



DECLARATION OF COMPLIANCE

FACILITY ADDRESS: 743 N. ECKHOFF ST., ORANGE CA 92868 USA

PRODUCT DESCRIPTION: PS2-500A Top Drive

PRODUCT NUMBER: 10863145-001 (Mfg. Date 4/15/2014)

PRODUCT SERIAL NUMBER: PS2-294C

SPECIFICATION: API Specification 8C

The product described herein has been manufactured in accordance with National Oilwell Varco's (NOV) standard practices and in accordance with NOV quality management system. This system is designed to assure that all units and parts shipped from NOV are subject to adequate control of quality to ensure safety, performance, and reliability.

The product listed herein complies with all contract requirements and the specifications listed above and meets all established NOV procedures and specifications in the procurement of material, manufacturing, assembly operations and testing, as applicable. For the avoidance of doubt, this declaration shall serve as NOV's certificate of compliance or certificate of conformance.

A handwritten signature in black ink, appearing to read 'Daniel Silva', written over a horizontal line.

National Oilwell Varco Representative

3/15/2019

Date

PS2-294C

Certificate Identification

REVISIONS					
LTR	DESCRIPTION	PREPARED / DATE	CHECKED/ DATE	APVD / DATE	
01	INITIAL RELEASE	G. CAREY 11/7/13	P.W. WILLIAMS 11/21/13	P.W. WILLIAMS	11/21/13
05	SEE EN FORM	H. GOMEZ 28-JUL-14	J.L. RHONE 28-JUL-14	J.L. RHONE	28-JUL-14

STANDARD ORDER INFORMATION

SHIPMENT DATE: **12/12/2013**
 PRE-SHIP: **None**
 RIG TYPE: **Other**
 INSTALLATION LOCATION: **Mexico**
 OPERATION LOCATION: **Mexico**
 RELATED CONFIGS: **N/A**
 SALES ORDER #: **172408**
 PO #: **4700245428**
 QUOTE # & REV: **167785 Rev 4**
 SPARES QUOTE #: **N/A**
 UNIT #: **TBD**
 SERIAL #: **PS2-294C**
 ITEM ID #: **TBD**
 ENGINEERING JOB #: **3396**

QUALITY REQUIREMENTS


CERTIFICATION: **N/A**
 DATA BOOK: **Yes**

CONTACT NOTES

CUSTOMER: **Robert Koenning**
 Tel: **281-637-6862**
 E-mail: **rkoenning@noblecorp.com**
 PROJECT MANAGER: **N/A**
 SYSTEM INTEGRATION: **N/A**
 CONTRACT ADMINISTRATOR: **Joyce Guilford**
 SALES: **Justin Saski**
 RESPONSIBLE ENGINEER: **Paul Williams**
 ELECTRICAL ENGINEER: **Scott McCall**
 PLANNER: **Susan Gissel**


APPLICATION NOTES:

- 1) GE752AUT DC Series Drilling Motor
- 2) Open Loop Cooling
- 3) Guide Dolly (39x66, W14x74)
- 4) Deublin Wash Pipe
- 5) External Lube Package

	CUSTOMER CONFIGURATION	Sheet 1 of 6	REVISION	<i>Customer:</i>	Noble Drilling Gene Rosser PS2-500A
		DOCUMENT NUMBER 10741773-GEN	05	<i>Rig:</i> <i>Equipment:</i>	

PART NUMBER	QTY			DESCRIPTION
	S/O	-001	-002	


"◇" INITIAL UNDEFINED PART NUMBERS: REFERENCE ONLY				

	CUSTOMER CONFIGURATION	Sheet 2 of 6	REVISION	<i>Customer:</i>	Noble Drilling Gene Rosser PS2-500A
		DOCUMENT NUMBER 10741773-GEN	05	<i>Rig:</i> <i>Equipment:</i>	

PART NUMBER	QTY			DESCRIPTION
	S/O	-001	-002	

TOP DRIVE SYSTEM				
10741773-001	1			DRILLING SYSTEM, PS2-500A
10863145-001		1		DRILLING UNIT ASSEMBLY, PS2-500A DC SERIES OLCS
2034653-501		1		TRAVELING BEAM ASSEMBLY 500 TON
2034116		1		LINKS, MAIN 750T x 159" (PAIR)
2034134		2		COUNTERBALANCE ASSEMBLY
2031679		1		INSTALLATION, LINK CLOSURE SPRING
2033322		2		CLAMP ASSEMBLY, 350T LINK
2028552		2		CYLINDER, ASSEMBLY LINK TILT/DRILLDOWN
2028555		2		GUIDE, CYLINDER LINK TILT
2031389		3		CLAMP ASSEMBLY, 9-1/2" DIA.
2032081		3		CLAMP ASSEMBLY, 7-3/8" DIA.
2027237		1		CLAMP ASSEMBLY, 8-3/4" DIA.
2034650		1		PNEUMATICS, COUNTERBALANCE CONTROL
2031485		1		SPLINE RING ASSEMBLY 9-1/4"
2033113		1		ASSEMBLY, RESTRAINT, GRABS SUPPORT

CONTROL SYSTEM				
2033265		1		INTERLOCK, DRAWWORKS/GRABS CONTROL
10797972-001		1		TD CONTROL CONSOLE
10799077-001		1		TRANSFER PANEL
11003758-001		1		KIT, PS2 LUBE PUMP CONTROL

	CUSTOMER CONFIGURATION	Sheet 3 of 6	REVISION	<i>Customer:</i>	Noble Drilling Gene Rosser PS2-500A
		DOCUMENT NUMBER	10741773-GEN	05	


PART NUMBER	QTY			DESCRIPTION
	S/O	-001	-002	

SERVICE LOOP AND DERRICK TERMINATION				
2034270		1		INSTALLATION, SERVICE LOOP SUPPORT
10792820-001		1		DERRICK JUNCTION BOX FOR SERIES MOTOR

