.09 N	31.94 E	-28.42
2300.00	1.39	31.29	2299.55	22.90 N	33.51 E	-29.70
2400.00	1.52	11.54	2399.52	25.24 N	34.41 E	-30.24

All data is in feet unless otherwise stated.  
 Coordinates from West Shugart 31 Fed #2 and TVD from rotary table.  
 Bottom hole distance is 368.09 on azimuth 277.85 degrees from wellhead.  
 Vertical section is from S 0.00 W 0.00 on azimuth 278.62 degrees.  
 Calculation uses the minimum curvature method.  
 Presented by Baker Hughes INTEQ

MATADOR PETROLEUM CORP.  
 SEC 31 T18S-R31E,W Shugart 31 Fed #2  
 West Shugart 31 Federal,Eddy County New Mexico  
 SURVEY LISTING Page 2  
 Your ref : MWD survey  
 Last revised : 12-Nov-2001

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S	Dogleg Deg/100ft	Vert Sect
2500.00	1.66	9.39	2499.48	27.97 N	0.14	-30.32
2600.00	1.42	353.89	2599.44	30.63 N	0.47	-30.03
2700.00	1.55	353.70	2699.41	33.21 N	0.12	-29.37
2800.00	1.20	1.71	2799.38	35.60 N	0.39	-28.89
2900.00	1.29	8.09	2899.36	37.76 N	0.16	-28.76
3000.00	1.48	1.65	2999.33	40.16 N	0.24	-28.59
3100.00	1.22	9.68	3099.30	42.50 N	0.32	-28.45
3273.00	1.18	358.60	3272.26	46.09 N	0.14	-28.18
3462.00	0.98	359.41	3461.23	49.65 N	0.11	-27.58
3651.00	1.23	34.24	3650.20	52.95 N	0.37	-28.20
3840.00	1.34	349.32	3839.15	56.80 N	0.52	-28.34
4029.00	0.89	338.74	4028.12	60.33 N	0.26	-26.88
4219.00	0.72	317.00	4218.10	62.58 N	0.18	-25.21
4408.00	0.97	312.54	4407.08	64.53 N	0.14	-22.95
4597.00	1.52	303.81	4596.03	67.01 N	0.31	-19.36
4786.00	0.72	310.13	4784.99	69.17 N	0.43	-16.08
4976.00	2.10	290.14	4974.93	71.14 N	0.76	-11.65
5165.00	1.25	279.47	5163.85	72.67 N	0.48	-6.19
5354.00	1.29	33.38	5352.83	74.79 N	1.13	-5.02
5543.00	0.78	255.52	5541.81	76.24 N	1.03	-4.73
5732.00	1.09	249.76	5730.79	75.30 N	0.17	-1.97
5922.00	1.11	249.09	5920.75	74.01 N	0.01	1.21
6111.00	0.74	231.98	6109.73	72.61 N	0.24	3.64
6300.00	0.99	238.34	6298.71	71.00 N	0.14	5.73
6489.00	0.73	240.75	6487.68	69.56 N	0.14	7.92

All data is in feet unless otherwise stated.  
 Coordinates from West Shugart 31 Fed #2 and TVD from rotary table.  
 Bottom hole distance is 368.09 on azimuth 277.85 degrees from wellhead.  
 Vertical section is from S 0.00 W 0.00 on azimuth 278.62 degrees.  
 Calculation uses the minimum curvature method.  
 Presented by Baker Hughes INTEQ

MATADOR PETROLEUM CORP.  
SEC 31 T18S-R31E,W Shugart 31 Fed #2  
West Shugart 31 Federal, Eddy County New Mexico

