PORTADRILL®

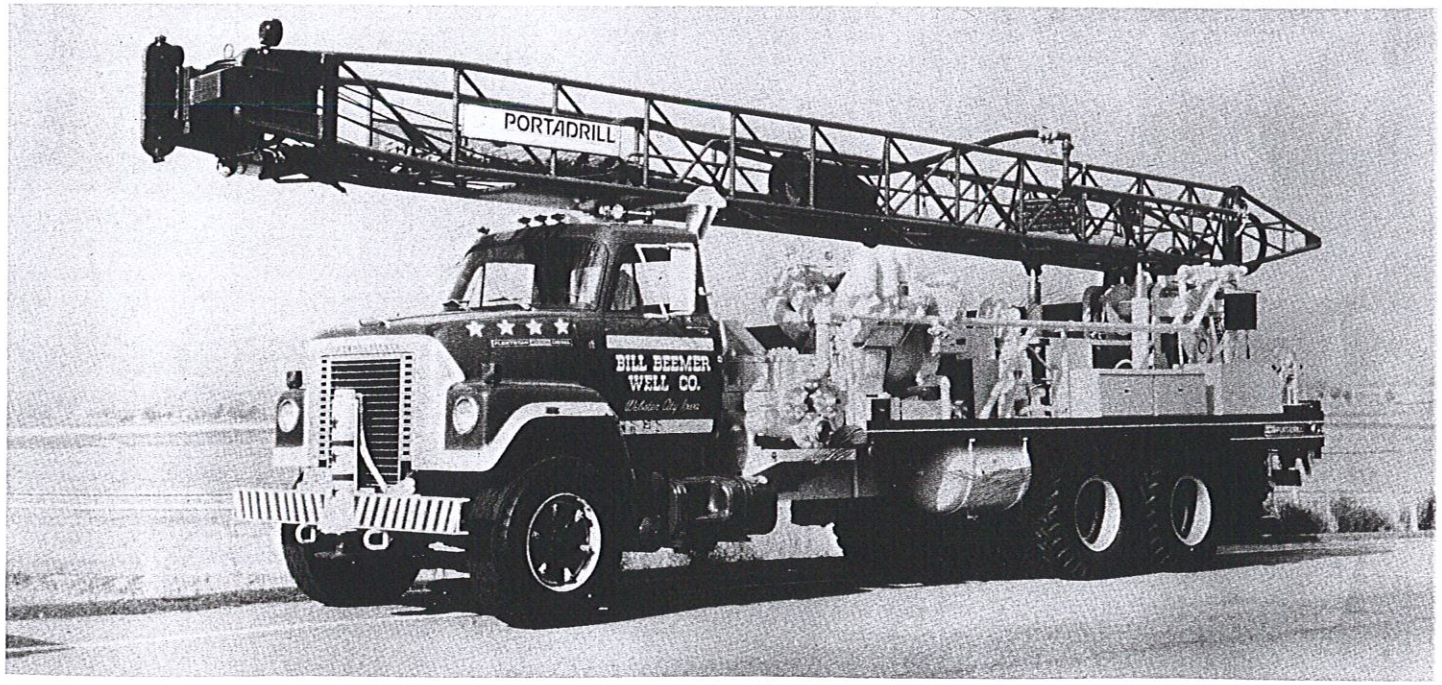
524-1
524-2

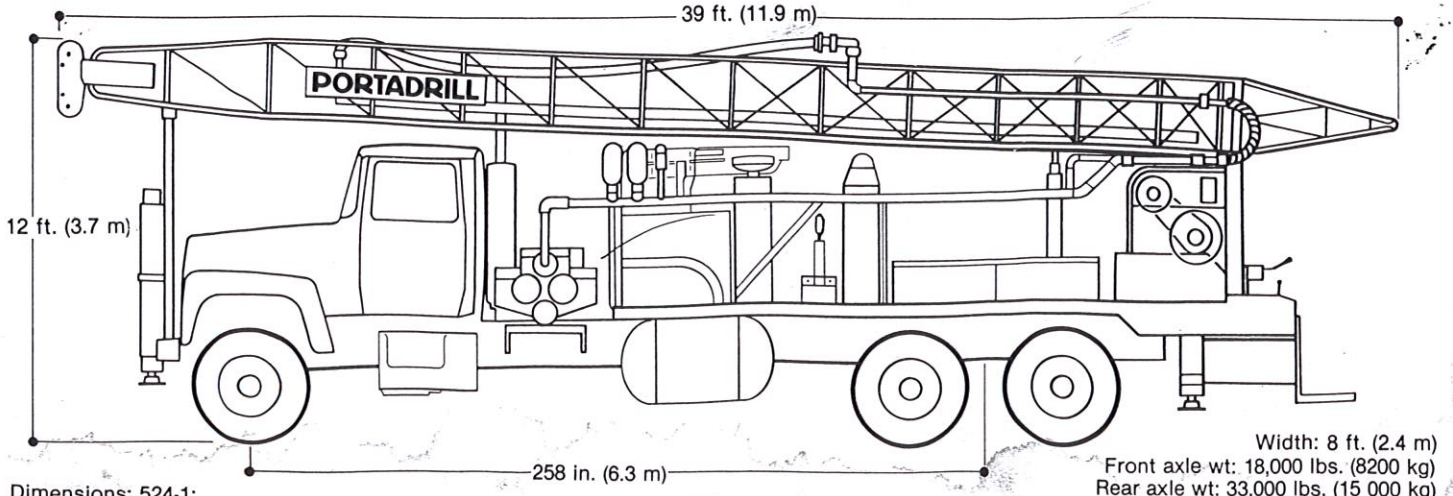
ROTARY DRILLING MACHINE

The 524-1 and 524-2 Portadrills are versatile rotary table drive machines for exploration and well drilling. They are equipped for mud rotary, air rotary and rotary percussion drilling. Designed for efficiency, ease of operation and simplified maintenance, these rigs have direct mechanical power and controls to rotary table, drawworks, mud pump, and air compressor.

Standard equipment on both rigs includes an efficient air cooled, two cylinder, two-stage air compressor. The 524-1 has a 5" x 6 " (127 mm x 152 mm) mud pump, a 5 " (127 mm) opening hydraulically retractable rotary table and 2-part lines. The 524-2 has a 5½ " x 8 " (140 mm x 203 mm) mud pump, a 7½ " (190 mm) rotary table and 3-part lines. Options to suit various drilling requirements are available on both rigs.

The deep-box section mast, with high tensile strength, tubular steel legs has 40,000 lbs. (18 140 kg) capacity and is raised and lowered hydraulically. Mast height is 38 ft. (11.6 m).





Dimensions: 524-1:

Length: 39 ft.
Height: 12 ft. 3.7 m)
Width: 8 ft. (2.4 m)
Wheelbase: 216 in. (5.5 m)
Front axle wt: 14,000 lbs. (6350 kg)
Rear axle wt: 29,000 lbs. (13 200 kg)

Width: 8 ft. (2.4 m)
Front axle wt: 18,000 lbs. (8200 kg)
Rear axle wt: 33,000 lbs. (15 000 kg)

524-2 Shown

Dimensions and weights may vary with mounting and optional equipment.

PORTADRILL MODEL 524

PULLDOWN

- Hydraulically powered through 2-speed mechanical transmission. Hydraulic controls for variable feed rate to 5.6 fpm (1.7 m. per min.) and down pressure to 20,000 lbs. (9060 kg.).