ACCESSORIES / SPECIAL ITEMS				
P611000038	1			3" DEUBLIN WASHPIPE, ROTARY UNION


SPARES				
X20-1723		1		SPARES KIT, INSTALLATION TOP DRIVE

MANUALS, CERTIFICATION, AND DOCUMENTATION				
10741773-998	1			NOV DATA BOOK W/3 rd PARTY REVIEW: PS2-500A W/ACCESSORIES
10742206-001	4			USER'S MANUAL, ELECTRONIC COPY

	CUSTOMER CONFIGURATION	Sheet 4 of 6	REVISION	<i>Customer:</i>	Noble Drilling Gene Rosser PS2-500A
		DOCUMENT NUMBER	10741773-GEN	05	


PART NUMBER	QTY			DESCRIPTION
	S/O	-001	-002	

REFERENCE DRAWINGS				
10874732-LAY		REF		INSTALLATION DRAWING, PS2-500A
X20-1846		REF		OUTLINE/GENERAL ARRANGEMENT DRAWING
10742206-SPL		REF		RECOMMENDED SPARES (MECHANICAL)
10803684-SPL		REF		RECOMMENDED SPARES (ELECTRICAL) (S.H.P Engineering)
10803386-DIA		REF		PS2-500A TOP DRIVE TERMINATION DRAWING (S.H.P Engineering)
10803606-IDX		REF		PS2-500A TOP DRIVE CABLE INDEX (S.H.P Engineering)
10803307-DIA		REF		PS2-500A TOP DRIVE SYSTEM BLOCK DIAGRAM (S.H.P Engineering)
10079550-001		REF		SOLENOID JUNCTION BOX (10863145) (S.H.P Engineering)
10816410-IDX		REF		HAZARDOUS AREA INDEX
10819700-IDX		REF		I/O MAP PS2-500A
10792820-ASM		REF		ASSY DERRICK J BOX
2028549		REF		PNEUMATIC ASSEMBLY SCHEMATIC
X20-1783		REF		OUTLINE, AIR PRESSURE BOOSTER
X20-1684		REF		HANGOFF DETAILS 3X3 SERVICE LOOP
X20-1683		REF		MOUNTING INSTRUCTIONS COUNTER BALANCE CONTROLS
X20-1778		REF		OUTLINE, INTERLOCK DWK/GRABS CONTROL
X20-1761		REF		OUTLINE, VOLUME BOOSTER
PS-3021		REF		TOP DRIVE FUNCTION TESTING (FAT PROCEDURE)
PS-3070		REF		GOOSENECK SUPPORT ALIGNMENT
PS-3037		REF		HYDROSTATIC TEST PROCEDURE
D611000042		REF		TOP DRIVE ASSEMBLY INSPECTION REPORT
D614000038		REF		SHAFT ASSEMBLY PROCEDURE
D611000041		REF		FUNCTION TEST RECORD (FAT REPORT)
30183841		REF		TOP DRIVE RUN TEST RECORD
X20-1875		REF		LIFTING ARRANGEMENT, PS2-500A

	CUSTOMER CONFIGURATION	Sheet 5 of 6	REVISION	<i>Customer:</i>	Noble Drilling Gene Rosser PS2-500A
		DOCUMENT NUMBER	10741773-GEN	05	

PART NUMBER	QTY			DESCRIPTION
	S/O	-001	-002	

10741773-PLN		REF		QUALITY PLAN
10742210-MAN		REF		SERVICE MANUAL
10742206-DOS		REF		TECHNICAL DRAWING PACKAGE

	CUSTOMER CONFIGURATION	Sheet 6 of 6	REVISION	<i>Customer:</i>	Noble Drilling Gene Rosser PS2-500A
		DOCUMENT NUMBER 10741773-GEN	05	<i>Rig:</i> <i>Equipment:</i>	

REVISIONS				
REV	DESCRIPTION	PREPARED / DATE	CHECKED/ DATE	APVD / DATE
01	INITIAL RELEASE	D. Campbell 11/18/13	K. Daw 11/18/13	K. Daw 11/18/13
04	SEE EN	D. Campbell 03/10/15	D. Silvar 03/10/15	D. Silvar 03/10/15

STANDARD ORDER INFORMATION

SHIPMENT DATE: **12/12/2013**
 PRE-SHIP: **None**
 RIG TYPE: **Other**
 INSTALLATION LOCATION: **Mexico**
 OPERATION LOCATION: **Mexico**
 RELATED CONFIGS: **10741773-GEN**
 SALES ORDER #: **172408**
 PO #: **219309**
 QUOTE # & REV: **167785 Rev 4**
 SPARES QUOTE #: **N/A**
 UNIT #: **TBD**
 SERIAL #: **PS2-294C**

QUALITY REQUIREMENTS


CERTIFICATION: **N/A**
 MANUFACTURING RECORD BOOK: **STANDARD MRB**

CONTACT NOTES

CUSTOMER: **Robert Koenning**
 Tel: **281-637-6862**
 E-mail: **rkoenning@noblecorp.com**
 PROJECT MANAGER: **-**
 SYSTEM INTEGRATION: **-**
 CONTRACT ADMINISTRATOR: **Joyce Guilford**
 SALES: **Justin Saski**
 RESPONSIBLE ENGINEER: **Paul Williams**
 ELECTRICAL ENGINEER: **Scott McCall**

QUALITY NOTES:

1. **Notice to customer prior to CAT. Be advised of (W) point in the quality plan**

	QUALITY PLAN	Sheet 1 of 6	REVISION	<i>Customer:</i>	Noble Drilling
		DOCUMENT NUMBER 10741773-PLN	04	<i>Rig:</i>	Gene Rosser
				<i>Equipment:</i>	PS2-500A

QUALITY PLAN

National Oilwell Varco (NOV) is ISO 9000:2000 certified. NOV Quality and Manufacturing processes and procedures are maintained and audited to ISO 9000 requirements. The purpose of this quality plan is to identify witness and review points for customer and certification authority.

