

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-101
Revised March 17, 1999

Submit to appropriate District Office
State Lease - 6 Copies
Fee Lease - 5 Copies

☐ AMENDED REPORT

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

¹ Operator Name and Address MARBOB ENERGY CORPORATION PO BOX 227 ARTESIA, NM 88211-0227		² OGRID Number 14049
³ Property Code 32494		⁴ API Number 30 - 015-20718
⁵ Property Name UNION MEAD FEE COM		⁶ Well No. 1

⁷ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	8	22S	27E		1980	NORTH	660	EAST	EDDY

⁸ Proposed 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
⁹ Proposed Pool 1 CARLSBAD; MORROW, SOUTH					¹⁰ Proposed Pool 2 CARLSBAD; STRAWN, EDDY				

¹¹ Work Type Code P	¹² Well Type Code G	¹³ Cable/Rotary R	¹⁴ Lease Type Code P	¹⁵ Ground Level Elevation 3094' GL
¹⁶ Multiple N	¹⁷ Proposed Depth 11648'	¹⁸ Formation MORROW	¹⁹ Contractor	²⁰ Spud Date 8/1/72

EXISTING

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
17 1/2"	13 3/8"	48#	316'	350 SX	SURF
12 1/4"	10 3/4"	32 3/4, 40 1/2	1875'	500 SX	
9 1/2"	7 5/8"	29.7#	8884'	250 SX	7550'
9 1/2"	5 1/2" LNR	20#	8507' - 11685'	275 SX	8588'

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone.
Describe the blowout prevention program, if any. Use additional sheets if necessary.

PERF THE MORROW LIME W/ 4 SPF @ 11083' - 11120' (56 SHOTS). ACIDIZE THE MORROW LIME 11083'-11120' W/ 2000 GAL NEFE 15% HCL ACID. PERF THE STRAWN "A" LIME W/ 4 SPF @ 10128' - 10134' (28 SHOTS). ACIDIZE THE STRAWN "A" LIME 10128'-10134' W/ 1500 GAL NEFE 15% HCL ACID.

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature:

Printed name: DIANA J. CANNON

Title: PRODUCTION ANALYST

Date:

8/11/03

Phone:

(505) 748-3303

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date: AUG 18 2003

Expiration Date: AUG 18 2004

Conditions of Approval:

Attached ☐

Union Mead Fee Cam. 1

1980' N 660' E
H-8-225-27e
Eddy, NM

Spud. 1 Aug 72
Plug: Sept 87
Reenter: June 01

Zero: 18' AGL

HB: 3112'

GL: 3074'

17 1/2"

TOC 37' TS

13 3/8" / 48 @ 316'
350 "C" Circ.

12 1/4"

10 3/4" / 40.5, 32.75 / K55, H40/STC @ 1875'
400 HLC + 100 H

9 1/2"

Perf 5170'
572 50sx

2 3/8" cut e
7884'
100% Free 7888'

TOC 7600' C13L

Cement outside 2 3/8" flg
est. from 7888-8570'

7 5/8" / 29.7 / N80/LTC @ 8884'
250 "C"

Solting Tool
± 9135'

10292-10299'
10312-10317'

Strawn

6 1/2"

ig CBL: Cont 8588-11570'
Good Bond 9600-11570'

Rtnr 11130'
11167-11184', 11163-81'

Mrvw

11311-11315', 11307-13'
11322-24', 11330-37', 11366-70'

11473-80', 11502-10', 11543-49', 11555-63'
11573-81'

shot @ 11564'
BD = 11617'

5 1/2" / 20 / N80 / SFJP liner 8507-11656'
200 Lk Wt + 75 90150 A2 A

11656'

Zero: 18' AGL

1980' N, 660' E
H-8-22s-27e
Eddy, NM

2 3/8" / 4.7 / LBD / EUE cut 7884

TOC 7600' CBL

100% Free	7888'
90%	7950'
74%	7964'
44% Free	7974'

Calc TDC = 7775'
Calc BOC = 8570' ($\pm 63'$ into 5 1/2")
IF actual TDC = 7980' (100% struck)
Calc BOC = 9060' ($\pm 55'$ into 5 1/2")

TOL @ 8507'

(Liner perforated 8588') TAC 8588'
4 shafts - orig cont job.