- 1-1/2" (3.8 cm.) pitch roller chains attached to swivel brackets feed full kelly length.

BREAKOUT SYSTEM

- Oil field type breakout tong with unique shock hammer mounting. Pivots out of way when not in use.
- Powered breakout operation using rotary table and tong.
- Standard tong handles 2-7/8" O.D. to 3-1/2" O.D. tools (6.6 cm. to 8.8 cm.).
- Roller, lug or fork type breakout slips for use with 2-3/8" (6 cm.) or 2-7/8" (7.3 cm.) tool jointed pipe or 3-1/2" (8.9 cm.) flush joint pipe, as required.

HYDRAULIC LEVELING JACKS

- Single front jack with 48" (122 cm.) stroke mounted in heavy-duty bumper assembly.
- Two rear mounted jacks, 24" (6.1 cm.) stroke.
- Level indicator at driller's station.

INSTRUMENTATION & CONTROLS

- Instrument Panel
  - Air operated engine throttle.
  - Engine tachometer, starter switch, and engine gauges.
  - Rig gauges.
  - Rig lights switch.
  - Air compressor gauges.
- Driller's Station Controls
  - Drawworks controls.
  - Rotary table controls.
  - Mast lift control.
  - Water injection controls.
  - Table retraction.
  - Right, left and front jack controls.
  - Pulldown controls.
  - Compressor clutch control.
- Oteco mud line pressure gauge.

DIMENSIONS (Approximate)

- Length with mast down: 37 ft. (11.3 m.)
- Length with mast up: 34 ft. (10.3 m.)
- Width: 8 ft. (2.44 m.)
- Height with mast down: 12 ft. (3.6 m.)
- Height with mast up: 42 ft. (12.8 m.)

WEIGHT

- Standard rig and truck with 5" x 6" (12.7 x 15.2 cm.) mud pump and Atlas Copco DT2 compressor, without tools (approximate):
  - Front Axle: 10,500 lbs. (4578 kg.)
  - Rear Axle: 27,250 lbs. (12360 kg.)
  - Total: 37,750 lbs. (17125 kg.)