QUALITY PLAN DEFINITIONS:

H = HOLD POINT:

An activity or document subject to the approval of the inspection party. Production or operations may not proceed until the hold point is approved or waived in writing. NOV will notify the inspection party at least 48 hours before hold point activity, unless other notice has been agreed to.

W = WITNESS POINT:

An activity or document that the inspection party may elect to review at time of activity. Provided proper notification has been given, production and operations may proceed without approval or waiver if the witness fails to appear at the designated time and place. If and when possible, an opportunity to review the activity or document will be presented at a later date. NOV will notify the inspection party at least 48 hours before witness point activity, unless other notice has been agreed to.

R = REVIEW POINT:

An activity or document that the inspection party may review during other activities. Production or operations may proceed with the opportunity of allowing verification of the activity or document at a later date. NOV will not provide notification of review point activities unless previously agreed with the inspection party.

An "R" in the NOV column means a verification document must be reviewed by a qualified NOV representative.

M = MONITOR POINT:

An activity that the inspection party may monitor at his discretion during its progress. Production or operations may proceed without approval or waiver from the inspection party. NOV will not provide notification of monitor activity unless previously agreed with the inspection party.

P = PERFORMANCE POINT

Performance of the specified quality activity shall be carried out by qualified, authorized NOV personnel.

MRB= MANUFACTURING RECORD BOOK

Verification document is placed in MRB


INSPECTION PARTIES:

NOV = NOV personnel designated for inspection activity cited.

SV = NOV Sub-Vendors involved in supplying materials for tool cited.

CUST = Customer or their designated representative.

CA = Certification Authority involved as designated in Customer Order.

	QUALITY PLAN	Sheet 2 of 6 DOCUMENT NUMBER 10741773-PLN	REVISION 04	<i>Customer:</i> <i>Rig:</i> <i>Equipment:</i>	Noble Drilling Gene Rosser PS2-500A
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QUALITY PLAN


1. MANUFACTURING PROCEDURES

When required by the product being manufactured, the following documents shall be provided in the MRBs, and/or made available to the certifying authority for review:

- 1.1 **WELDING PROCEDURES** - Welding Procedure Specification(s) (WPS) used to produce traceable weldments, as specified in PPI00001 and the applicable traveler.
- 1.2 **WELDER QUALIFICATION RECORDS** - Welder Qualification Record(s) (WQS) for personnel performing welding on traceable weldments as specified in the Welder Qualification Index and the applicable traveler.
- 1.3 **NDT PROCEDURES** - Applicable NDT procedures used to inspect traceable components:
MS00005, Quality Requirements for Steel Weldments
NDE00002, Procedure Manual for Magnetic Particle Examination
NDE00006, Procedure Specification for Liquid Penetrant Examination
RT-1003, Procedure for Ultrasonic Examination (General Electric)
Procedure for Radiographic Examination (subcontractor)
- 1.4 **NDT OPERATOR QUALIFICATION RECORDS** - NDT operator qualification records for personnel performing inspection on traceable weldments as specified in the applicable traveler.

2. DESIGN APPRAISALS


When required by the customer configuration, design appraisals shall be submitted to the appropriate certifying authority for their approval. Design approval letters shall be included in the applicable MRB(s).

	QUALITY PLAN	Sheet 3 of 6 DOCUMENT NUMBER 10741773-PLN	REVISION 04	<i>Customer:</i> <i>Rig:</i> <i>Equipment:</i>	Noble Drilling Gene Rosser PS2-500A
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ACTIVITY NO.	CLP	ORACLE #	LEGACY #	DESCRIPTION	ACTIVITY	VERIFICATION DOCUMENTATION	MRB DOC REQ'D	NOV INSP REQMTS		EXTERNAL INSP REQMTS	
								NOV	SV	CUST	CA

**3. 10741773-001, ASSEMBLY, PS2-500A (GE752AUT DC SERIES DRILLING MOTOR)
10863145-001, DRILLING UNIT ASSEMBLY, PS2-500A, DC SERIES OLCS**

3.1		10382821-001	7812629	GE 752 Motor	Supplier test report	Material certificates	✓	R	P		
3.2	X	10451342-001	2028500	Gearbox – Handling Ring Assembly	Traceability Required		✓				
3.2.1	X	10451340-001	2028498	Gearbox Assembly	Traceability Required		✓				
3.2.1.1	X	10862453-001	2034103	Gearbox, Machining	Load test and mag particle inspect after machining	TS00152	✓	P	P		
3.2.1.2	X	10451337-001	2028495	Sleeve, Housing Beam	Verify material certificates per drawing	Material certificates	✓	R	P		
3.2.1.3	X	10451436-001	2028634	Drive Stem, Machining	Mag Particle Inspection after machining	TS00168	✓	P			
3.2.2	X	10451341-001	2028499	Handling Ring – Complete	Traceability Required						
3.2.2.1	X	10451330-001	2028472	Handling Ring, Machined	Load test and mag particle inspect after machining	TS00152	✓	P			
3.2.3	X	10451315-001	2028323	Ring, Shear	Mag Particle Inspection after machining	TS00168	✓	P			
3.2.4	X	10451316-001	2028324	Ring, Elevator	Mag Particle Inspection after machining	TS00168	✓	P			
3.2.5	X	10361648-001	2033229	Gooseneck Assembly	Traceability Required						
3.2.5.1	X	10451435-001	2028633	Gooseneck, Machined	Hydrostatic pressure test and mag particle inspect after machining	Material certificates	✓		P		
3.2.5.1.a		10361640-001	2033210P	Gooseneck Casting	Radiograph Welds per drawing & verify material certificates	Material certificates	✓	R	P		
3.2.5.2	X	10383167-001	655529	Hub, Blind (Grayloc)	Verify material certificates per drawing	Material certificates	✓	R	P		
3.2.5.3	X	10383168-001	655530	Clamp, Size 4 (Grayloc)	Verify material certificates per drawing	Material certificates	✓	R	P		
3.5	X	10385391-001	7800004	Accumulator, 5 gal	Verify test report	Supplier test report	✓	R	P		

