



## MAGNETIC PARTICLE INSPECTION REPORT

DATE:	SEPT 30, 2010	REPORT #	MDH-100930	PAGE	1 of 2
CLIENT:	FERUS	ECHO JOB #: 2668			
CONTRACTOR:	SAME AS ABOVE				
LOCATION:	BROOKS SCHLUMBERGER YARD	PROJECT:	A# 0511794		
ITEMS EXAMINED:	S/N 38673A				
PROCEDURE:	MT-2A	CLIENT PO # / JOB #:	PO-006669		
ACCEPTANCE CRITERIA:	ASME VIII DIV 1	SPECIFICATION:	ASME V. ART 7		

### METHOD

#### SURFACE CONDITION

<input checked="" type="checkbox"/> Clean Base Metal	<input type="checkbox"/> As Ground	<input type="checkbox"/> Machined	<input type="checkbox"/> Sand Blast	<input type="checkbox"/> Painted	<input type="checkbox"/> Other:
<input checked="" type="checkbox"/> AC	<input type="checkbox"/> DC	<input checked="" type="checkbox"/> Continuous	<input type="checkbox"/> Residual	<input type="checkbox"/> 12V	<input checked="" type="checkbox"/> 120V

#### EQUIPMENT TYPE

<input checked="" type="checkbox"/> Yoke	Serial #: 16648	Last Calibration: DEC 14, 2009	Prod Spacing: 3 - 8 inches
<input checked="" type="checkbox"/> Blacklight	Serial #: 1761447	Last Calibration: SEPT 30, 2010	
<input checked="" type="checkbox"/> Light Meter	Serial #: 1225653	Last Calibration: APRIL 19, 2010	

MINIMUM LIGHT INTENSITY:  $\geq 100$  fc Visible,  $\geq 1000$   $\mu$ W/cm<sup>2</sup>

#### MEDIUM TYPE (LIST CONTRAST AS WELL):

MEDIUM MANUFACTURER: MAGNAFLUX

<input type="checkbox"/> Dry	Colour:	<input checked="" type="checkbox"/> Fluorescent	<input type="checkbox"/> Black on White
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MPI Particle Application Method:  Powder Puffer  Spray Excess Particle Removed via Exhalation & / or Flow

### TEST RESULTS

A WET FLUORESCENT MPI INSPECTION WAS PERFORMED ON THE FOLLOWING AREAS OF CO2 STORAGE VESSEL A#0515257 AS REQUESTED BY THE CLIENT. THE INSPECTION WAS PERFORMED ON THE WELD AND 2" AREA ON BOTH SIDES.

HEAD TO SHELL CIRC WELD 100%

ALL LONG TO CIRC TEE INTERSECTIONS 8" IN EACH DIRECTION

ALL PROCESS PIPING NOZZLE PENETRATION

ALL ATTACHED CLIPS AND PADS

RESULTS: THERE WERE NO RELEVANT VISUAL SURFACE DEFECTS FOUND AT THE TIME OF INSPECTION. ALL INSPECTED AREAS WERE FOUND TO BE IN ACCORDANCE WITH THE ACCEPTANCE CRITERIA.

NOTE: THREE UNIFORM NOTCHES MEASURING 3/8" WERE FOUND ON THE WEST HEAD AT 10 o CLOCK POSITION (LOOKING IN FROM MANWAY). THESE NOTCHES WERE INSPECTED AND SHOWED NO INDICATIONS ORIGINATING FROM THE AREA AT THE TIME OF INSPECTION AND WERE FOUND TO BE IN ACCORDANCE WITH THE ACCEPTANCE CRITERIA.

Misc Charges	<b>CERTIFICATION</b>  DAVID HERNANDEZ CGSB 11988	Regular Hours	8 HRS
		Overtime Hours	5 HRS
1: GALLON OF W/F MPI MEDIUM		Shift Premium	
Client Representative:		Kilometers	630 KMS
	TECHNICIAN <i>David Hernandez</i>	TRAVIS T	

53A Burnt Park Drive | Red Deer, AB | T4P 0J7

Ph: (403) 347-7042 Fax: (403) 347-7052 www.echonde.com



## ULTRASONIC INSPECTION REPORT

DATE: SEPT 30, 2010 REPORT #: UDH-100930 PAGE 2 of 2

CLIENT: FERUS

LOCATION: BROOKS SCHLUMBERGER YARD PROJECT: A#0511794

ITEMS EXAMINED: S/N 38673A

PROCEDURE: UT1 CLIENT PO # / JOB # / AFE: PO-006669

ACCEPTANCE CRITERIA: ASME SEC VIII DIV I SPECIFICATION: CLIENT SPEC

### METHOD

EQUIPMENT MANUFACTURER: KRAUTKRAMER SERIAL #: 00YP4J CALIBRATION DATE: SEPT 30, 2010

CAL. BLOCK(S): 1/2" STEP BLOCK & IIW BLOCK COUPLANT: UT-X CABLE LENGTH: 70'

TEST PIECE:  REF REFLECTOR: Type:  Size: 1.5 Depth: Response Ht: 80%FSH

THICKNESS:  SHEAR WAVE:  LAMINATION:

	ANGLE	WAVE	FREQ	SIZE	MFG.	S/N	RANGE	Ref. db	Scan db	TL db
1	0	LONG	5 MHz	.250"	GE	O1MWD	1'	50	60	+5
2										
3										
4										

SURFACE CONDITION: Clean Base Metal:  As Ground:  Painted:  Other:

### TEST RESULTS

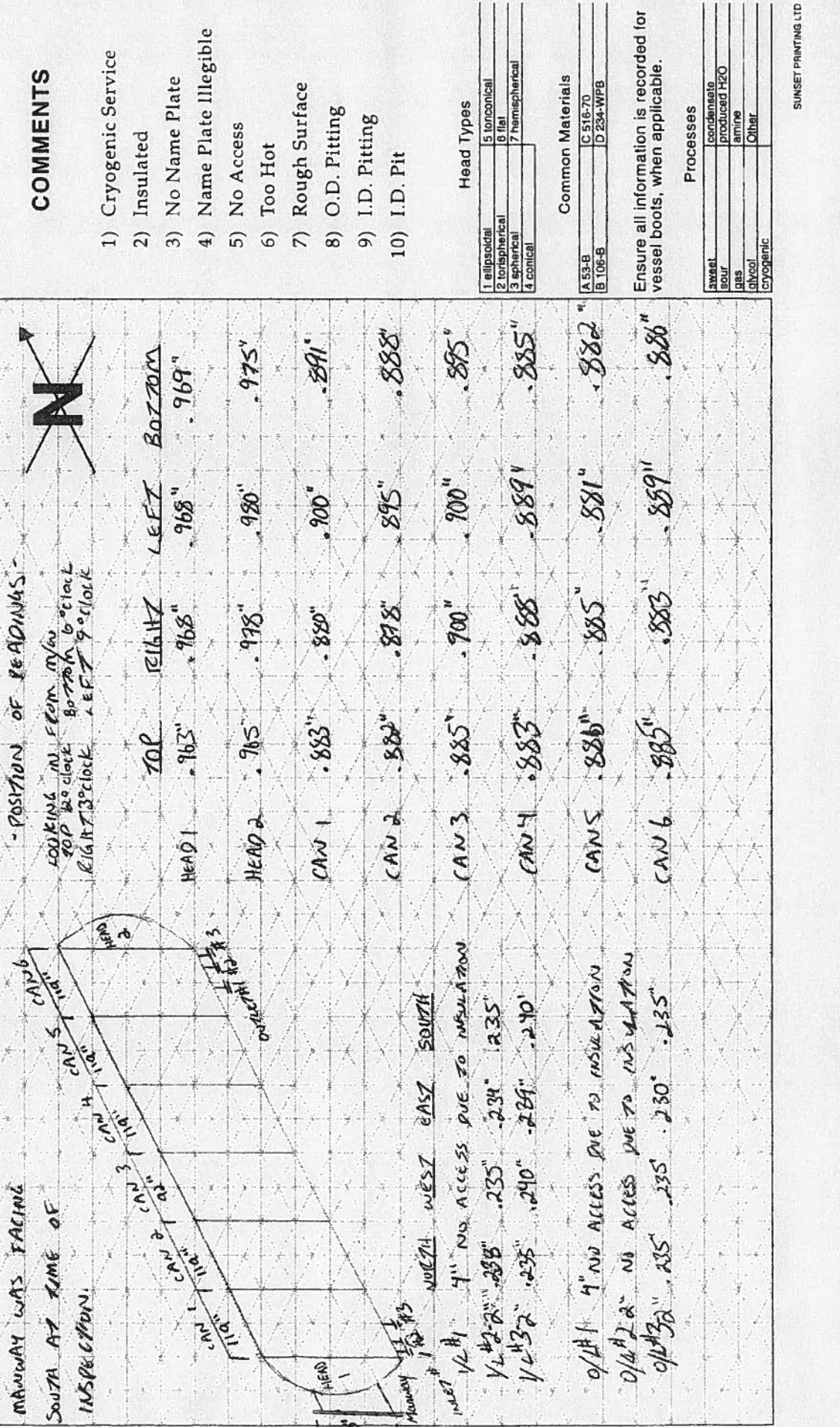
ZERO DEGREE ULTRASONICS WAS PERFORMED ON THE FOLLOWING AREAS OF VESSEL A#0511794 AS REQUESTED BY THE CLIENT. LOWS WERE RECORDED – SEE ATTACHED DRAWINGS FOR LOCATIONS AND LOWS.

- 4 POINTS PER HEAD ( MIDPOINT FOR EACH QUADRANT )
- 4 POINTS PER SHELL SECTION ( TOP, BOTTOM, LEFT, AND RIGHT )
- 4 POINTS PER OUTLET / INLET PIPING ( NOZZLE NECK )

<b>Misc. Charges</b>	<b>CERTIFICATION</b>  DAVID HERNANDEZ CGSB 11988 CGSB / SNT-TC-1A RT II / UT I / MTII	<b>Regular Hours</b>	
		<b>Overtime Hours</b>	
<b>UT MACHINE</b>		<b>Shift Premium</b>	SEE MDH100930
		<b>Kilometers</b>	
		<b>Sub / Man Day</b>	
<b>Client Representative:</b>	<b>Technician:</b> 	<b>Assistant: TRAVIS T</b>	



Client	Ferus		USD	Brooks AB	Year Built	2004
Equipment	SUNWAY		Serial # / Manufacturer	Schlumberger Yard	CA	150
CRN	A#	OS11744	#S/N	38673A	PSID / KPA	285
DWG	Tab	-	SUNWAY	-	CA	MIL



**COMMENTS**

- 1) Cryogenic Service
- 2) Insulated
- 3) No Name Plate
- 4) Name Plate Illegible
- 5) No Access
- 6) Too Hot
- 7) Rough Surface
- 8) O.D. Pitting
- 9) I.D. Pitting
- 10) I.D. Pit

**Head Types**

1 ellipsoidal	5 nonconical
2 torispherical	6 flat
3 spherical	7 hemispherical
4 conical	

**Common Materials**

A 53-B	C 516-70
B 106-B	D 234-WPB

Ensure all information is recorded for vessel boots, when applicable.

**Processes**

sweet	condensate
sour	produced H2O
gas	airing
alcohol	Other
cryogenic	