75 1/8" / 29.7 / N80 / LTC @ 8884'

$$BOC \pm 9060' \text{ (Assumes } TOC \pm 7980')$$

MST Setting Tool ± 9135'

Dimensions:

$2\frac{3}{8}" \text{ Cplg OD} = 3.063"$
 $ID = 1.995" N_{\text{Don}} / 1.901" D_{\text{RFT}}$

$7\frac{5}{8}"$ 29.7 μ F
 $I_D = 6.875" N_{om}/6.75" Drift$

5 1/2" 20 pF
IO = 4.778" Nom / 4.653" Drift

10292-10317' Strawn PerFs

Rtnr @ 11130'

5 1/2" / 20 / N80 / H-SFJP liner 8507-11656'

500 SHEETS, FILLER 5 SQUARE
13-782
50 SHEETS EYE-EAST® 5 SQUARE
12-381
100 SHEETS EYE-EAST® 5 SQUARE
12-382
200 SHEETS EYE-EAST® 5 SQUARE
12-389
100 RECYCLED WHITE 5 SQUARE
12-392
200 RECYCLED WHITE 5 SQUARE
12-399





Completion Systems

SETTING EQUIPMENT

MST MECHANICAL SETTING TOOL

The Weatherford MST is a mechanical setting tool for drillable cement retainers and bridge plugs.

Applications:

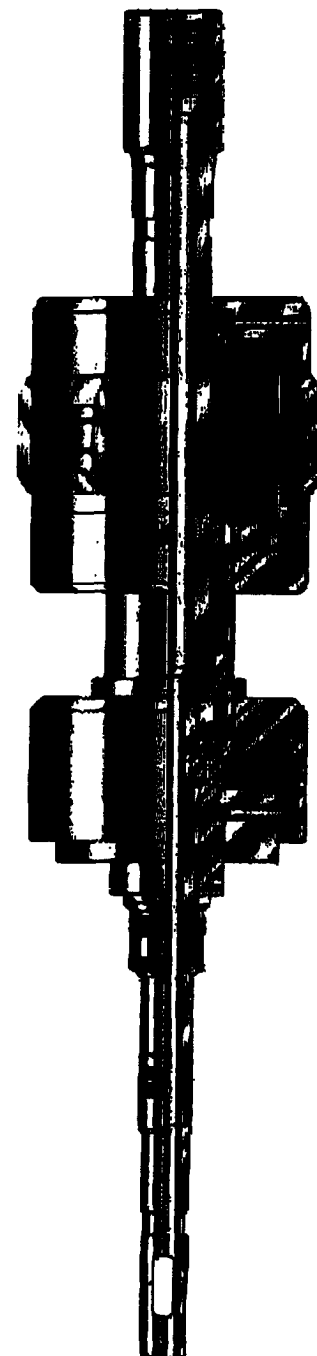
Setting cement retainers or bridge plugs on tubing or drill pipe.

Features:

- Allows single run for squeeze work
- Locked to cement retainer or bridge plug to avoid premature setting or loss
- Top slips partially covered to protect from accidental damage
- Will set other manufacturers cement retainer or bridge plugs

