Form 3160-3 2324 25 (July 1992) 72 23 24 25				Oil Cons.	_		
Form 3160-3 2324 25	262720		N	I.M. DIY _m Diş	PLICATE*	FORM APPROVED OMB NO. 1004-0136	
(July 1992)	ોલ્ફે\ UNIT	ED STATES	1 301	W. Grands	Menne	Expires: February 28, 1995	
O R	DEPARTMEN	T OF THE II	NTBR	hetha, NIVI 80	3210	5. LEASE DESIGNATION AND SERIAL NO.	
65 Mg 10	W SUREAU OF					6. IF INDIAN, ALLOTTEE OR TRIBE NAME	—
	CATION FOR PE					N/A	
1/0	64/			ON DELI LIV		7. UNIT AGREEMENT NAME	
b. TYPE OF WELL CY SLLL	ILL X	DEEPEN				Indian Basin	
OIL OIL SILL	0156				TIPLE	8. FARM OR LEASE NAME, WELL NO.	—
2. NAME OF OPERATOR	WELL OTHER			ZONE ZONI	<u> </u>	Smith Federal	# 4
Marathon Oil Comp	anv					9. API WELL NO.	
3. ADDRESS AND TELEPHONE						30-015-329	57
P.O. Box 552 Mid					2-687-8360	-	
4. LOCATION OF WELL (Repo	nt location clearly and in accorda					Indian Basin U.P. Assoc	•
1511' FNL & 839'	FEL			CT TO LIKE	c	11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA	
At proposed prod. zone 2053' FSL & 679'	ज्ञत.	A	APPRC	OVAL BY STAT	Ľ	Section 11, T-22-S, R-23	3-E
	IRECTION FROM NEAREST TOWN		12. COUNTY OR PARISH 13. STATE				
15 miles NW of Ca				OF ACRES IN LEASE		Eddy N.M.	
15. DISTANCE FROM PROPOSE LOCATION TO NEAREST		17. NO. OF A	ACRES ASSIGNED WELL				
	ine if any) 679' BHL)		320 E/2		
TO NEAREST WELL, DRILL	DISTANCE FROM PROPOSED LOCATION* 19. PROPOSED DEPTH TO NEAREST WELL, DRILLING, COMPLETED,					Y OR CABLE TOOLS	
OR APPLIED FOR, ON THIS 21. ELEVATIONS (Show wheth	20 044			10' M.D. 8000' T		22. APPROX. DATE WORK WILL START*	—
G.L 3933'		ROSWELL CO	ONTRO	DLLED WATER BA	SIN	October 30, 2003	
23.		PROPOSED CASING	AND CE	MENTING PROGRAM			
SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOO	Τ	SETTING DEPTH		QUANTITY OF CEMENT	
12.25"	9-5/8" K-55	36#		1200′	785 s	ks. WITNESS	
8.75"	7" K-55	23# & 26	5#	8300′	1400	sks.	
	Ocb	1H2 5	(Lan Tinge	ncy F	lan on File	
	Company is proposi	_				andard	
	ell will share the						
	th Federal # 3. N						
_	· -			_		ts will be stockpiled Smith Federal # 3 is on	
	arch work should be	-	uniaci.	GI. ALGI. BUG	r II Call Care	Billian reactar # 3 18 Gr	
Please expedi	te this APD if at	all possible	to ke	ep the drilling	program f	rom being interrupted.	
_ .				APP	ROVAL	SUBJECT TO	
Thank you				GEN	ERAL K	EQUIREMENTS	
						AL STIPULATIONS	
IN ABOVE SPACE DESCRIE deepen directionally, give perti	BE PROPOSED PROGRAM: inent data on subsurface locations			data on present productive		osed new productive zone. If proposal is to dr any.	rill or
24.							—
SIGNED Juny	Thelikov		ITLE _EX	gineer Tech.		DATE 7/24/03	
(This space for Federal or	State office use)				 =		
PERMIT NO.		-		APPROVAL DATE			
Application approval does not CONDITIONS OF APPROV	warrant or certify that the applicant ho	lds legal or equitable title	to those rigi	nts in the subject lease which wo	ald entitle the applic	ant to conduct operations thereon.	
	/s/ Joe G. L	ara	AC	TING FIELD MA	ANAGEI	R	
APPROVED BY ——	· · · · · · · · · · · · · · · · · · ·	TI3	TLE —			DATE DATE	—