SURVEY LISTING Page 3  
Your ref : MMD survey  
Last revised : 12-Nov-2001

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S	Dogleg Deg/100ft	Vert Sect
6679.00	1.57	332.26	6677.66	71.27 N	0.26 E	0.92
6868.00	2.52	252.21	6866.56	72.29 N	4.90 W	1.44
7057.00	1.99	217.91	7055.43	68.43 N	10.87 W	0.75
7246.00	1.43	218.84	7244.34	64.01 N	14.37 W	0.30
7435.00	2.11	208.86	7433.25	59.12 N	17.53 W	0.39
7625.00	2.38	151.73	7623.13	52.58 N	17.34 W	1.14
7814.00	2.30	241.16	7812.02	47.30 N	18.81 W	1.74
8003.00	2.06	217.05	8000.89	42.76 N	24.18 W	0.50
8192.00	1.46	185.77	8189.80	37.65 N	26.47 W	0.59
8382.00	1.18	164.04	8379.75	33.36 N	26.17 W	0.30
8531.00	1.47	176.87	8528.71	29.98 N	25.65 W	0.28
8760.00	1.14	168.31	8757.65	24.81 N	25.02 W	0.17
8949.00	1.45	116.48	8946.61	21.90 N	22.50 W	0.62
9138.00	1.30	167.78	9135.56	18.74 N	19.91 W	0.63
9328.00	0.76	148.54	9325.53	15.56 N	18.79 W	0.33
9527.00	1.00	140.00	9524.51	13.11 N	16.99 W	0.14
9563.00	0.60	190.00	9560.51	12.68 N	16.82 W	2.13
9595.00	1.00	235.00	9592.50	12.35 N	17.08 W	2.23
9627.00	1.20	273.30	9624.50	12.21 N	17.64 W	2.33
9659.00	1.70	275.80	9656.49	12.28 N	18.45 W	1.57
9722.00	2.60	262.40	9719.44	12.19 N	20.79 W	1.63
9786.00	3.60	275.10	9783.35	12.17 N	24.23 W	1.89
9849.00	4.70	269.80	9846.18	12.34 N	28.79 W	1.85
9912.00	5.60	272.30	9908.93	12.45 N	34.44 W	1.47
9976.00	6.70	282.10	9972.56	13.36 N	41.21 W	2.37

All data is in feet unless otherwise stated.  
Coordinates from West Shugart 31 Fed #2 and TWD from rotary table.  
Bottom hole distance is 368.09 on azimuth 277.85 degrees from wellhead.  
Vertical section is from S 0.00 W 0.00 on azimuth 278.62 degrees.  
Calculation uses the minimum curvature method.  
Presented by Baker Hughes INTEQ



MATADOR PETROLEUM CORP.  
SEC 31 T18S-R31E, W Shugart 31 Fed #2  
West Shugart 31 Federal, Eddy County New Mexico

SURVEY LISTING Page 4  
Your ref : MWD survey  
Last revised : 12-Nov-2001

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S	Dogleg Deg/100ft	Vert Sect
10040.00	8.30	281.10	10036.01	15.03 N	49.39 W	2.51
10134.00	7.50	282.80	10129.12	17.70 N	62.03 W	0.89
10197.00	8.60	284.60	10191.50	19.80 N	70.60 W	1.79
0261.00	8.10	284.90	10254.82	22.16 N	79.59 W	0.78
0324.00	7.90	281.40	10317.20	24.16 N	88.12 W	0.84
10388.00	8.60	280.00	10380.54	25.86 N	97.15 W	1.14
10451.00	8.30	278.60	10442.86	27.36 N	106.28 W	0.58
10515.00	8.00	279.30	10506.21	28.77 N	115.24 W	0.49
10579.00	8.40	274.40	10569.56	29.85 N	124.30 W	1.26
10641.00	7.80	277.20	10630.94	30.72 N	132.99 W	1.16
10705.00	8.70	277.50	10694.28	31.90 N	142.10 W	1.41
10768.00	8.10	280.40	10756.60	33.32 N	151.19 W	1.17
10832.00	8.10	272.30	10819.96	34.32 N	160.13 W	1.78
10894.00	8.80	270.20	10881.29	34.51 N	169.23 W	1.23
10957.00	8.60	269.50	10943.57	34.48 N	178.76 W	0.36
11021.00	8.90	271.60	11006.82	34.58 N	188.50 W	0.68
11085.00	8.00	272.30	11070.13	34.90 N	197.90 W	1.42
11148.00	8.10	279.60	11132.51	35.81 N	206.65 W	1.63
1203.00	7.60	277.90	11186.99	36.96 N	214.08 W	1.00
267.00	8.20	280.00	11250.38	38.33 N	222.76 W	1.04
11362.00	7.40	283.50	11344.50	40.94 N	235.38 W	0.98
11424.00	7.80	283.90	11405.96	42.88 N	243.35 W	0.65
11486.00	8.70	282.50	11467.32	44.91 N	252.01 W	1.49
11549.00	9.30	278.90	11529.54	46.73 N	261.69 W	1.31
11612.00	9.40	278.30	11591.70	48.26 N	271.81 W	0.22

All data is in feet unless otherwise stated.  
Coordinates from West Shugart 31 Fed #2 and TVD from rotary table.  
Bottom hole distance is 368.09 on azimuth 277.85 degrees from wellhead.  
Vertical section is from S 0.00 W 0.00 on azimuth 278.62 degrees.  
Calculation uses the minimum curvature method.  
Presented by Baker Hughes INTEQ

MATADOR PETROLEUM CORP.