MST MECHANICAL SETTING TOOL SPECIFICATION GUIDE

CASING		DRAG BLOCK		TOOL		
O.D. in/mm	WEIGHT lb/ft	EXPANDED in/mm	COLLAPSED in/mm	I.D. in/mm	STANDARD THREAD CONNECTIONS	BASE PRODUCT NUMBER
4-1/2 114.30	9.5 - 13.5	4.283 108.79	3.750 95.25	.75 19.05	2-3/8 EU 8RD	43MST
5 127.00	18.0 - 21.0	4.375 111.13	3.815 96.90	.75 19.05	2-3/8 EU 8RD	43MST
5 127.00	15.0 - 18.0	4.490 114.50	4.015 101.98	.75 19.05	2-3/8 EU 8RD	43MST
5 127.00	11.5 - 15.0	4.850 118.36	4.230 107.44	.75 19.05	2-3/8 EU 8RD	43MST
5-1/2 139.70	17.0 - 23.0	5.150 130.81	4.500 114.30	.75 19.05	2-3/8 EU 8RD	45MST
5-1/2 139.70	13.0 - 17.0	5.250 133.25	4.800 116.84	.75 19.05	2-3/8 EU 8RD	45MST
6 152.40	20.0 - 28.0	5.437 138.10	4.787 121.59	.75 19.05	2-3/8 EU 8RD	45MST
6-5/8 168.28	24.0 - 32.0	6.355 161.42	5.500 139.70	1.25 31.75	2-7/8 EU 8RD	45MST
7 177.80	29.0 - 38.0	6.355 161.42	5.500 139.70	1.25 31.75	2-7/8 EU 8RD	47MST
7 177.80	17.0 - 32.0	6.930 176.02	5.920 150.37	1.25 31.75	2-7/8 EU 8RD	47MST
7-5/8 193.68	24.0 - 45.3	7.325 186.06	6.370 161.80	1.25 31.75	2-7/8 EU 8RD	47MST
8-5/8 219.08	28.0 - 52.0	8.190 208.03	7.235 183.77	1.25 31.75	2-7/8 EU 8RD	49MST
9-5/8 244.48	32.0 - 81.0	9.190 233.43	8.235 209.17	1.25 31.75	2-7/8 EU 8RD	51MST
10-3/4 273.05	51.0 - 81.0	10.085 255.65	9.110 231.39	1.25 31.75	2-7/8 EU 8RD	53MST
10-3/4 273.05	32.75 - 60.7	10.425 264.80	9.470 240.54	1.25 31.75	2-7/8 EU 8RD	53MST
11-3/4 298.45	38.0 - 85.0	11.500 292.10	10.645 267.84	1.25 31.75	2-7/8 EU 8RD	54MST
13-3/8 339.73	77.0 - 102.0	12.940 328.68	11.750 298.45	1.25 31.75	2-7/8 EU 8RD	55MST
13-3/8 339.73	48.0 - 72.0	13.300 337.82	12.110 307.59	1.25 31.75	2-7/8 EU 8RD	55MST
16 406.40	84.0 - 128.0	15.190 389.83	14.000 355.60	1.25 31.75	2-7/8 EU 8RD	57MST



MST Mechanical
Setting Tool



SETTING EQUIPMENT

"MST" MECHANICAL SETTING TOOL

The EVI Oil Tools "MST" is a mechanical setting tool for drillable cement retainers and bridge plugs.

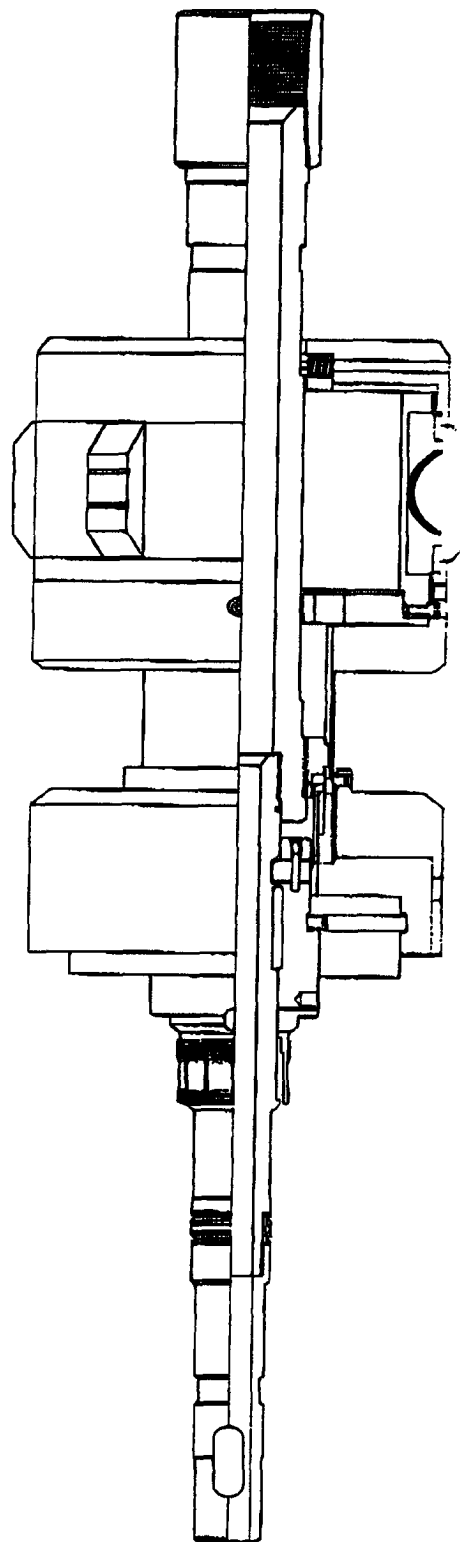
Applications include: setting cement retainers or bridge plugs on tubing or drill pipe.

