

Reliable...Responsive...Resourceful...Proactive

Williams Field Services

Stewart Dew Point Hickory, PA

7-23-2012

A-Scan Baseline Inspection

Vessel No.: VST-690 Vessel Name: Liquid Storage Tank

P&ID No: STWT-P01-014A



DBI Incorporated

Lincoln Nebraska 4223 Progressive Avenue.Lincoln NE 68504.Telephone: 402-467-1818 Fax: 402-467-1766 Omaha Nebraska 2211 S. 156th Circle.Omaha NE 68130.Telephone:402-330-9612.Fax: 402-330-9640 Overland Park Kansas 11660 West 90th.Overland Park KS 66214.Telephone: 913-888-2321 Fax: 913-888-2351



Reliable...Responsive...Resourceful...Proactive

Summary Report

Report Reviewed By:

Mitchell Beves

API 510 #30888

Client: Williams Field Services Location: Stewart Dew Point Hickory, PA

Vessel No.: VST-690 Vessel Name: Liquid Storage Tank

Inspection Date: 7-23-2012

Type of Inspection: A-Scan Baseline Inspection

Note: An A-Scan baseline inspection was performed on the VST-690 Liquid Storage Tank. The VST-690 Liquid Storage Tank meets MAWP of 50 psi with a remaining service life of 20+ years. The long and short term corrosion rates were determined using the nominal thickness of the vessel.

Next UT Insp	ection:		7/22/2017	7	API 510 para. 6.4					
Next Visual I	nspection:		7/22/2017	1						
								Short Term	Long Term	Remaining
								Corrosion	Corrosion	Life
	TNom	Тор	Bottom	North	South	East	West	Rate	Rate	(Years)
Top Head	0.500			0.497	0.498	0.499	0.500	<1 mil	<1 mil	20+
TML 1	0.375			0.384	0.375	0.374	0.377	<1 mil	<1 mil	20+
TML 2	0.375					0.375		<1 mil	<1 mil	20+
TML 3	0.375					0.375		<1 mil	<1 mil	20+
TML 4	0.375					0.376		<1 mil	<1 mil	20+
TML 5	0.375					0.374		<1 mil	<1 mil	20+





Reliable...Responsive...Resourceful...Proactive

Client: Williams Field Services Location: Stewart Dew Point Hickory, PA

Vessel No.: VST-690 Vessel Name: Liquid Storage Tank

Vessel Parameters

Design Pressure (MAWP):	50 psi
Design Temperature:	650 F
Operating Pressure:	1 psi
Operating Temperature:	70 F
Diameter: I.D or O.D	144" OD
Length S/S:	15'
Shell Material:	SA-516-70
Allowable Stress:	17,500
Joint Efficiency:	1.0
Corrosion Allowance:	.0600

Top Head Material:	SA-516-70
Top Head Type:	Flanged and Dished
Allowable Stress:	17,500
Joint Efficiency:	1.0
Bottom Head Material:	SA-516-70
Bottom Head Type:	Flanged and Dished
Allowable Stress:	17,500
Joint Efficiency:	1.0
Date Manufactured:	1990
In Service Date:	1990

ASME CODE EDITION USED FOR CALCULATIONS ASME Section VIII, Division 1. 1998 Edition

Paint Information

Average paint coating thickness:	N/A	Thickness measured with paint:	N/A
Paint Multiplier:	N/A	Thickness measured without paint:	N/A

Name Plate Information

U1A Available:	Yes	ASME stamp present on vessel:	Yes
Name Plate present:	Yes	Rubbing taken:	Digital Photo