DISTRICT I ba, NM 86241-1980 P.O. Box 1960, Hol

State of New Mexico

Roorgy, Minerals and Natural Resources Departm

Form C-102 Revised February 10, 1994 Submit to Appropriate District Office State Lease - 4 Copies Fee Lease - 3 Copies

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

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

DISTRICT IV

DISTRICT III

P.O. BOX 2088, SANTA FE, N.M. 87504-2088

1000 Rio Brazos Rd., Axtec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool	Name		
	33685 Indian Basin Upper				
Property Code	S	Well Number . 4			
OGRID No.		Elevation			
14021	MARAT	3933'			

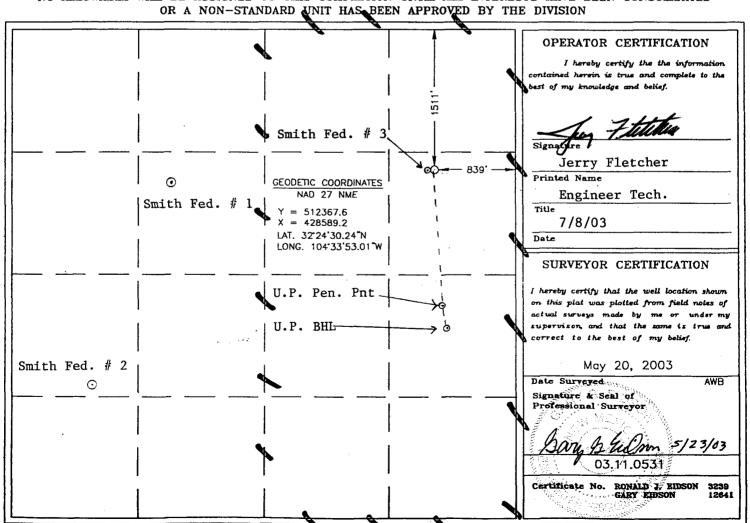
Surface Location

U	L or lot No.	Section	Township	Range	Lot ldn	Feet from the	North/South line	Feet from the	East/West line	County
	Н	11	22-S	23-E		1511'	NORTH	839'	EAST	EDDY

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
I	11	22-S	23-Е		2053'	South	679 '	East	Eddy
Dedicated Acres Joint or Infill Consolidation Code				Code Or	der No.			· · · · · · · · · · · · · · · · · · ·	
320 E/2									

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED



DRILLING PROGRAM MARATHON OIL COMPANY Smith Federal # 4

1. Estimated KB Elevation: 3949' KB G.L. 3933' Rig Floor 16'

TOP			BASE		FLUID
FORMATION	MEASURED	SUBSEA	MEASURED	SUBSEA	CONTENT
Queen	Surface	+3949'	650'	+3299'	water
San Andres	650'	+3299'	2250'	+1699'	water
Glorietta	2250'	+1699'	2355'	+1594'	
Delaware	3300'	+649'	4300'	- 351'	
Bone Spring	4300'	-351'	5950'	-2001'	oil gas
Wolfcamp	5950'	-2001'	7520'	-3571'	oil gas
B/Permian Shale	7520'.	-3571'	7687'	-3738'	-
U. Penn	7687'	-3738'	8300'	-4351'	gas, oil, water

<u>FORMATION</u>	EST <u>PSIG</u>	SBHP PPG EMW	EST SBHT DEG f PPM	H2S	SIGNIFICANCE (obj, marker, etc.)
Bone Springs	1210	8.5	500		marker
Wolfcamp	1680	9.0			marker
B/Permian Shale	1810	9.0			marker
U. Penn	2050	9.0	5000		objective pay

2. See (1) above.

If any unexpected water or mineral bearing zones are encountered, they will be reported, evaluated, and protected as circumstances and regulations require.

3. **Pressure Control Equipment**:

4.

9-5/8" Surface: 11" 3M annular tested to 300 PSI /3000 PSI, 11" 3M dual rams, choke manifold and mud cross, tested to 300 PSI/3000PSI.

Auxiliary Equipment:

Surface Hole: Annular or rotating head w/air rig.