FEATURES

- Allows single run for squeeze work
- Locked to cement retainer or bridge plug to avoid premature setting or loss
- Top slips partially covered to protect from accidental damage
- Modular design
- Will set other manufacturers cement retainer or bridge plugs

SPECIFICATION GUIDE

CASING		TOOL	
O.D.	O.D.	I.D.	STANDARD BOX x PIN
4-1/2	3.75	.75	2-3/8 EU 8 RND
5	3.75		
5-1/2	4.50		
6-5/8	5.40	1.25	2-7/8 EU 8 RND
7	5.40		
7-5/8	6.31		
8-5/8	7.13		
9-5/8	8.13		
10-3/4	9.44		
11-3/4	10.44		
13-3/8	12.00		
16	14.125		



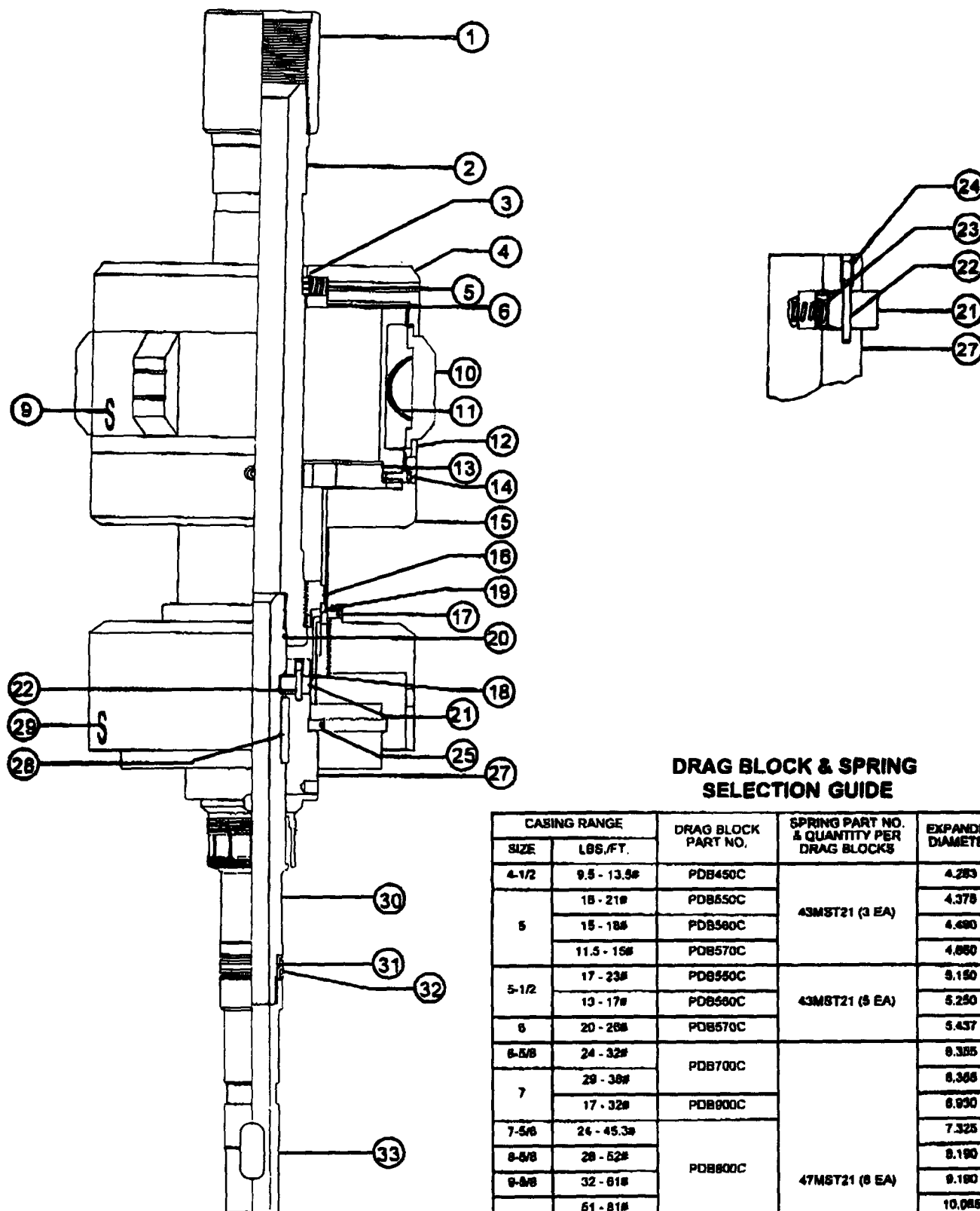


"MST" MECHANICAL SETTING TOOL FOR "PCR" CEMENT RETAINER & "PBP" BRIDGE PLUG

ITEM	QTY	DESCRIPTION	4-1/2	5-1/2	7	7-3/8	8-5/8	9-5/8	10-3/4	11-3/4	13-3/8	18	
		COMPLETE ASSEMBLY	43MST.10**	45MST.10**	47MST.10**	48MST.10**	49MST.10**	51MST.10**	53MST.10**	54MST.10**	55MST.10**	57MST.10**	
1	1	COUPLING	23E10NC		27E27EC							49IP27EC	
2	1	MANDREL	43MS06		47MS06								
3	1	LOCK SEGMENT	NOT REQD.		47MS17								
4	1	DRAG BLOCK RETAINER	43MS24	45MS24	47MS19	48MS19	49MS19	51MS19	53MS19	54MS19	55MS19	57MS19	
5	1	SPRING	NOT REQD.		45R11								
6	1	SEGMENT RETAINER	NOT REQD.				49MS23						
7	3	SOC. CAP SCREW	NOT REQD.		HC1007 5/16-18 X 3/4		HC1008 5/16-18 X 1-1/4						
8	1	SEGMENT SUPPORT RING	NOT REQD.		47MS27		49MS27						
9	1	DRAG BLOCK HOUSING	43MS16		47MS16	48MS16	49MS16	51MS16	53MS16	54MS16	57MS16		
10	**	DRAG BLOCK (SEE CHART)	** 4 REQD.		** 6 REQD.		** 8 REQD.		** 12 REQD.			**16REQD.	