	QUALITY PLAN	Sheet 4 of 6 <small>DOCUMENT NUMBER</small> 10741773-PLN	<small>REVISION</small> 04	<i>Customer:</i> Noble Drilling <i>Rig:</i> Gene Rosser <i>Equipment:</i> PS2-500A

ACTIVITY NO.	CLP	ORACLE #	LEGACY #	DESCRIPTION	ACTIVITY	VERIFICATION DOCUMENTATION	MRB DOC REQ'D	NOV INSP REQMS		EXTERNAL INSP REQMS	
								NOV	SV	CUST	CA


3.6	X	10361643-001	2033214	L-Pipe Assembly	Traceability Required						
3.6.1	X	10361642-001	2033213	L-Pipe, Weldment	Hydrostatic pressure test and mag particle inspect after machining	TS00162	✓	P			
3.6.1.1					Radiograph Welds per drawing and ASME V	NDE Report	✓	R	P		
3.6.1.1.a	X	10361641-001	2033213	L-Pipe, Purchased	Verify material certificates per drawing	Material certificates	✓	R	P		
3.6.2	X	10038888-001	354677	Sub; Male; Dia 4 in; 1002	Verify material certificates per drawing	Material certificates	✓	R	P		
3.7	X	10856769-001	2028163-501	IBOP Valve Stack							
3.7.1	X	10675315-001	n/a	IBOP, Upper	Hydrostatic pressure test and mag particle inspect after machining	Material certificates	✓	P			
3.7.1.1	X				Verify material certificates per drawing	Material certificates	✓	R	P		
3.7.2	X	10675316-001	n/a	IBOP, Lower	Hydrostatic pressure test and mag particle inspect after machining	Material certificates	✓	P			
3.7.2.1					Verify material certificates per drawing	Material certificates	✓	R	P		

4. TRAVELING BEAM ASSEMBLY 500 TON

4.1	X	10451638-002	2034653-501	Traveling Beam Assy.	Verify material certificates per drawing	Material certificates	✓	R	P		
4.1.1	X	10474649-001	X20-1927	Modification Primary Traveling Beam, Machining	Mag particle inspect after machining	TS00168 or vendor supplied test record	✓	P	P		

5. MAIN LINKS, 750T x 159" (PAIR)

5.1	X	10362464-001	2034116	Main Links	Load test and mag particle inspect	TS00167	✓	R	P		
5.1.1					Verify material certificates per drawing	Material certificates	✓	R	P		

	QUALITY PLAN	Sheet 5 of 6	REVISION	<i>Customer:</i>	Noble Drilling Gene Rosser PS2-500A
		DOCUMENT NUMBER	04	<i>Rig:</i>	
		10741773-PLN		<i>Equipment:</i>	

ACTIVITY NO.	CLP	ORACLE #	LEGACY #	DESCRIPTION	ACTIVITY	VERIFICATION DOCUMENTATION	MRB DOC REQ'D	NOV INSP REQMTS		EXTERNAL INSP REQMTS	
								NOV	SV	CUST	CA

6. ACCESSORIES/SPECIAL ITEMS


6.1		10451241-001	2028042	Crossover, Body	Verify material certificates per drawing	Material certificates	✓	R	P		
6.2	X	10362386-001	2032026	Saver Sub, NC38	Verify material certificates per drawing	Material certificates	✓	R	P		

7. FACTORY ACCEPTANCE TESTS (FAT)

7.1		10741773-001	n/a	PS2-500A, Assembly	Function Test Record	D611000041	✓	P		W	
7.2					Power Swivel Function Test	PS-3021	✓	P			
7.3					Lubrication system test procedure & record electronically driven	D614000340-SPC-001	✓	P			

8. FINAL INSPECTION/SHIPPING PREPARATION

8.1		10387428-001	VPS00001	Paint Specification	Inspect surface prep & final paint finish	Process Traveler		P			
8.2		n/a	IT00108	Procedure For Pre-Shipment Inspection	Final pre-ship inspection & documentation review for completeness and quality	Final Inspection Checklist		P			
8.3		n/a	QA00019	Weighing Procedure	Weigh equipment	Weight Certificate, if required		P			
8.4		n/a	QA00030	General Packing Specification	Pack equipment for shipment	Shipping Documentation		P			

	QUALITY PLAN	Sheet 6 of 6	REVISION	<i>Customer:</i>	Noble Drilling Gene Rosser PS2-500A
		DOCUMENT NUMBER	04	<i>Rig:</i>	
		10741773-PLN		<i>Equipment:</i>	

PRODUCT CERTIFICATE

FACILITY ADDRESS: 743 N. Eckhoff St., Orange, CA 92868

COUNTRY OF ORIGIN: USA

CUSTOMER: Noble Drilling

CUSTOMER PURCHASE ORDER: 4700345078

PROJECT: Roy Butler

NOV SALES ORDER: 221317

PRODUCT DESCRIPTION: PS2-500A

PRODUCT NUMBER: 11316027-001

PRODUCT SERIAL NUMBER: PS2-295-C

SPECIFICATION: API Specification 8C

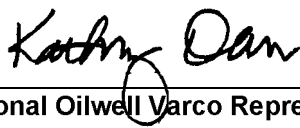
CERTIFICATE OF COMPLIANCE

This certificate is your assurance that the equipment described herein has been manufactured in accordance with National Oilwell Varco's standard practices and / or in accordance with National Oilwell Varco's Quality System Manual. This system is designed to assure that all units and parts shipped from National Oilwell Varco are subject to adequate control of quality to ensure safety, performance and reliability.