Intermediate Hole: N/A

Production Hole: Flow indicator, PVT, H₂S Sensors, air packs, stroke counter, rotating head.

BOP systems will be consistent with API RP 53. Blowout preventers will be installed and pressure tested prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. Casing will be pressure tested before drilling casing cement plugs.

Upper and lower kelly cocks with valve handle and safety valve and subs to fit all drill string connections in use will be available on rig floor.

A. P. D. (cont.) Thirteen Point Surface Use Plan Smith Federal # 4

Test Frequency

- 1. When installed.
- 2. Anytime a pressure seal is broken (test confined only to affected equipment).
- 3. At least every 20 days.
- 4. Blind and pipe rams shall be activated each trip but not more than once/day.

4. <u>Casing and Cement Program:</u>

DEPT	ГН <u>ТО</u>	SECTION LENGT		HOLE SIZE	CSG SIZE	WT. PPF	GRADE	THRE.		NEW USED
0 0	1200' 4800'	1200' 4800'		12.25" 8.75"	9-5/8" 7-0"	36# 23#	K-55 K-55	8rd, ST 8rd, LT		New New
4800'	8300,	3500'		8.75"	7-0"	26#	K-55	8rd LT	&C	New
Casing String	DV Depth	Stg.	Lead <u>Tail</u>	Amt SXS	Type Cemen	<u>t</u>	Yield <u>CF/SX</u>	Wt. PPG.	TOC	<u>Additives</u>
9-5/8"	none	1	L	100	Thix-se	et	1.52	14.0	surf.	1.0% thix-set A
9-5/8"		1	T	485	prem.p		2.02	14.8	surf	2% cacl; 5lb/Flocele
9-5/8"			T	200	prem.p		1.34	14.8	surf	2% cacl
7"	5400'	1	L	250	"H" Foa	med	2.13	9.2	6400	Foamed N2
7"		1	Т	350	"H" Foai	med	1.44	13.0	7000'	Foamed N2
7"		2.	L	700	Interfill	"C"	2.47	14.0	Surf.	Flocele 1/4#/sk
7"		2	Т	100	"C" Ne	eat	1.32	14.8	5900'	5# gilsonite / sk.

A. P. D. (cont.) Thirteen Point Surface Use Plan Smith Federal # 4

Each stage will be preceded by an appropriate mud flush. Actual production hole volumes will be based on the caliper volume plus 25% excess.

Centralizer Program:

9 5/8" Conventional centralizers. Bottom 3 joints and every fourth joint to surface.

7" Conventional centralizers middle of 1st joint, then every joint to 7500', and 1 cent. Every 4th joint thereafter to 8300'.

5.	Mud Pi	ogram						
	DEPTH		WEIGH	WEIGHT			VISUAL	
	FROM	TO	MUD TYPE	(PPG)	<u>VIS</u>	CC	ADDITIVES	MONTR.
	0	1200'	air					
	1200'	5000'	Produced	8.5	28-32	N/C	Gel, caustic, H,S Scavenger	Reserve
	5000'	7000'	Produced	8.5	32-36	N/C	Gel, caustic, H,S Scavenger	Reserve
	7000'	8300'	Produced	8.5	32-36	<20	Gel, caustic, H₂S Scavenger	Steel Pits

Sufficient quantities of additives will be on location to maintain above mud properties for any anticipated well conditions.