11	A.R.	DRAG BLOCK SPRING	43MST21 (12)	43MST21 (20)	43MST21 (48)		47MST21 (84)		47MST21 (96)			47MST21 (128)	
12	1	HOUSING SUPPORT	NOT REQD.				49MS21			54MS21	55MS21	57MS21	
13	1	DRAG BLOCK GUIDE	43MS19	45MS19	NOT REQD.	48MS11	49MS11	51MS11	53MS11	54MS11	55MS11	57MS11	
14	A.R.	SOC. CAP SCREW	HC1000 (6) 1/4-20 X 1/4		HC1000 (4) 1/4-20 X 1/4		HC1008 (4) 5/16-18 X 1/4			HC1004 (4) 5/16-18 X 1/2			
15	1	CONTROL SLEEVE	43MS03		47MS03	48MS03	49MS03			54MS03			
16	1	CONTROL NUT	43MS04		47MS04								
17	2	SOC. SET SCREW	HA1002 3/8-16 X 1/4	HA1003 3/8-16 X 3/8	HA1002 3/8-16X1/4	HA1003 3/8-16 X 3/8							
18	1	RETAINING SLEEVE	43MS07		47MS07								
19	1	CONTROL NUT CLUTCH	43MS05		47MS05								
20	1	O-RING	HQ219D90		HQ225D90								
21	1	DOG	43MS15		47MS15								
22	2	PN	HP1003 3/16 X 1-1/4		HP1003 3/16 X 1-1/4								
23	2	DOG SPRING	43MS16		47MS16								
24	2	SOC. SET SCREW	HA1001 1/4-20 X 1/2										
25	A.R.	SOC. SET SCREW	NOT REQD.			HA1007(3) 7/16-20X3/8	HA1018 (3) 7/16-20 X 1/2				HA1018 (4) 7/16-20 X 1/2		
26	1	SLIP ADAPTER	NOT REQD.			48MS22	49MS22	51MS22	53MS22	54MS22	55MS22	57MS22	
27	1	CONTROL LATCH	43MS08		47MS08	48MS08							
28	1	KEY	HK1002 1/4 X 1/4 X 2-3/4										
29	1	SETTING SLEEVE	43MS20	45MS20	47MS20	48MS20	49MS20	51MS20	53MS20	54MS20	55MS20	57MS20	
30	1	STINGER SUB BODY	43MS09		47MS09								
31	1	O-RING	HQ024D90		HQ030D90								
32	1	STINGER SEAL	43MS02		47MS02								
33	1	STINGER SUB*	43MS12		47MS12								
34	1	TEE HANDLE	NOT REQD.		47MS29								
35	2	KEY (NOT SHOWN)	NOT REQD.									HK1001 1/4 X 1/4 X 2	