Nation Oilwell Varco hereby represents that the products listed herein complies with all mutually agreed upon purchase order requirements and the specifications listed above, and meets all established National Oilwell Varco procedures and specifications in the procurement of Material, Manufacturing, Assembly Operations and Testing as applicable.

CERTIFICATE OF WARRANTY

National Oilwell Varco's Warranty is in accordance with National Oilwell Varco's Standard Terms and Conditions of Sale as described in the quotation. Generally In the case of New Equipment/Parts ("Equipment") National Oilwell Varco warrants, for a period of 12 months from date of commissioning/start-up of the Equipment or 18 months from delivery date of Equipment, whichever is earlier, that the Equipment shall be free from defects and shall conform to the technical specifications set forth in the relevant scope of work document or purchase order as mutually agreed to in writing by National Oilwell Varco and Buyer. If the Equipment fails to conform with such specifications upon inspection by National Oilwell Varco, National Oilwell Varco as its option and the buyer's sole remedy, will either repair or replace such defective Equipment with the type originally furnished.



National Oilwell Varco Representative

06-25-2015

Date

N/A

Certificate Identification

This document contains proprietary information, and such information may not be disclosed to others for any purpose, nor used for manufacturing purposes without written permission from National Oilwell Varco, LLC.

REVISIONS				
LTR	DESCRIPTION	PREPARED / DATE	CHECKED / DATE	APVD / DATE
01	INITIAL RELEASE	JL RHONE 10/22/14	P.W. WILLIAMS 10/22/14	P.W. WILLIAMS 10/22/14
04	SEE EN	JL RHONE 10/2/15	PW WILLIAMS 10/2/15	PW WILLIAMS 10/2/15

STANDARD ORDER INFORMATION

SHIPMENT DATE: 05/22/2015
 PRE-SHIP: None
 RIG TYPE: Other
 INSTALLATION LOCATION: Mexico
 OPERATION LOCATION: Mexico
 RELATED CONFIGS: N/A
 SALES ORDER #: 221317
 PO #: 4700345078
 QUOTE # & REV: 167785 Rev 10-A
 SPARES QUOTE #: N/A
 UNIT #: TBD
 SERIAL #: PS2-295-C
 ITEM ID #: TBD
 ENGINEERING JOB #: 6643

QUALITY REQUIREMENTS


CERTIFICATION: N/A
 DATA BOOK: Yes

CONTACT NOTES

CUSTOMER: Robert Koenning
 Tel: 281-637-6862
 E-mail: rkoenning@noblecorp.com
 PROJECT MANAGER: N/A
 SYSTEM INTEGRATION: N/A
 CONTRACT ADMINISTRATOR: Yolanda Valdivia
 SALES: Steve Mercer
 RESPONSIBLE ENGINEER: Paul Williams
 ELECTRICAL ENGINEER: Scott McCall
 PLANNER: Susan Gissel


APPLICATION NOTES:

- 1) GE752AUT DC Series Drilling Motor
- 2) Open Loop Cooling
- 3) Guide Dolly (39x66, W14x74)
- 4) Deublin Wash Pipe
- 5) External Lube Package
- 6) Long Term Storage

	CUSTOMER CONFIGURATION	Sheet 1 of 6 DOCUMENT NUMBER 10936728-GEN	REVISION 04	Customer: Paragon Offshore Rig: L781 Equipment: PS2-500A
	TC Number: 10936728-GEN			

PART NUMBER	QTY		DESCRIPTION
	S/O	-001 -002	
"Ø" INITIAL UNDEFINED PART NUMBERS: REFERENCE ONLY			

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	CUSTOMER CONFIGURATION	Sheet 2 of 6 <small>DOCUMENT NUMBER</small> 10936728-GEN	<small>REVISION</small> 04	<i>Customer:</i> Paragon Offshore <i>Rig:</i> L781 <i>Equipment:</i> PS2-500A
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FORM CC-4S (F:\eng\app\7000\nds\tools\cc-4s.doc); 2:03 PM 10/22/2015

PART NUMBER	QTY		DESCRIPTION
	S/O	-001 -002	

TOP DRIVE SYSTEM			
10936728-001	1		DRILLING SYSTEM, PS2-500A
11316027-001	1		DRILLING UNIT ASSEMBLY, PS2-500A DC SERIES OLCs
2034653-501	1		TRAVELING BEAM ASSEMBLY 500 TON
2034116	1		LINKS, MAIN 750T x 159" (PAIR)
2034134	2		COUNTERBALANCE ASSEMBLY
2031679	1		INSTALLATION, LINK CLOSURE SPRING
2033322	2		CLAMP ASSEMBLY, 350T LINK
2028552	2		CYLINDER, ASSEMBLY LINK TILT/DRILLDOWN
2028555	2		GUIDE, CYLINDER LINK TILT
2031389	3		CLAMP ASSEMBLY, 9-1/2" DIA.
2032081	3		CLAMP ASSEMBLY, 7-3/8" DIA.
2027237	1		CLAMP ASSEMBLY, 8-3/4" DIA.
2034650	1		PNEUMATICS, COUNTERBALANCE CONTROL
2031485	1		SPLINE RING ASSEMBLY 9-1/4"
2033113	1		ASSEMBLY, RESTRAINT, GRABS SUPPORT

CONTROL SYSTEM			
2033265	1		INTERLOCK, DRAWWORKS/GRABS CONTROL
10797972-001	1		TD CONTROL CONSOLE
10799077-001	1		TRANSFER PANEL