TRUCK

- Suggested minimum truck specifications:
  - Cab-to-axle: 138" (350 cm.).
  - Front axle: 12,000 lbs. (5443 kg.) capacity. Tandem drive rear axle: 34,000 lbs. (15442 kg.) capacity.
  - Caterpillar 3208, 210 BHP diesel engine or equivalent (for DT2 compressor) with extra capacity cooling.
  - Heavy-duty electrical system.
  - 5-speed, direct-in-5th transmission. 8000 Series Spicer 3- or 4-speed auxiliary transmission with full torque, top mount PTO.
  - 10.00 x 20 12 PR tires.
  - 100 gallon (380 l.) fuel tank capacity.

ACCESSORIES INCLUDED

- Roller bearing hoisting plug, pipe drive slips, breakout slips.
- Dust deflector hood.
- Two built-in tool boxes with locking handles.
- Six rubber mounted, sealed beam lights. Power supplied by truck electrical system.
- Self-storing driller's platform with removable center section.
- Mud pump wrenches.

RECOMMENDED ADDITIONAL EQUIPMENT

- Drill pipe: 2-3/8" (6 cm.) or 2-7/8" (7.3 cm.) drill pipe in 20 ft. (6.1 m.) lengths.
- Drill pipe rack for 20 ft. lengths with fast slide.
- Tools: Rock bit subs, drilling stabilizers, rotary drill bits.
- 3/8" (9.6 mm.) dia. 6 x 19 hemp center right lay wire rope with 3/8" open socket for bailing drum. (Bailing line drum capacity: 1100 ft. [335 m.].)
- Portable mud pit. Mud mixer and hose.

PRODUCTION OPTIONS

- Gardner-Denver 5-1/2" x 8" (14 x 20.3 cm.)FD-FXX mud pump.
- Portadrill air line lubricator installation:
  - Air powered, positive displacement, electrically phased, piston pump injects lubricant into air line for down-hole-tool.
  - Variable delivery rate — standard setting is 1 qt./hr (.95 l).
  - 7 gallon (26.6 l.) capacity reservoir.
- 7-1/2" (19 cm.) hexagonal opening rotary table with kelly bushing.
  - Optional choice of 7-1/2" hex. to 5" (12.7 cm.) square adapter bushing. For use with light weight breakout slips. 2-3/8" (6 cm.) and 2-7/8" (7.3 cm.) drill pipe with tool joints of 3-7/16" (8.7 cm.) O.D. or less and 3-1/2" (8.9 cm.) flush joint drill pipe.
- Mud pump transmission 4-speed, direct-in-4th.
- 8000 Series Spicer auxiliary transmission (if not supplied with truck chassis).
- 3-part line kelly and hoisting line.

NOTE: These specifications are subject to change without notice.

SMITH PORTADRILL
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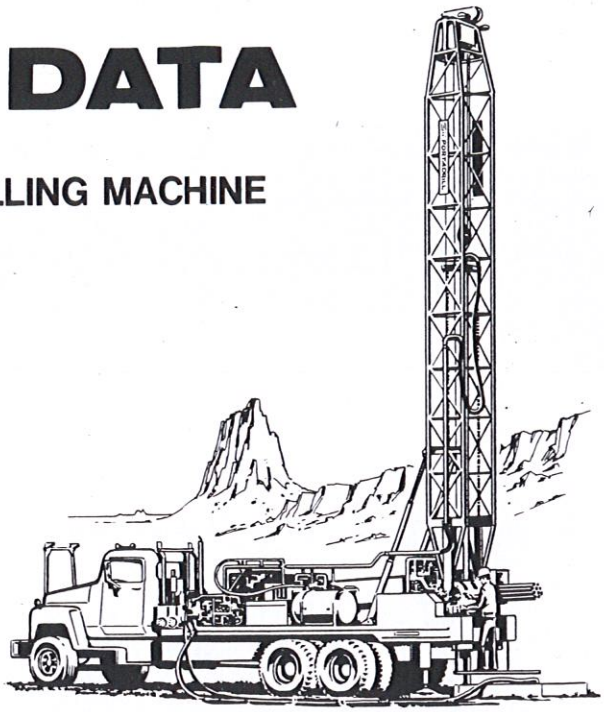
TECHNICAL DATA

PORTADRILL MODEL 524 ROTARY DRILLING MACHINE

DATA SHEET NO.: 524-03165



ROTARY TABLE DRIVE

- Powered through a mechanical 5-speed transmission with reverse. Table speed range of 25 to 275 RPM.
- Spiral bevel ring gear and pinion with tapered roller bearing supports. Totally enclosed in oil bath lubricated case.
- 5" (12 cm.) square opening passes 5" O.D. tools.
- Hydraulically retractable 16 inches (40.6 cm.) to pass 12" (30 cm.) O.D. tools or casing.
- 7,000 ft. lbs. maximum torque.