★ ★ SPECIFY CASING RANGE AT TIME OF ORDER.

* NOTE: WHEN RUNNING A BRIDGE PLUG REPLACE STINGER SUB 43MS12 OR 47MS12 WITH THREAD PROTECTOR 43MS28 OR 47MS28.



DRAG BLOCK & SPRING SELECTION GUIDE

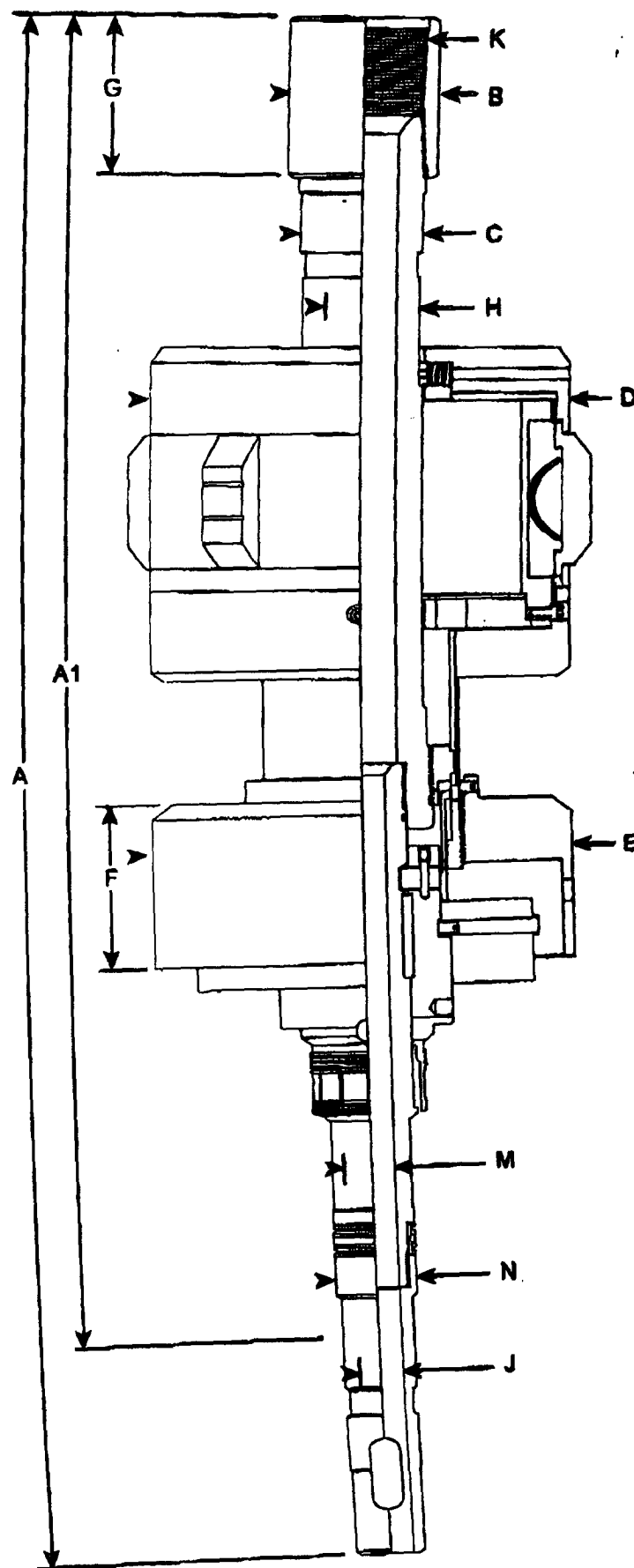
CASING RANGE		DRAG BLOCK PART NO.	SPRING PART NO. & QUANTITY PER DRAG BLOCKS	EXPANDED DIAMETER	COLLAPSE DIAMETER
SIZE	LBS./FT.				
4-1/2	9.5 - 13.5#	PDB450C	43MST21 (3 EA)	4.283	3.760
5	18 - 21#	PDB550C		4.378	3.815
	15 - 18#	PDB560C		4.480	4.015
	11.5 - 15#	PDB570C		4.880	4.230
5-1/2	17 - 23#	PDB550C	43MST21 (5 EA)	5.150	4.900
	13 - 17#	PDB560C		5.250	4.900
6	20 - 28#	PDB570C	47MST21 (6 EA)	5.437	4.787
6-5/8	24 - 32#	PDB700C		8.355	5.500
7	29 - 38#			8.365	5.500
	17 - 32#	PDB900C		8.930	5.820
7-5/8	24 - 45.3#	PDB800C		7.325	6.370
8-5/8	28 - 52#			8.190	7.235
9-5/8	32 - 81#			9.180	8.235
10-3/4	51 - 81#	PDB900C		10.085	9.110
	32.75 - 60.7#			10.425	9.470
13-3/8	77 - 102#	PDB800C		12.940	11.780
	48 - 72#	PDB900C		13.300	12.110
16	84 - 118#	PDB800C		15.180	14.000