	CUSTOMER CONFIGURATION	Sheet 3 of 6 DOCUMENT NUMBER 10936728-GEN	REVISION 04	Customer: Paragon Offshore Rig: L781 Equipment: PS2-500A
		FORM CC-4S (F:\eng\paper\000\tds_\tools\cc-4s.doc); 2:03 PM 10/22/2015		


PART NUMBER	QTY		DESCRIPTION
	S/O	-001 -002	

SERVICE LOOP AND DERRICK TERMINATION			
2034270		1	INSTALLATION, SERVICE LOOP SUPPORT
10792820-001		1	DERRICK JUNCTION BOX FOR SERIES MOTOR

ACCESSORIES / SPECIAL ITEMS			
P611000038	1		3" DEUBLIN WASHPIPE, ROTARY UNION


SPARES			
X20-1723		1	SPARES KIT, INSTALLATION TOP DRIVE

MANUALS, CERTIFICATION, AND DOCUMENTATION			
10936728-998	4		NOV DATA BOOK: ELECTRONIC COPY (QTY 1), HARD COPY (QTY 3)
11046993-001	4		USER'S MANUAL: ELECTRONIC COPY (QTY 1), HARD COPY (QTY 3)
10936728-999	1		HARD COPY OF CONFIGURATION, PS2-500A


	CUSTOMER CONFIGURATION	Sheet 4 of 6 DOCUMENT NUMBER 10936728-GEN	REVISION 04	Customer: Paragon Offshore Rig: L781 Equipment: PS2-500A
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PART NUMBER	QTY		DESCRIPTION
	S/O	-001 -002	

REFERENCE DRAWINGS			
11320656-LAY	REF		INSTALLATION DRAWING, PS2-500A
X20-1846	REF		OUTLINE/GENERAL ARRANGEMENT DRAWING
11316386-SPL	REF		RECOMMENDED SPARES (MECHANICAL)
10803684-SPL	REF		RECOMMENDED SPARES (ELECTRICAL) (S.H.P Engineering)
10803386-DIA	REF		PS2-500A TOP DRIVE TERMINATION DRAWING (S.H.P Engineering)
10803606-IDX	REF		PS2-500A TOP DRIVE CABLE INDEX (S.H.P Engineering)
10803307-DIA	REF		PS2-500A TOP DRIVE SYSTEM BLOCK DIAGRAM (S.H.P Engineering)
10079550-001	REF		SOLENOID JUNCTION BOX (10863145) (S.H.P Engineering)
10816410-IDX	REF		HAZARDOUS AREA INDEX
10819700-IDX	REF		I/O MAP PS2-500A
10792820-ASM	REF		ASSY DERRICK J BOX
2028549	REF		PNEUMATIC ASSEMBLY SCHEMATIC
X20-1783	REF		OUTLINE, AIR PRESSURE BOOSTER
X20-1684	REF		HANGOFF DETAILS 3X3 SERVICE LOOP
X20-1683	REF		MOUNTING INSTRUCTIONS COUNTER BALANCE CONTROLS
X20-1778	REF		OUTLINE, INTERLOCK DWK/GRABS CONTROL
X20-1761	REF		OUTLINE, VOLUME BOOSTER
PS-3021	REF		TOP DRIVE FUNCTION TESTING (FAT PROCEDURE)
PS-3070	REF		GOSENECK SUPPORT ALIGNMENT
PS-3037	REF		HYDROSTATIC TEST PROCEDURE
D611000042	REF		TOP DRIVE ASSEMBLY INSPECTION REPORT
D614000038	REF		SHAFT ASSEMBLY PROCEDURE
D611000041	REF		FUNCTION TEST RECORD (FAT REPORT)
30183841	REF		TOP DRIVE RUN TEST RECORD
X20-1875	REF		LIFTING ARRANGEMENT, PS2-500A

	CUSTOMER CONFIGURATION	Sheet 5 of 6 DOCUMENT NUMBER 10936728-GEN	REVISION 04	Customer: Paragon Offshore Rig: L781 Equipment: PS2-500A

PART NUMBER	QTY		DESCRIPTION
	S/O	-001 -002	
10936728-PLN	REF		QUALITY PLAN
11046993-MAN	REF		SERVICE MANUAL
11046993-DOS	REF		TECHNICAL DRAWING PACKAGE
D614000340-SPC-001	REF		LUBRICATION TEST, ELECTRICALLY DRIVEN

	CUSTOMER CONFIGURATION	Sheet 6 of 6 DOCUMENT NUMBER 10936728-GEN	REVISION 04	Customer: Paragon Offshore Rig: L781 Equipment: PS2-500A
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REVISIONS			
REV	DESCRIPTION	PREPARED / DATE	CHECKED / DATE
01	INITIAL RELEASE	D. Campbell	D. Silvar
		02/13/15	02/13/15
		D. Silvar	D. Silvar
			APVD / DATE
			02/13/15

STANDARD ORDER INFORMATION

SHIPMENT DATE: **05/22/2015**
 PRE-SHIP: None
 RIG TYPE: Other
 INSTALLATION LOCATION: **Mexico**
 OPERATION LOCATION: **Mexico**
 RELATED CONFIGS: N/A
 SALES ORDER #: **221317**
 PO #: **4700345078**
 QUOTE # & REV: **167785 Rev 10-A**
 SPARES QUOTE #: N/A
 UNIT #: TBD
 SERIAL #: **PS2-295-C**

QUALITY REQUIREMENTS

CERTIFICATION: N/A
 MANUFACTURING RECORD BOOK: **STANDARD MRB**

CONTACT NOTES

CUSTOMER: **Robert Koenning**
 Tel: **281-637-6862**
 E-mail: **rkoenning@noblecorp.com**
 PROJECT MANAGER: N/A
 SYSTEM INTEGRATION: N/A
 CONTRACT ADMINISTRATOR: **Joyce Guilford**
 SALES: **Justin Sasaki**
 RESPONSIBLE ENGINEER: **Paul Williams**
 ELECTRICAL ENGINEER: **Scott McCall**