DRAWWORKS

- Powered through 10 inch (25.4 cm.), 2-plate clutch and spiral bevel ring gear and pinion.
- Double drum hoist for kelly and hoisting lines. Drums are grooved for cable spooling.
- 15,000 lbs. (6750 kg.) bare drum single line pull. (2-part line gives 30,000 lbs. [13500 kg.] pull).
- 18" x 4" (45.7 cm. x 10.2 cm.) cam actuated wrap-around mechanical brakes.
- Hook speed range from 0 to 175 feet (53.3 m.) per minute using 2-part line.
- Two-part 5/8" (16 mm.) 18 x 7 non-rotating hemp center wire rope for both kelly and hoist, each with 8-inch (20.3 cm.) traveling blocks.
- High speed bailing drum is chain driven from main drawworks shaft by a double roller chain. Spools 1100 ft. (335 m.) of 3/8" (9.5 mm.) wire rope at up to 400 ft. (122 m.) per minute. (Wire rope not included as standard equipment.)

POWER TRAIN

- Power transmitted from truck engine and transmission through automotive type auxiliary transmission (8000 Series Spicer) full-torque top mount PTO to rig power divider.
- Power divider with high speed triple roller chain running on heat treated sprockets and shafts in totally enclosed oil bath lubricated aluminum case.
- Power output transferred through end mount clutches with ball bearing throwout collars and universal joint torque tube drive lines to rig components.

AIR SUPPLY

- Standard Air Compressor
  - Atlas Copco DT2, two-stage, two-cylinder, air cooled, double-acting compressor with a capacity of 470 CFM free air delivery (F.A.D.) at 55 psi at 1160 RPM (13.3 cu.m./min. at 3.87 kg./sq. cm. at 1160 RPM); 320 CFM F.A.D. at 125 psi at 825 RPM (9.06 cu. m./min. at 8.79 kg./sq. cm. at 825 RPM).
  - Driven direct from power transfer case through 10" (25.4 cm.) 2-plate disc clutch.
  - Air receiver tank.

WATER INJECTION SYSTEM

- Duplex piston pump connected to air line. Includes flow indicator.
- Hydraulically powered with infinitely variable speed control provides 0 to 8 gpm at 250 psi (30 l. per min. at 17.6 kg./sq. cm.).
- Suction inlet with hammer union for connection to external water supply.

MUD PUMP

- Standard Pump
  - Gardner-Denver 5" x 6" (12.7 cm. x 15.24 cm.) FG-FXG duplex power pump. 150 GPM (570 l.) at 75 spm. 4" x 33 ft. (10.2 cm x 10 m.) suction hose with strainer and hammer union. 2" (5.1 cm.) discharge line and hoses. Shear relief valve. Surge chambers. Oteco oil field type 0-1000 psi (70.3 kg./sq. cm.) pressure gauge. V-belt driven from power divider case through mechanical clutch to pump flywheel.
- Optional Mud Pump
  - Gardner-Denver 5-1/2" x 8" (14 cm. x 20.3 cm.) FD-FXX duplex power pump. 220 GPM (800 l.) at 70 spm. 4" x 33 ft. (10.2 cm. x 10m.) suction hose with strainer and hammer union. 2-1/2" (6.35 cm.) discharge line and hoses. Shear relief valve. Surge chambers. Oteco oil field type 0-100 psi (70.3 kg./sq. cm.) pressure gauge. V-belt driven from power divider case through mechanical clutch to large diameter pump flywheel.

MAST ASSEMBLY

- Electric welded high tensile strength seamless tubular steel construction with two 19" (48.3 cm.) diameter ball bearing mounted crown block sheaves for hoisting and kelly lines.
- Deep box section design: 40,000 lb. (18000 kg.) rated capacity.
- 36 ft. (10.8 m.) clearance above rotary table to centerline of crown block sheaves.
- 24 ft. (7.3 m.) long, 3-1/2" (9 cm.) diameter round slotted kelly with saver sub and bushing.
- Two chrome-plated telescoping hydraulic cylinders raise and lower mast.

SWIVEL

- 2" (5.1 cm.) dia. full opening.
- Single neoprene packing ring with adjustable packing gland.
- Three angular contact ball bearings support pulldown thrust and tool loads. 40,000 lbs. (18000 kg.) rated capacity.
- Heavy cast steel swivel brackets transmit pulldown through coil spring chain connectors.
- 2" (5.1 cm.) high pressure double wire braid hose with swivel joint connects swivel to mast standpipe. Cadmium plated safety chains.