*For casing sizes not listed in the chart drag blocks sizes 450, 550, 580 and 570 may be substituted in the 4-1/2 thru 5-1/2 tools and 800, 700, 600 or 900 may be substituted in the 7" and larger tools.



DIMENSIONAL DATA

SIZE	43	45	47	48	49	51	53	54	55	57
A	42.00		50.50							
A1	38.50		47.00							
B	3.08		3.68							
C	1.80		3.09							
D	3.75	4.50	5.40	6.25	7.125	8.00	9.00	10.00	11.50	14.12
E	3.58	4.310	5.37	6.312	7.13	8.125	9.44	10.44	12.00	13-15/16
F	7.08	7.08	7.44	6-1/2						
G	5.75		5.25							
H	1.00		1.75							
J	875		1.250							
K	2-3/8 EU 8RD		2-7/8 EU 8 RND							
M	.750		1.312							
N	1.340		1.955							



Union Mead Fee Comm. 1
H-8-225-27e

10/72 Morrow 11311-11315' (4 spf) No gas entry
11167-11184' (4 spf) 3300psi surf. press. 20"

Strawn 10312-10317' } Through-tubing perf. Acid 5000g 15% MS
10292-10299' }

3/76 Acid Morrow 11167-84', 11311-15' 6000g, 7 1/2% HCl + 1000 SCF/1000 ft
(2 mncfD / 11 bcpd / 4 bcpd Morrow)
Installed "5" crossover tool - Strawn up tbg / Morrow up annulus
(1 mncfD / 11 bcpd Strawn before install crossover tool.)

8/79 Pull "5" crossover. DHC Strawn & Morrow

9/87

Plugged well:

75 sx @ 11,000' (Tag 10,340')

40 sx @ 10240' (Tag 8790')

25 sx @ 8570'

25 sx @ 7550'

Perf 7 $\frac{5}{8}$ " @ 5170' Rtnr 5070' 5 $\frac{1}{2}$ 50 sx

55 sx @ 2037'

25 sx @ 366'

30'-0'

6/01

Spear 7 $\frac{5}{8}$ " , pull 110,000 lb & set slips.