QUALITY NOTES:

- Contract stipulates a 14 day notice to customer prior to CAT. Be advised of (M) inspection point in the quality plan**

	<p>QUALITY PLAN</p>	<p>Sheet 1 of 6</p> <p>DOCUMENT NUMBER</p> <p>10936728-PLN</p>	<p>REVISION</p> <p>01</p>	<p>Customer: Noble Drilling</p> <p>Rig: Roy Butler</p> <p>Equipment: PS2-500A</p>

QUALITY PLAN

National Oilwell Varco (NOV) is ISO 9000:2000 certified. NOV Quality and Manufacturing processes and procedures are maintained and audited to ISO 9000 requirements. The purpose of this quality plan is to identify witness and review points for customer and certification authority.

QUALITY PLAN DEFINITIONS:

H = HOLD POINT:

An activity or document subject to the approval of the inspection party. Production or operations may not proceed until the hold point is approved or waived in writing. NOV will notify the inspection party at least 48 hours before hold point activity, unless other notice has been agreed to.

W = WITNESS POINT:

An activity or document that the inspection party may elect to review at time of activity. Provided proper notification has been given, production and operations may proceed without approval or waiver if the witness fails to appear at the designated time and place. If and when possible, an opportunity to review the activity or document will be presented at a later date. NOV will notify the inspection party at least 48 hours before witness point activity, unless other notice has been agreed to.

R = REVIEW POINT:

An activity or document that the inspection party may review during other activities. Production or operations may proceed with the opportunity of allowing verification of the activity or document at a later date. NOV will not provide notification of review point activities unless previously agreed with the inspection party.

An "R" in the NOV column means a verification document must be reviewed by a qualified NOV representative.

M = MONITOR POINT:

An activity that the inspection party may monitor at his discretion during its progress. Production or operations may proceed without approval or waiver from the inspection party. NOV will not provide notification of monitor activity unless previously agreed with the inspection party.

P = PERFORMANCE POINT


Performance of the specified quality activity shall be carried out by qualified, authorized NOV personnel.

MRB= MANUFACTURING RECORD BOOK

Verification document is placed in MRB

INSPECTION PARTIES:

- NOV** = NOV personnel designated for inspection activity cited.
- SV** = NOV Sub-Vendors involved in supplying materials for tool cited.
- CUST** = Customer or their designated representative.
- CA** = Certification Authority involved as designated in Customer Order.

	QUALITY PLAN	Sheet 2 of 6 DOCUMENT NUMBER 10936728-PLN	REVISION 01	<i>Customer:</i> Noble Drilling <i>Rig:</i> Roy Butler <i>Equipment:</i> PS2-500A
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1. MANUFACTURING PROCEDURES

When required by the product being manufactured, the following documents shall be provided in the MRBs, and/or made available to the certifying authority for review:

- 1.1 WELDING PROCEDURES** - Welding Procedure Specification(s) (WPS) used to produce traceable weldments, as specified in PPI00001 and the applicable traveler.
- 1.2 WELDER QUALIFICATION RECORDS** - Welder Qualification Record(s) (WQS) for personnel performing welding on traceable weldments as specified in the Welder Qualification Index and the applicable traveler.
- 1.3 NDT PROCEDURES** - Applicable NDT procedures used to inspect traceable components:
MS00005, Quality Requirements for Steel Weldments
NDE00002, Procedure Manual for Magnetic Particle Examination
NDE00006, Procedure Specification for Liquid Penetrant Examination
RT-1003, Procedure for Ultrasonic Examination (General Electric)
Procedure for Radiographic Examination (subcontractor)
- 1.4 NDT OPERATOR QUALIFICATION RECORDS** - NDT operator qualification records for personnel performing inspection on traceable weldments as specified in the applicable traveler.

2. DESIGN APPRAISALS

When required by the customer configuration, design appraisals shall be submitted to the appropriate certifying authority for their approval. Design approval letters shall be included in the applicable MRB(s).

	QUALITY PLAN	Sheet 3 of 6 DOCUMENT NUMBER 10936728-PLN	REVISION 01	<i>Customer:</i> Noble Drilling <i>Rig:</i> Roy Butler <i>Equipment:</i> PS2-500A
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ACTIVITY NO.	CLP	ORACLE #	LEGACY #	DESCRIPTION	ACTIVITY	VERIFICATION DOCUMENTATION	MRB DOC REQ'D	NOV INSP REQMTS		EXTERNAL INSP REQMTS
								NOV	SV	

**3. 10936728-001, ASSEMBLY, PS2-500A (GE752AUT DC SERIES DRILLING MOTOR)
11316027-001, DRILLING UNIT ASSEMBLY, PS2-500A, DC SERIES OLCS**