SEC 31 T18S-R31E, W Shugart 31 Fed #2

West Shugart 31 Federal, Eddy County New Mexico

SURVEY LISTING      Page 5

Your ref : MWD survey

Last revised : 12-Nov-2001

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S	Dogleg Deg/100ft	Vert Sect
11675.00	9.80	270.80	11653.83	49.07 N	2.08	286.43
11739.00	9.50	268.10	11716.92	48.97 N	0.85	297.02
102.00	8.90	267.70	11779.11	48.61 N	0.96	306.92
63.00	8.90	268.40	11839.37	48.29 N	0.18	316.20
11926.00	8.60	270.50	11901.64	48.19 N	0.70	325.65
12126.00	7.10	274.00	12099.76	49.18 N	0.79	352.78
12250.00	7.10	274.00	12222.81	50.25 N	0.00	368.06

All data is in feet unless otherwise stated.

Coordinates from West Shugart 31 Fed #2 and TVD from rotary table.

Bottom hole distance is 368.09 on azimuth 277.85 degrees from wellhead.

Vertical section is from S 0.00 W 0.00 on azimuth 278.62 degrees.

Calculation uses the minimum curvature method.

Presented by Baker Hughes INTEQ

P. O. Box 1980  
Hobbs, NM 88241-1930

State of New Mexico  
Encls Minerals, and Natural Resources Department

Form O-104  
Revised 02-10-94  
Instructions on back

DISTRICT II  
P. O. Drawer 00  
Artesia, NM 88211-0719

DISTRICT III  
1000 Rio Brazos Rd.  
Aztec, NM 87410

DISTRICT IV  
P. O. Box 2088  
Santa Fe, NM 87507-2088

## OIL CONSERVATION DIVISION

P. O. Box 2088  
Santa Fe, New Mexico 87504-2088

Submit to the Appropriate  
District Office  
State Lease - 4 copies  
Fee Lease - 3 copies

☐ AMENDED REPORT

### WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-015-31821	2 Pool Code 96785	3 Pool Name N. Hackberry; Morrow
4 Property Code 028094	5 Property Name WEST SHUGART 31 FEDERAL	6 Well Number 2
7 OGRID No. 014245	8 Operator Name MATADOR OPERATING COMPANY	9 Elevation 3545'