Ø plug 10'-65' , 190-390' , 1775-2057' , 5090-5240' (Spot 50sx & Ø out , 7460-7560' , 8480'-9120' (lost 30 BW when fell through) ,

10125-10310' (Strawn perf's test 1400psi , lost 25psi 15") ,

Re-test Strawn perf's 2100psi , lost 560psi 1 hour.

10950-10973'. Washed over Otis WB pkr. Recover pkr assembly. Washed to 11617'.

TDC 7600' CBL in 7 $\frac{5}{8}$ " , TDC 8588' 5 $\frac{1}{2}$ "

7/01

AS-10K pkr asbly 11410'

Mrrw 11473-80' , 11502-10' , 11545-49' , 11555-63' , 11573-81' (1st)

Acidz 1500g 7 $\frac{1}{2}$ % HCl / 600g MeOH Ballout x 2 5@4224psi

ISI = 1449 Vacuum in 1 min.

Backside gave away 1 $\frac{1}{2}$ bpm to catch press. 2 bpm to maintain 1000psi.

Chroni
missing

7-20 → 7-23

IFL 2000-2600'

8/01 Snabbing Morrow

ONSI = 1450-1650 psi Rec. 80-100 BFPD

Report 28 Jul Rec 84 B acid, 341 B Form. wtr.

Chrom. missing

7-25 → 7-26 9-10 Aug: TOOH pkv. (upper phr?) Latch onto lower packer. TOOH
7-29 → 8-2 11 Aug: P.F. Morrow 11366-70' ⁽⁹⁾, 11330-37' ⁽¹⁵⁾, 11322-24' ⁽⁵⁾, 11307-13' ⁽¹³⁾
8-4 → 8-6 11163-81' (37)

TIH pkv & RBP (RBP 11450') Snab & Flow 225 psi $1\frac{3}{4}" = 180$ MCFO

13 Aug: Acidz 11307-11370' 1500 g. 7½% HCl 4 @ 4430 psi ISI = 3350

15 Aug: Start out Flowing 754 MCFO, end @ 452 MCFO Loading up.

16 Aug: Loaded up. Snab & resume Flowing

17 Aug: ONSIP = 1750 Hbg / 950 csg. RBP wouldn't reset @ 11210'. TOOH

18 Aug: RBP not test @ 11210', 11217', 11228', 11245'. Test to 1000 psi 11293'.

Set phr 11739'.

19 Aug: Acidz 11163-81' 1500 g. 7½% HCl ISI = 250 15" = 10 psi
Snab.

20-21 Aug: Flow 250 psi $1\frac{1}{2}" = 401$ MCFO 2.5 BWPH

9/01

12 Sept: To sales 390 psi $1\frac{1}{2}"$ 157 MCFO 57 BWPH

1/02

15 Jan: Kill well. Latch onto RBP. TOOH phr + RBP

16 Jan: RIH pumping BHA.

21 Jan: Ran rods. PWOP. (Pwp @ ± 11565')

4/03

(WD proposal = Rtnr 11150' @ 192 Morrow Sand perf.
Perf Morrow CO_3 11077-91', 1103-22' 29F, 68 shots
Acidz 5000g. 15% HCl.)

PDDH rods & tbg. Run scraper to 11191'. Set rtnr
@ 11130'. 192. Morrow 11163-11581' 250 sx "H"

(Loaded annulus 375 bbls & tested to 1000psi before squeezing)

250 sx H
Yields 1.22 cfs
54.3 bbls.
slurry.

Flush 12.5 bbls. wtr. & got running squeeze to
3000psi. Could not reverse cement out of tubing.
PDH 64 jts tubing. Pump 40 bbls. water
to clear tubing & SWIDN.

Tbg. stuck. Freepoint 100% Free @ 7888', 90% @ 7950',
74% @ 7964', 44% Free @ 7974'. Cut 2 3/8" / 4.7 / LBD
tubing @ 7884' (4' below collar)

WIH with overshot. Tag 8' high. Work down
5'. No more progress - couldn't get back
down to tubing.

RIH SN + 252 jts. tbg. RDMD.