3.1		10382821-001	7812629	GE 752 Motor	Supplier test report	Material certificates	✓	R	P	
3.2	X	10917915-001	2028500-501	Gearbox – Handling Ring Assembly	Traceability Required		✓			
3.2.1	X	10917899-001	10918498-501	Gearbox Assembly	Traceability Required		✓			
3.2.1.1	X	10362451-001	2034101	Gearbox, Machining	Load test and mag particle inspect after machining	TS00152	✓	P	P	
3.2.1.2	X	10451337-001	2028495	Sleeve, Housing Beam	Verify material certificates per drawing	Material certificates	✓	R	P	
3.2.1.3	X	10451436-001	2028634	Drive Stem, Machining	Mag Particle Inspection after machining	TS00168	✓	P		
3.2.2	X	10451341-001	2028499	Handling Ring – Complete	Traceability Required					
3.2.2.1	X	10451330-001	2028472	Handling Ring, Machined	Load test and mag particle inspect after machining	TS00152	✓	P		
3.2.3	X	10451315-001	2028323	Ring, Shear	Mag Particle Inspection after machining	TS00168	✓	P		
3.2.4	X	10451316-001	2028324	Ring, Elevator	Mag Particle Inspection after machining	TS00168	✓	P		
3.2.5	X	10361648-001	2033229	Gooseneck Assembly	Traceability Required					
3.2.5.1	X	10451435-001	2028633	Gooseneck, Machined	Hydrostatic pressure test and mag particle inspect after machining	TS00162	✓		P	
3.2.5.1.a		10361640-001	2033210P	Gooseneck Casting	Radiograph Welds per drawing & verify material certificates	Material certificates	✓	R	P	
3.2.5.2	X	10383167-001	655529	Hub, Blind (Grayloc)	Verify material certificates per drawing	Material certificates	✓	R	P	
3.2.5.3	X	10383168-001	655530	Clamp, Size 4 (Grayloc)	Verify material certificates per drawing	Material certificates	✓	R	P	
3.3	X	10385391-001	7800004	Accumulator, 5 gal	Verify test report	Supplier test report	✓	R	P	



QUALITY PLAN

Sheet 4 of 6
DOCUMENT NUMBER

10936728-PLN

REVISION

01

Customer: Noble Drilling
Rig: Roy Butler
Equipment: PS2-500A

ACTIVITY NO.	CLP	ORACLE #	LEGACY #	DESCRIPTION	ACTIVITY	VERIFICATION DOCUMENTATION	MRB DOC REQ'D	NOV INSP REQMTS		EXTERNAL INSP REQMTS	
								NOV	SV	CUST	CA

3.4	X	10361643-001	2033214	L-Pipe Assembly	Traceability Required						
3.4.1	X	10361642-001	2033213	L-Pipe, Weldment	Hydrostatic pressure test and mag particle inspect after machining	TS00162	✓	P			
3.4.1.1					Radiograph Welds per drawing and ASME V	NDE Report	✓	R	P		
3.4.1.1.a	X	10361641-001	2033213	L-Pipe, Purchased	Verify material certificates per drawing	Material certificates	✓	R	P		
3.4.2	X	10038888-001	354677	Sub; Male; Dia. 4 in; 1002	Verify material certificates per drawing	Material certificates	✓	R	P		
3.4.3	X	10383165-001	655499	Clamp, Grayloc 4" w/bolls	Verify material certificates per drawing	Material certificates	✓	R	P		
3.5	X	10856769-001	2028163-501	IBOP Valve Stack							
3.5.1	X	10675315-001	n/a	IBOP, Upper	Hydrostatic pressure test and mag particle inspect after machining	Material certificates	✓	P			
3.5.1.1	X				Verify material certificates per drawing	Material certificates	✓	R	P		
3.5.2	X	10675316-001	n/a	IBOP, Lower	Hydrostatic pressure test and mag particle inspect after machining	Material certificates	✓	P			
3.5.2.1					Verify material certificates per drawing	Material certificates	✓	R	P		

4. TRAVELING BEAM ASSEMBLY 500 TON

4.1	X	10451638-002	2034653-501	Traveling Beam Assy.	Verify material certificates per drawing	Material certificates	✓	R	P		
4.1.1	X	10474649-001	X20-1927	Modification Primary Traveling Beam, Machining	Mag particle inspect after machining	TS00168 or vendor supplied test record	✓	P	P		

5. MAIN LINKS, 750T x 159" (PAIR)

5.1	X	10362464-001	2034116	Main Links	Load test and mag particle inspect	TS00167	✓	R	P		
5.1.1					Verify material certificates per drawing	Material certificates	✓	R	P		



QUALITY PLAN

Sheet 5 of 6
DOCUMENT NUMBER

10936728-PLN

REVISION

01

Customer:

Noble Drilling

Roy Butler

PS2-500A

Equipment:

ACTIVITY NO.	CLP	ORACLE #	LEGACY #	DESCRIPTION	ACTIVITY	VERIFICATION DOCUMENTATION	MRB DOC REQ'D	NOV INSP REQMTS		EXTERNAL INSP REQMTS	
								NOV	SV	CUST	CA

6. ACCESSORIES/SPECIAL ITEMS

6.1		10451241-001	2028042	Crossover, Body	Verify material certificates per drawing	Material certificates	✓	R	P		
6.2	X	10362386-001	2032026	Saver Sub, NC38	Verify material certificates per drawing	Material certificates	✓	R	P		

7. FACTORY ACCEPTANCE TESTS (FAT)

7.1		10936728-001	n/a	PS2-500A, Assembly	Function Test Record, (FAT Report)	D611000041	✓	P			W
7.2					Power Swivel Function Test, (Procedure)	PS-3021	✓	P			
7.3					Lubrication system test procedure & record electronically driven	D614000340-SPC-001	✓	P			

8. FINAL INSPECTION/SHIPPING PREPARATION

8.1		10387428-001	VPS00001	Paint Specification	Inspect surface prep & final paint finish	Process Traveler		P			
8.2		n/a	IT00108	Procedure For Pre-shipment Inspection	Final pre-ship inspection & documentation review for completeness and quality	Final Inspection Checklist		P			
8.3		n/a	QA00019	Weight Certificate	Weigh equipment	Weight Certificate, if required		P			
8.4		n/a	HC00102	General Packing Specification	Pack equipment for shipment	Shipping Documentation		P			



QUALITY PLAN

Sheet 6 of 6
DOCUMENT NUMBER

10936728-PLN

REVISION

01

Customer:

Noble Drilling

Rig:

Roy Butler

Equipment:

PS2-500A