6. Logging, Testing & Coring Programs:

LOG/TEST/CORE/MUDLOG/OTHER	INTE		REMARKS
DLL/MSFL/GR/CNL/LDT/CAL	TD	5000'	
LDT/CNL/GR/CAL	TD	surf casi	ng

MUD LOGGER

NO CORES OR DST'S

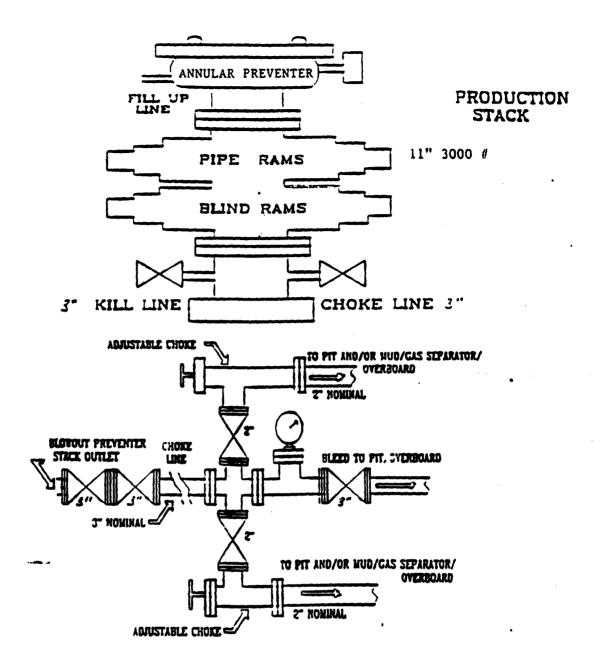
7. <u>Abnormal Pressures, Temperatures or Potential Hazards:</u>

None anticipated. Possible H₂S in Cisco & Upper Penn. See H₂S Drilling Operations Plan.

8. Other Information:

Anticipated Starting Date: As soon as possible.

Duration of Well: drilling - 18 days, completion - 10 days.



MARATHON OIL COMPANY

H2S DRILLING OPERATIONS PLAN

I. HYDROGEN SULFIDE TRAINING

All contractors and subcontractors employed by Marathon Oil Company will receive or have received training from a qualified instructor within the last twelve months in the following areas prior to commencing drilling operations on this well.

- 1. The hazards and characteristics of hydrogen sulfide (H2S)
- 2. Safety precautions
- 3. Operations of safety equipment and life support systems

In addition, contractor supervisory personnel will be trained or prepared in the following areas:

- 1. The effect of H2S on metal components in the system. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
- Corrective action and shut-down procedures when drilling or reworking a well, blowout prevention and well control procedures, if the nature of work performed involves these items.
- 3. The contents and requirements of the contingency plan when such plan is required.

All personnel will be required to carry documentation of the above training on their person.

II. H2S EQUIPMENT AND SYSTEMS

1. Safety Equipment

The following safety equipment will be on location.

- A. Wind direction indicators as seen in attached diagram.
- B. Automatic H2S detection alarm equipment (both audio and visual).
- C. Clearly visible warning signs as seen on the attached diagram. Signs will use the words "POISON GAS' and "CAUTION" with a strong color contrast.
- D. Protective breathing equipment will be located in the dog house and at briefing areas as seen in the attached diagram.

2. WELL CONTROL SYSTEMS

A. Blowout Prevention Equipment

Equipment includes but is not limited to:

- a. pipe rams to accomodate all pipe sizes
- b. blind rams
- c. choke manifold
- d. closing unit

Auxillary equipment added as appropriate includes:

a. annular preventor
b. rotating head
c. mud- gas separator
d. flare line and means of ignition
e. remote operated choke

B. Communication

The rig contractor will be required to have two-way communication capability. Marathon Oil Company will have either land-line or mobile telephone capabilities.

C. Mud Program

The mud program has been designed to minimize the volume of H2S circulated to surface. Proper mud weight, safe drilling practices, and the use of H2S scavengers when appropriate will minimize hazards when penetrating H2S bearing zones.

D. Drill Stem Test intervals are as follows:

DST No. 1	ft. to ft.
DST No. 2	ft. to ft.
DST No. 3	ft. toft.

Drill Stem Testing Safety Rules are attached.

III. WELL SITE DIAGRAM

A complete well site diagram including the following information is attached.

- 1. Rig orientation
- 2. Terrain
- 3. Briefing areas
- 4. Ingress and egress
- 5. Pits and flare lines
- 6. Caution and danger signs
- 7. Wind indicators and prevailing wind direction