SOLD TO: Teton Exploration Drilling Company 254 North Center Street Casper, Wyoming 82601	DELIVERY DATE 3-27-74	SALES ORDER # 105142 PRODUCTION ORDER # 105190	MODEL 524	SERIAL NO. 524-583

FRAME 10-320 Mod. as shown on SK-137 10-147-B Table Gib 10-380 Rear Platform Assy.	SWIVEL 24-85-A (2 Bearings Up)	CONTROLS INSTALLATION 18-520, 18-434	DRIVE LINE SYSTEM Special See List
	GEAR REDUCER 21-40-1 (Part of 26-70-1) SERIAL # 7313995	PULLDOWN TRANSMISSION 47-155 (4-Speed) SERIAL # 14141	
P.T.O. 14TP (3TA92)	LIGHTING 49-00 (6 Lights)	PULLDOWN INSTALLATION 26-70-1K Jaw Clutch Control with Spring & Detent	HYDRAULIC SYSTEM 19-230-2B 16T271 Hyd. Pump Ser. No. 0070472
CHAIN CASE 11-120-1D	DERRICK 31-36-H (36 ft.) See Note #2	PULLDOWN SHAFT 26-75-1 (Part of 26-70-1K)	16T66-2 Hyd. Pump 16T275-17-DDDDBIT Valve Special G5B Orbit Motor (See 47-155)
TRANSFER CASE/POWER DIVIDER 12-00-5AJ 12-160-A Clutch-Brake 3-4-64 Input Yoke See Note #1	BREAKOUT SLIPS 15-163-A	PULLDOWN CHAIN RC120-1 x 391-1/2 (Part of 26-70-1K)	
	DRIVE SLIPS None	PULLDOWN CABLE 26-21-46 (Part of 26-70-1K)	MUD PUMP TRANSMISSION 23-115-B (5831-D) Ser. # 1460497
DRAW WORKS 14-150 Special 14-00-1A - Use 4389-J Yoke instead of 3-4-24	DRILL PIPE RACK 20 ft. Pipe w/Fast Slide	KELLY LINE Single 31-41-85 Cable TRAVELING BLOCK None	MUD PUMP INSTALLATION 23-131 (5 x 6 Gardner-Denver) 23-106 Companion Flange PUMP SERIAL # 639595
CATHEAD INSTALLATION None	TOOL BOX 29-140		
BAILING HOIST None	AUX. GAS TANK	HOISTING LINE Single 31-41-90 Cable TRAVELING BLOCK None	COMPRESSOR INSTALLATION Model DT4 Atlas-Copco Ser. No. ARP38808 See SK-137 for Drive Details
BAILING HOIST CROWN BLOCK None	HOISTING PLUG 16-195-G (2-3/8 Mayhew Reg.)		
ROTARY TABLE 15-00-2 SERIAL # 38348-1 DUST GUARD See 43-49-A	KELLY BAR 29-212-23-1/2 with 29-213 Adapter (3-1/2" Rnd. x 24 ft.)	MUD LINE INSTALLATION 23-105 Modified See Sales Order & Sketch	BLOWER/DUST CONTROL SYSTEM 43-49-A Deflector Assy.
	KELLY SUB 29-218 (2-7/8 W-W Mod. x 2-3/8 Mayhew Reg.)	MUD INTAKE HOSE Special - 4" Pipe to rear, 41-25-4 Union, 41-18-15 Hose, 41-06 Screen	
ROTARY TABLE TRANSMISSION 27T20-2 (Direct in 5th) SERIAL #	KELLY BUSHING 15-180-1 Spec. See Note #3	SWIVEL HOSE 34-15-177 PIVOT HOSE 34-15-46	
BREAKOUT TONG 16-59-C 3-1/4 O.D. Tool Joints, Mount 2" above std position	JACKS 32T205-D (30") (2) 32T205-B (24") R.H. Jack - Inboard Mount	AIR LINE INSTALLATION 43-[illegible]0-1-24 See Note #4	CHAIN IDLER ASSEMBLY 21-15 (Part of 26-70-1K)

SOLD TO: Teton Exploration Drilling Company 254 North Center Street Casper, Wyoming 82601	DELIVERY DATE 3-27-74	SALES ORDER # 105142 PRODUCTION ORDER # 105190	MODEL 524	SERIAL NO. 524-583