#### 10 SURFACE LOCATION

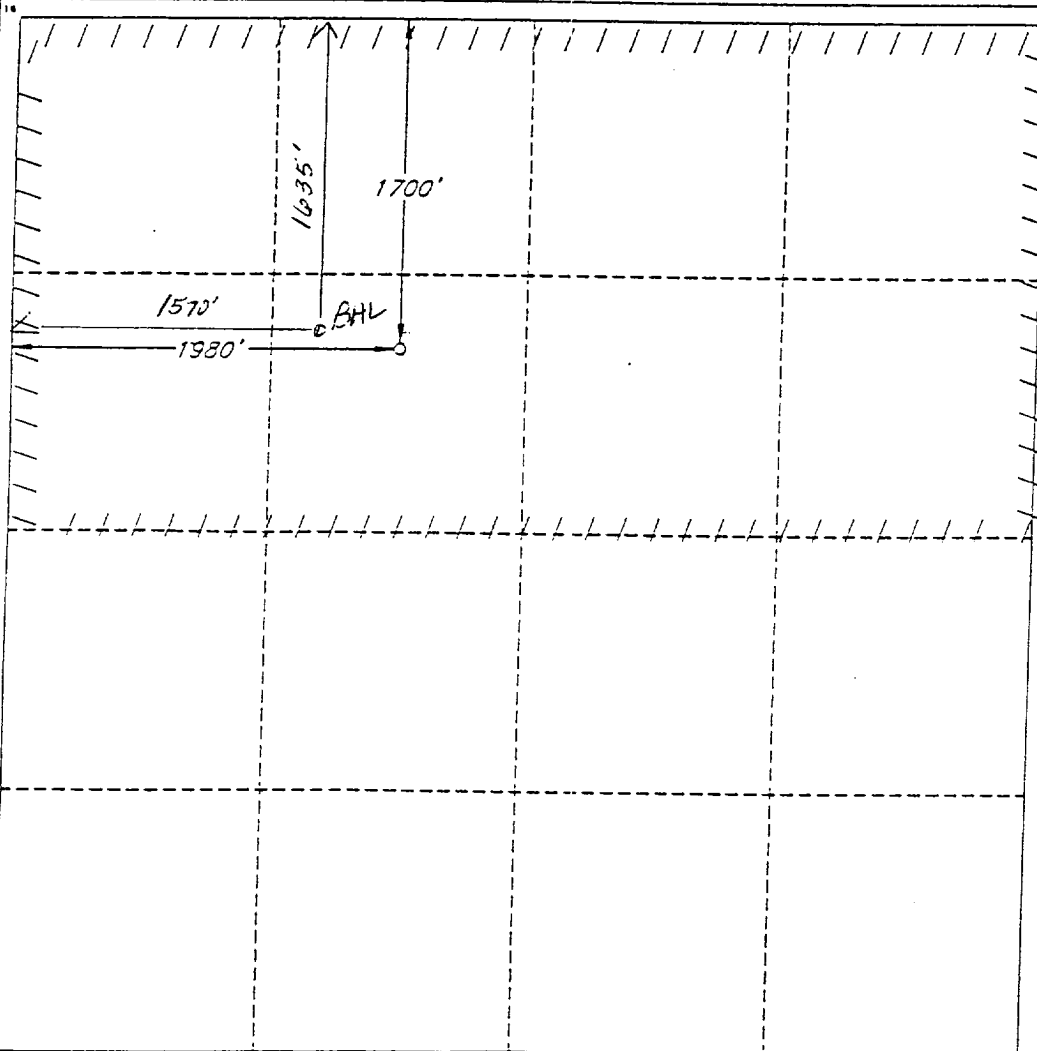
UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
F	31	18 SOUTH	31 EAST, N.M.P.M.		1700'	NORTH	1980'	WEST	EDDY

#### 11 BOTTOM HOLE LOCATION IF DIFFERENT FROM SURFACE

UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
F	31	18 South	31 East N.M.P.M		1635	North	1570	West	Eddy

12 Dedicated Acres 320	13 Joint or Infill	14 Consolidation Code	15 Order No.
---------------------------	--------------------	-----------------------	--------------

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



#### OPERATOR CERTIFICATION

I hereby certify that the information  
contained herein is true and complete  
to the best of my knowledge and belief.

Signature *Jim Kramer*

Printed Name

Jim Kramer

Title

Sr. Drilling Engineer

Date

7/27/01

#### 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 of Survey

MARCH 27, 2001

Signature and Seal of  
Professional Surveyor

*BEZNER*  
V.L. BEZNER  
R.P.S. #7920

Certificate No.

JOB #75510 / 73 NW / J.C.P.

RECEIVED  
2002 JUN 24 AM 9:03  
POSTAL SERVICE

OPERATOR: MATADOR PETROLEUM CORP.  
WELL/LEASE: W. SHUGART 31 FED. 2  
COUNTY: EDDY

047-0006

STATE OF NEW MEXICO  
DEVIATION REPORT

---

295	3/4
603	1 3/4
805	1 1/4
1,027	1 1/4
1,218	1 1/4
1,426	3/4
1,615	1
1,818	1 1/4
1,909	1 3/4
2,005	1 3/4
2,117	1 3/4
2,226	1 1/2
2,352	1 1/4
2,479	1 1/2
2,604	1 3/4
2,856	1 1/2
3,197	1 1/2
3,603	3/4
4,109	3/4
4,651	1
5,252	1 1/2
5,702	1 1/4
5,971	2
6,042	1
6,353	3/4
6,689	1
7,322	1
8,038	1 1/2
8,669	1 3/4
9,126	1 1/2

By: Steve Moore

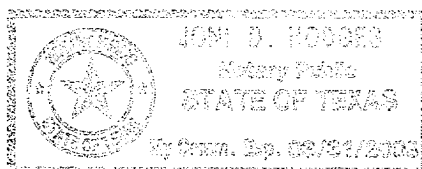
STATE OF TEXAS

COUNTY OF MIDLAND

The foregoing instrument was acknowledged before me on this 16th day of November, 2001, by Steve Moore on behalf of Patterson-UTi Drilling Company LP, LLLP.

Joni D. Hodges  
Notary Public for Midland County, Texas

My Commission Expires: 3/31/2003



RECEIVED

NOV 28 2001