Marathon Oil Company

Structure: Smith Federal #4

Well : Smith Fed #4

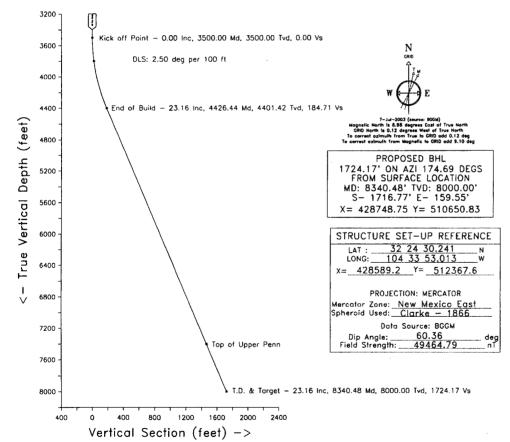
Field : Unknown

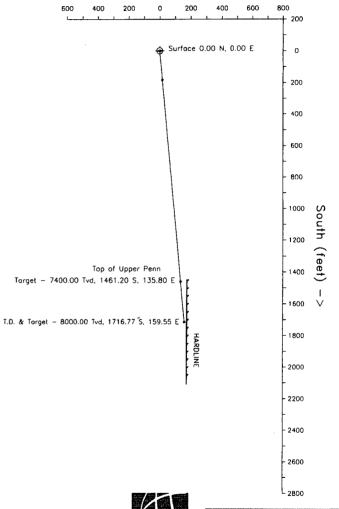
Location : Eddy County New Mexico

	WE	LL F	PROP	FILE	DAT	Α		
Point	MD	Inc	Dir	TVD	North	Eost	V. Sect	Deg/100
Tie on	0.00	0.00	174.69	0.00	0.00	0.00	0.00	0.00
кор	3500.00	0.00	174.69	3500.00	0.00	0.00	0.00	0.00
End of Build	4426.44	23.16	174.69	4401.42	-183.92	17.09	184.71	2.50
Target Top of Upper Pe	7687.89	23.16	174.69	7400.00	-1461.20	135.80	1467.50	0.00
T.D. & Target TD	8340.48	23.16	174.69	8000.00	-1716.77	159.55	1724.17	0.00

Azimuth 174.69 with reference 0.00 N, 0.00 E from slot #1







East (feet) ->

BAKER HUGHES

INTEQ

Created by: danf
Date plotted: 7-Jul-2003
Plot Reference in Fed#4 2DJ DH.
Coordinates are in feet reference slot #1.
True Vertical Depths are reference rotary table
fed4pp
--- Baker Hughes INTEO ---

Marathon Oil Company Smith Federal #4

Smith Fed #4
slot #1
Unknown
Eddy County New Mexico

PROPOSAL LISTING

by Baker Hughes INTEQ

Your ref : Fed#4 2DJ DH

Our ref : prop3931

License :

Date printed: 7-Jul-2003 Date created: 7-Jul-2003 Last revised: 7-Jul-2003

Field is centred on 428589.200,0.000,999.00000,N Structure is centred on 428589.200,512367.600,999.00000,N

Slot location is n32 24 30.241,w104 33 53.013
Slot Grid coordinates are N 512367.600, E 428589.200
Slot local coordinates are 0.00 N 0.00 E

Projection type: mercator - New Mexico East (3001), Spheroid: Clarke - 1866

Reference North is Grid North

Marathon Oil Company Smith Federal #4,Smith Fed #4 Unknown,Eddy County New Mexico PROPOSAL LISTING Page 1
Your ref : Fed#4 2DJ DH
Last revised : 7-Jul-2003