FRAME 10-320 Mod. as shown on SK-137 10-147-B Table Gib 10-380 Rear Platform Assy.	SWIVEL 24-85-A (2 Bearings Up)	CONTROLS INSTALLATION 18-520, 18-434	DRIVE LINE SYSTEM Special See List
	GEAR REDUCER 21-40-1 (Part of 26-70-1) SERIAL # 7313995	PULLDOWN TRANSMISSION 47-155 (4-Speed) SERIAL # 14141	
P.T.O. 14TP (3TA92)	LIGHTING 49-00 (6 Lights)	PULLDOWN INSTALLATION 26-70-1K Jaw Clutch Control with Spring & Detent	HYDRAULIC SYSTEM 19-230-2B 16T271 Hyd. Pump Ser. No. 0070472
CHAIN CASE 11-120-1D	DERRICK 31-36-H (36 ft.) See Note #2	PULLDOWN SHAFT 26-75-1 (Part of 26-70-1K)	16T66-2 Hyd. Pump 16T275-17-DDDDBIT Valve Special G5B Orbit Motor (See 47-155)
TRANSFER CASE/POWER DIVIDER 12-00-5AJ 12-160-A Clutch-Brake 3-4-64 Input Yoke See Note #1	BREAKOUT SLIPS 15-163-A	PULLDOWN CHAIN RC120-1 x 391-1/2 (Part of 26-70-1K)	
	DRIVE SLIPS None	PULLDOWN CABLE 26-21-46 (Part of 26-70-1K)	MUD PUMP TRANSMISSION 23-115-B (5831-D) Ser. # 1460497
DRAW WORKS 14-150 Special 14-00-1A - Use 4389-J Yoke instead of 3-4-24	DRILL PIPE RACK 20 ft. Pipe w/Fast Slide	KELLY LINE Single 31-41-85 Cable TRAVELING BLOCK None	MUD PUMP INSTALLATION 23-131 (5 x 6 Gardner-Denver) 23-106 Companion Flange PUMP SERIAL # 639595
CATHEAD INSTALLATION None	TOOL BOX 29-140		
BAILING HOIST None	AUX. GAS TANK	HOISTING LINE Single 31-41-90 Cable TRAVELING BLOCK None	COMPRESSOR INSTALLATION Model DT4 Atlas-Copco Ser. No. ARP38808 See SK-137 for Drive Details
BAILING HOIST CROWN BLOCK None	HOISTING PLUG 16-195-G (2-3/8 Mayhew Reg.)		
ROTARY TABLE 15-00-2 SERIAL # 38348-1 DUST GUARD See 43-49-A	KELLY BAR 29-212-23-1/2 with 29-213 Adapter (3-1/2" Rnd. x 24 ft.)	MUD LINE INSTALLATION 23-105 Modified See Sales Order & Sketch	BLOWER/DUST CONTROL SYSTEM 43-49-A Deflector Assy.
	KELLY SUB 29-218 (2-7/8 W-W Mod. x 2-3/8 Mayhew Reg.)	MUD INTAKE HOSE Special - 4" Pipe to rear, 41-25-4 Union, 41-18-15 Hose, 41-06 Screen	
ROTARY TABLE TRANSMISSION 27T20-2 (Direct in 5th) SERIAL #	KELLY BUSHING 15-180-1 Spec. See Note #3	SWIVEL HOSE 34-15-177 PIVOT HOSE 34-15-46	
BREAKOUT TONG 16-59-C 5-1/4 O.D. Tc ' Joints, Mount " above std)osition	JACKS 32T205-D (30") (2) 32T205-B (24") R.H. Jack - Inboard Mount	AIR LINE INSTALLATION 43-)-1-24 Se)Note #4	CHAIN IDLER ASSEMBLY 21-15 (Part of 26-70-1K)

SOLD TO: Teton Exploration Drilling Company 254 North Center Street Casper, Wyoming 82601	DELIVERY DATE 3-27-74	SALES ORDER # 105142 PRODUCTION ORDER # 105190	MODEL 524	SERIAL NO. 524-583

FRAME 10-320 Mod. as shown on SK-137 10-147-B Table Gib 10-380 Rear Platform Assy.	SWIVEL 24-85-A (2 Bearings Up)	CONTROLS INSTALLATION 18-520, 18-434	DRIVE LINE SYSTEM Special See List
P.T.O. 14TP (3TA92)	GEAR REDUCER 21-40-1 (Part of 26-70-1) SERIAL # 7313995	PULLDOWN TRANSMISSION 47-155 (4-Speed) SERIAL # 14141	
CHAIN CASE 11-120-1D	LIGHTING 49-00 (6 Lights)	PULLDOWN INSTALLATION 26-70-1K Jaw Clutch Control with Spring & Detent	HYDRAULIC SYSTEM 19-230-2B 16T271 Hyd. Pump Ser. No. 0070472
TRANSFER CASE/POWER DIVIDER 12-00-5AJ 12-160-A Clutch-Brake 3-4-64 Input Yoke See Note #1	DERRICK 31-36-H (36 ft.) See Note #2	PULLDOWN SHAFT 26-75-1 (Part of 26-70-1K)	16T66-2 Hyd. Pump 16T275-17-DDDDBIT Valve Special G5B Orbit Motor (See 47-155)
	BREAKOUT SLIPS 15-163-A	PULLDOWN CHAIN RC120-1 x 391-1/2 (Part of 26-70-1K)	
	DRIVE SLIPS None	PULLDOWN CABLE 26-21-46 (Part of 26-70-1K)	MUD PUMP TRANSMISSION 23-115-B (5831-D) Ser. # 1460497
DRAW WORKS 14-150 Special 14-00-1A - Use 4389-J Yoke instead of 3-4-24	DRILL PIPE RACK 20 ft. Pipe w/Fast Slide	KELLY LINE Single 31-41-85 Cable TRAVELING BLOCK None	MUD PUMP INSTALLATION 23-131 (5 x 6 Gardner-Denver) 23-106 Companion Flange PUMP SERIAL # 639595
CATHEAD INSTALLATION None	TOOL BOX 29-140		
BAILING HOIST None	AUX. GAS TANK	HOISTING LINE Single 31-41-90 Cable TRAVELING BLOCK None	COMPRESSOR INSTALLATION Model DT4 Atlas-Copco Ser. No. ARP38808 See SK-137 for Drive Details
BAILING HOIST CROWN BLOCK None	HOISTING PLUG 16-195-G (2-3/8 Mayhew Reg.)		
ROTARY TABLE 15-00-2 SERIAL # 38348-1 DUST GUARD See 43-49-A	KELLY BAR 29-212-23-1/2 with 29-213 Adapter (3-1/2" Rnd. x 24 ft.)	MUD LINE INSTALLATION 23-105 Modified See Sales Order & Sketch	BLOWER/DUST CONTROL SYSTEM 43-49-A Deflector Assy.
	KELLY SUB 29-218 (2-7/8 W-W Mod. x 2-3/8 Mayhew Reg.)	MUD INTAKE HOSE Special - 4" Pipe to rear, 41-25-4 Union, 41-18-15 Hose, 41-06 Screen	
ROTARY TABLE TRANSMISSION 27T20-2 (Direct in 5th) SERIAL #	KELLY BUSHING 15-180-1 Spec. See Note #3	SWIVEL HOSE 34-15-177 PIVOT HOSE 34-15-46	
BREAKOUT TONG 16-59-C -1/4 O.D. Tool Joints, Mount " above std position	JACKS 32T205-D (30") (2) 32T205-B (24") R.H. Jack - Inboard Mount	AIR LINE INSTALLATION 43-[illegible]-1-24 See Note #4	CHAIN IDLER ASSEMBLY 21-15 (Part of 26-70-1K)

MOUNTING MAKE	MODEL	YEAR	WHEELBASE TREAD WIDTH	SERIAL NUMBER
Autocar	KK-9364-F		150 CA	AF-003HB0-74050 (Truck supplied by Customer)

ENGINE	ENGINE SERIAL NUMBER	MAIN TRANSMISSION	AUX. TRANSMISSION

TIRES Front - General, 15.0 x 22.5, (1) Ser. #AA31BEB332, (1) Ser. #AA31BEB053
Rear - Uniroyal, 10.00 x 20, (6) Ser. #AK2JUC493, (2) Ser. #AK2JUC463

NOTE #1: Main Trans. in Direct for rig operation. Engine at 1800 RPM for 930 RPM at Compressor. Engine at 1700 RPM with Pump Trans. in Low for 74 Strokes/Min. at Mud Pump.

NOTE #2: Crown Block set for single lines. Extra long swivel pan installed. 3/8" pipe in L.H. side of mast for wiring conduit. Kelly guides per customer's instructions.

NOTE #3: 15-153 Retainer Plate & 3" High Steel Hand Ring used instead of 20T47-3-5/8.

NOTE #4: XH Pipe on Stand Pipe. 26T65-2 Lubricator installed. Tee & Fig. 173, 2" Plugaroo venting valve in air line.

PAINT: Rig - Brewster Green, Ditzler #DQE-41344

Cab - Seafoam Green, Ditzler #DQE 41269

MOUNTING MAKE	MODEL	YEAR	WHEELBASE TREAD WIDTH	SERIAL NUMBER
Autocar	KK-9364-F		150 CA	AF-003HBO-74050 (Truck supplied by Customer)

ENGINE	ENGINE SERIAL NUMBER	MAIN TRANSMISSION	AUX. TRANSMISSION

TIRES Front - General, 15.0 x 22.5, (1) Ser. #AA31BEB332, (1) Ser. #AA31BEB053
Rear - Uniroyal, 10.00 x 20, (6) Ser. #AK2JUC493, (2) Ser. #AK2JUC463

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PAINT: Rig - Brewster Green, Ditzler #DQE-41344

Cab - Seafoam Green, Ditzler #DQE 41269

[redacted]

MOUNTING MAKE	MODEL	YEAR	WHEELBASE TREAD WIDTH	SERIAL NUMBER
Autocar	KK-9364-F		150 CA	AF-003HB0-74050 (Truck supplied by Customer)

ENGINE	ENGINE SERIAL NUMBER	MAIN TRANSMISSION	AUX. TRANSMISSION

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PAINT: Rig - Brewster Green, Ditzler #DQE-41344