Measured Depth	Inclin Degrees	Azimuth Degrees	True Vert Depth	RECTANG COORDIN		Dogleg Deg/100:		G R I D C Easting	O O R D S Northing
0.00	0.00	174.69	0.00	0.00N	0.00E	0.00	0.00	428589.20	512367.60
500.00	0.00	174.69	500.00	0.00N	0.00E	0.00	0.00	428589.20	512367.60
1000.00	0.00	174.69	1000.00	0.00N	0.00E	0.00	0.00	428589.20	512367.60
1500.00	0.00	174.69	1500.00	0.00N	0.00E	0.00	0.00	428589.20	512367.60
2000.00	0.00	174.69	2000.00	0.00N	0.00E	0.00	0.00	428589.20	512367.60
2500.00	0.00	174.69	2500.00	0.00N	0.00E	0.00	0.00	428589.20	512367.60
3000.00	0.00	174.69	3000.00	0.00N	0.00E	0.00	0.00	428589.20	512367.60
3500.00	0.00	174.69	3500.00	0.00N	0.00E	0.00	0.00	428589.20	512367.60
3600.00	2.50	174.69	3599.97	2.17S	0.20E	2.50	2.18	428589.40	512365.43
3700.00	5.00	174.69	3699.75	8.68S	0.81E	2.50	8.72	428590.01	512358.92
3800.00	7.50	174.69	3799.14	19.52S	1.81E	2.50	19.61	428591.01	512348.08
3900.00	10.00	174.69	3897.97	34.67S	3.22E	2.50	34.82	428592.42	512332.93
4000.00	12.50	174.69	3996.04	54.09S	5.03E	2.50	54.33	428594.23	512313.51
4100.00	15.00	174.69	4093.17	77.76S	7.23E	2.50	78.09	428596.43	512289.84
4200.00	17.50	174.69	4189.17	105.62S	9.82E	2.50	106.07	428599.02	512261.98
4300.00	20.00	174.69	4283.85	137.62S	12.79E		138.21	428601.99	512229.98
4400.00	22.50	174.69	4377.05	173.71S	16.14E	2.50	174.46	428605.34	512193.89
4426.44	23.16	174.69	4401.42	183.92S	17.09E	2.50	184.71	428606.29	512183.68
4500.00	23.16	174.69	4469.05	212.73S	19.77E	0.00	213.65	428608.97	512154.87
5000.00	23.16	174.69	4928.75	408.54S	37.97E	0.00	410.30	428627.17	511959.06
5500.00	23.16	174.69	5388.45	604.36S	56.17 E	0.00	606.96	428645.37	511763.24
6000.00	23.16	174.69	5848.15	800.17S	74.37E	0.00	803.62	428663.57	511567.43
6500.00	23.16	174.69	6307.85	995.99S	92.56E	0.00	1000.28	428681.76	511371.61
7000.00	23.16	174.69	6767.55	1191.80S	110.76E	0.00	1196.94	428699.96	511175.80
7500.00	23.16	174.69	7227.25	1387.62S	128.96E	0.00	1393.60	428718.16	510979.98
7687.89	23.16	174.69	7400.00	1461.20S	135.80E		1467.50	428725.00	510906.40 U.P. Top
7700.00	23.16	174.69	7411.14	1465.94S	136.24E		1472.26	428725.44	510901.66 230 F34
7800.00	23.16	174.69	7503.08	1505.11S	139.88E	0.00	1511.59	428729.08	510862.49 7000 576
7900.00	23.16	174.69	7595.02	1544.27S	143.52E	0.00	1550.92	428732.72	510823.33
8000.00	23.16	174.69	7686.96	1583.43S	147.16E	0.00	1590.25	428736.36	510784.17

8100.00	23.16	174.69	7778.90	1622.59S	150.80E	0.00	1629.59	428740.00	510745.01
8200.00	23.16	174.69	7870.84	1661.75S	154.44E	0.00	1668.92	428743.64	510705.85
8300.00	23.16	174.69	7962.78	1700.92S				428747.28	
8340.48	23.16	174.69	8000.00	1716.77S	159.55E	0.00	1724.17	428748.75	510650.83 T.D. BHL
									2053 F34 M
									2052 F34 * 419 FEL

All data in feet unless otherwise stated. Calculation uses minimum curvature method.

Coordinates from slot #1 and TVD from rotary table.

Bottom hole distance is 1724.17 on azimuth 174.69 degrees from wellhead.

Vertical section is from N 0.00 E 0.00 on azimuth 174.69 degrees.

Grid is mercator - New Mexico East (3001).

Grid coordinates in FEET and computed using the Clarke - 1866 spheroid

Presented by Baker Hughes INTEQ

Marathon Oil Company Smith Federal #4,Smith Fed #4 Unknown,Eddy County New Mexico PROPOSAL LISTING Page 2 Your ref : Fed#4 2DJ DH Last revised : 7-Jul-2003

MD	TVD	Rectangular	Coords.						
7687.89	7400.00	1461.20S	135.80E	Top of	Upper Penn				
8340.48	8000.00	1716.77S	159.55 E	TD					
Targets associated with this wellpath									
Target name		Geograp	hic Locatio	n	T.V.D.	Rectangular	Coordinates	Revised	
 							• • • • • • • • • • • • • • • • • • • •		
Top of	Upper Penn	428725.000	510906.400,	0.00000	7400.00	1461.20S	135.80E	7-Jul-2003	
TD					8000.00	1716.77S	159.55E	7-Jul-2003	