Cab - Seafoam Green, Ditzler #DQE 41269

SPECIFICATIONS AND FEATURES

RATED CAPACITY	**524-1**	Maximum recommended static drill string load 15,000 lbs. (6800 kg) Includes drill pipe, drill collars, etc. Maximum permissible hook load under infrequent operating conditions, 30,000 lbs. (13 600 kg)
	524-2	Maximum recommended static drill string load 20,000 lbs. (9000 kg). Includes drill pipe, drill collars, etc. Maximum permissible hook load under infrequent operating conditions 40,000 lbs. (18 000 kg)
	Note: Operation in excess of these limits may result in equipment damage and injury to personnel.	
POWER TRAIN	**Power Take Off**	Gear driven, split shaft, full torque
	Power Divider	Chain drive case with heat treated sprockets, totally enclosed oil bath
ROTARY TABLE	**524-1**	Mechanical power, 5" (127 mm) opening • Spiral bevel gear drive • Speed 25 to 225 rpm Torque 7,000 ft. lbs. (968 kg-m) maximum Hydraulic retraction provides 12¾" (324 mm) clear opening
	524-2	Mechanical power, 7½" (190 mm) opening • Spiral bevel gear drive • Speed 20 to 175 rpm Torque 14,600 ft. lbs. (2018 kg-m) maximum Hydraulic retraction provides 16" (406 mm) clear opening
DRAWWORKS	**Power System**	10" (254 mm) 2-plate clutch and spiral bevel ring gear and pinion
	Single Line Pull	15,000 lbs. (6800 kg) bare drum
	Main Drums	8½" (216 mm) dia. x 6⅝" (168 mm) long
	Sand Line Drum	Capacity 1100' (335 m) ⅜" (9.5 mm) line • Drum size 5⅝" (143 mm) dia. x 15½" (394 mm) long
	Hook Speed	**524-1** Main drums, 175' (53.3 m) per minute, 2-part line
		524-2 Main drums, 120' (36 m) per minute, 3-part line
	Line Speed	Sand line drum, to 400' (122 m) per minute
	Brakes	Main drums, 18" (457 mm) x 4" (102 mm) • Sand line drum, 15" (381 mm) x 3" (76 mm)
MAST	**Length**	38' (11.6 m)
	Capacity	40,000 lbs. (18 140 kg)
	Crown Block	**524-1** Two 19" (483 mm) dia. sheaves for 2-part line
		524-2 Two 19" (483 mm) and two 13" (330 mm) dia. sheaves for 3-part line Two 7¾" (197 mm) dia. sheaves for sand line
	Mast Raising	Twin, double acting, chromium plated telescopic hydraulic cylinders
	Kelly Bar	**524-1** 3½" (89 mm) dia. x 24' (7.3 m) long • Slotted type with saver sub
		524-2 4½" (114 mm) dia. x 24' (7.3 m) long • Slotted type with saver sub
	Swivel	2" (51 mm) water course • Ring type packing • Three angular contact ball bearings Capacity 40,000 lbs. (18 140 kg) at 100 rpm • Optional 2¼" swivel
TRAVELING BLOCKS	8" (203 mm) single sheave • 20,000 lbs. (9070 kg) capacity	
MUD PUMP	**524-1**	5" x 6" (127 mm x 152 mm) • FG-FXG, 150 gpm (570 L/min) at 75 spm, 310 psi (21.8 kg/cm²)
	524-2	5½" x 8" (140 mm x 203 mm) • FD-FXX, 22 gpm (840 L/min) at 70 spm, 338 psi (23.7 kg/cm²)
	Drive	V-belt, 2-plate 10" (254 mm) mechanical clutch
	Discharge	**524-1** 2" (51 mm) pipe and hoses, surge chambers, pressure gauge, manifold valves
		524-2 2½" (63.5 mm) pipe and hoses, surge chambers, pressure gauge, manifold valves
AIR COMPRESSOR		Two-cylinder, air cooled, two-stage, double acting
	Capacity	470 cfm at 55 psi (13.3 m³/min at 8.8 kg/cm²)
		320 cfm at 125 psi (9.1 m³/min at 8.8 kg/cm²)
	Drive	Direct from power divider through 10" (254 mm) 2-plate clutch
WATER INJECTION	Duplex piston pump, hydraulically powered, variable to 8 gpm (30 L/min)	
	Optional	Triplex piston pump, hydraulically powered, variable to 20 gpm (76 L/min) Foam injection pump, electrically driven and metered
AIR LINE LUBRICATOR	**Optional**	Air powered, positive displacement, electrically phased with variable delivery • Reservoir capacity, 7 gallons (26.5 liters)
PULLDOWN	Hydraulically powered through 2-speed transmission • Weight adjustable to 20,000 lbs. (9070 kg) Variable speed control to 5.6' (1.7 m) per minute • 1½" (38 mm) pitch roller chains feed full kelly length	
BREAK OUT	3-jaw tong with replaceable dies • Shock hammer mounting • Break-out slips, lug or fork type	
	Size Ranges	Standard jaws, 2⅜" to 3½" (60 mm to 89 mm) diameters • Optional jaws to 6 ⅛" (155 mm)
LEVELING JACKS	Hydraulic, one 48" (122 cm) stroke front, two 24" (61 cm) stroke rear, integral pilot checks	
MOUNTING	Truck of suitable capacity with diesel engine of approximately 200 BHP rating at 2800 rpm. (Varies depending on optional equipment)	
	Optional	Tandem axle trailer

(Continuing technological advancements and product improvements make dimensions and specifications subject to change without notice)

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