Reliable...Responsive...Resourceful...Proactive

Client: Williams Field Services Location: Stewart Dew Point Hickory, PA

Vessel No.: VST-690 Vessel Name: Liquid Storage Tank

Vessel Data

Vessel Class:	2	Date Manufactured:	1990
Manufactures Serial #:	01725	In Service Date:	1990
Product in Vessel:	Drain	Date of ASME VIII Vessel	1989
		Mfg. under:	
P&ID Drawing #:	014A	Code Cases:	N/A
P&ID Prepared By:	Laurel Mountain	Addenda:	A-89
	Midstream, LLC		
Manufacturer:	Rama Fabrication	National Board Number:	610
Vessel Length S/S:	15'	Vessel Insulated:	Yes
Diameter I.D or O.D:	144" OD	Describe openings (if any):	N/A
No. of Shell Sections:	2	ANSI Flange Rating:	150 #
No. of Nozzles:	11	Vessel Orientation:	Vertical
Design Pressure (MAWP):	50 psi	Operating Pressure:	1 psi
Design Temperature:	650 F	Operating Temperature:	70 F
Top Head Type:	Flanged and Dished	Bottom Head Type:	Flanged and Dished
Top Head Material:	SA-516-70	Bottom Head Material:	SA-516-70
Top Head Weld Type:	Double Butt	Bottom Head Weld Type:	Double Butt
Shell Material:	SA-516-70	Shell Weld Type:	Double Butt
Radiography:	Full	Hydrostatic:	75 psi

Relief Valve Information

Relief Valve Tag Number:	690	Relief Valve Pressure Setting:	50 psi
Relief Valve Test Date:	9/10	Relief Valve Size:	4" x 6"



Reliable...Responsive...Resourceful...Proactive

PRESSURE VESSEL EXTERNAL INSPECTION

Client:	Williams Field Services
Location:	Stewart Dew Point Hickory, PA
Vessel No.:	VST-690
Vessel Name:	Liquid Storage Tank

Date Inspected: Inspector(s): 7-23-2012 Mike Troyer

Signature:

Mike Tuy

NAME PLATE

Item Inspected Yes No NA = Not Applicable	Yes	No	N/A	Comments:
Name Plate present & legible	\boxtimes			Good condition
National Board #	\boxtimes			610
Manufacturer	\boxtimes			Rama Fabrication
Serial #/ Year Built	\boxtimes			01725/ 1990
Repair or Rerate Name Plate			\square	N/A

FOUNDATION

Concrete condition (spalling,	\square		None noted
cracks)			
Foundation settling	\square		Appears level
Coating condition		\boxtimes	N/A
Cradle supports (moisture, cracks)			None noted

SUPPORTS

Describe type (legs, saddle, etc.)	\boxtimes		Skirt
Corrosion, pitting (describe)	\boxtimes		None noted
Weld condition	\boxtimes		Good condition
Paint condition	\boxtimes		No paint failure noted
Anchor bolts (tightness &	\boxtimes		Appears tight
corrosion			
Insulation deterioration		\square	N/A

SHELL

Corrosion, pitting (describe)	\square		None noted
Bulges/ Blisters/ Deformations	\square		None noted
Weld condition	\boxtimes		Good condition
Paint condition	\boxtimes		No paint failure noted
Insulation deterioration	\boxtimes		None noted
Biological growth	\square		None noted
UT Measurements	\square		See autocad drawing



Reliable...Responsive...Resourceful...Proactive

HEADS

Item Inspected Yes No NA = Not Applicable	Yes	No	N/A	Comments:
Corrosion, pitting (describe)	\square			None noted
Bulges/ Blisters/ Deformations	\boxtimes			None noted
Weld condition	\boxtimes			Good condition
Paint condition	\square			No paint failure noted
Insulation deterioration	\square			None noted
UT Measurements				See autocad drawing

MANWAYS & NOZZLES

Corrosion, pitting (describe)	\boxtimes		None noted
Weld condition	\square		Good condition
Flange condition	\boxtimes		Good condition
Bolting condition	\boxtimes		Good condition
Repad condition		\boxtimes	N/A
Insulation deterioration	\square		None noted
UT Measurements			See autocad drawing

APPURTENANCES

Grounding (tightness & corrosion)	\square		Ground connection is tight
Gauges, Sight glass (damage)	\square		No damage noted
Relief Valve #/ Size/ Set Pressure	\boxtimes		690/ 4" x 6"/ 50 psi

LADDERS, STAIRS, PLATFORMS

Corroded, Broken Parts		\square	N/A
Paint condition		\boxtimes	N/A
Wear (ladder rungs, stair treads)		\boxtimes	N/A
Handrails secure		\boxtimes	N/A
Flooring condition		\boxtimes	N/A
Tightness (bolts, tie down clips)		\boxtimes	N/A
Attachment welds		\boxtimes	N/A
Corrosion, pitting (describe)		\square	N/A

ADDITIONAL COMMENTS:



Reliable...Responsive...Resourceful...Proactive





Reliable...Responsive...Resourceful...Proactive

	-			Rama F	bricat	ion In	c 231	0 Prospec	t, Odessa,	Towas 7	9762
	nutec	tured and	certified by	Raua ra	ior reat	101, 11		nd address of man		ICAS /	5702
2. Ma	nufac	tured for	Exxon Co	mpany, U	.S.A.,			Midland,	Texas 7970	02	
	ontion		West	Chalkle	v 21 M			arles, Lo			
J. LU								ne and address)			
4. Ty	pe: _	Vertic		1725 (mir's, serial no.)		(CRN)		D-2584-0		Bd. no.)	1990 (year built)
5. Th	e che			ALC REPORTS AND	parts mer		ements of		•		R AND PRESSURE
VE	SSEL					•			on VIII, Division 1:	1000	
A	89	ricia (date))		Case no.)					per UG-120(d))		(year)
		A-516-		.375		.0600			- 11 1/4"	15' -	0"
J. GI		(met). (s	pec. no., grade))		kness (in.))		allow. (in))		die. ID (It. & in.))	(lengt)	(oversit) (ft. & In.))
7. 50		DBW		RT (spot or lull))	100%		temp. (*F))	(time (hr.))	(girth (weided, dbl.,	Full	2 (no. of courses)
			-516-70		1011.1			SA-516	angl., lap, butt)) -70	or full))	
J. 11				(mat'l. (spec. n	o., grade))		(C		(mat'l. (spec	no., grade))	
	Loc	ation (top), tom, ends)	Thickness	Corrosion Allowance	Crown Redius	Redius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (convex or conceve)
(8)	Top		.500	.0600	138	8.75					Concave
		tom	.500	.0600	138	8.75					Concave
11	remo	vable, bol	ts used (des	cribe other fa	astenings):					
							20	50	pec. no., gr., size, no.)		76
		50		650							
9. M	AWP:	50	at max. tem	p. <u>650</u> .	Min desig	n metal tem	p20	_at <u>50</u>	Hydro., press=or	eemb: test p	ressure /)
				(1)		n metal tem	p. <u>-20</u> (*F)	at <u>50</u> (psl)	. Hydro., pre u <i>zos</i>	eemb: test p	(pel)
	ozzier	, inspecti		ty valve open		n metal tem	p. <u>-20</u> (*F)	(psi)			(pel)
0. N	ozzier		on and safe	ty valve open Dia or Size	ings:		p20 (*F)	(psl) Nom. Thickness	Reinforcement Mal'1.	How Attached	(leq)
0. N (#	et	, inspecti) No.	ty valve open Dia or Size 16"	lings: Ty CL 150	Pe M RFWN SA-	(*F) a1'l -106B	(psi) Nom. Thickness 500 1/4	Reinforcement Mai'l. 4 ¹¹ SA-516-70	How Attached Welde	Location ed Shell
0. N (m Inl Out	et let	, inspecti	on and safe	ty valve open Dia or Size	Ings: Ty CL150 CL150	PO M RFWN SA- RFWN SA-	(*F) 106B 106B	(psi) Nom. Thickness 500 1/4 500	Reinforcement Mai'l. 4"SA-516-70 Inherent	How Attached Welde Welde	Location ed Shell ed Head
0. N (m Inl Out Dra	et let	, inspecti) No.	ty valve open Dia or Size 16" 16"	lings: Ty CL 150	PP M RFWN SA RFWN SA RFWN SA	(*F) 106B 106B	(psi) Nom. Thickness .500 1/4 .500 .337	Reinforcement Mai'l. 4 ¹¹ SA-516-70	How Attached Welde Welde Welde	Location ed Shell ed Head ed Head
0. N (W Inl Out Dra Man	et let in Way	, inspecti	on and safe No. 1 1 1 1 1 Yes	ty valve open Dia or Size 16" 16" 4"	Ings: TV CL150 CL150 CL150 CL150 CL150 2	PP M RFWN SA RFWN SA RFWN SA	(*F) = 106B = 106B = 106B = 106B = 106B	(psi) Nom. Thickness .500 1/4 .500 .337 .500 3/4 .500 3/4	Reinforcement Mail. 4"SA-516-70 Inherent Inherent 8"SA-516-70 3/8"SA-516	How Attached Welde Welde Welde Welde	(cel) Location ed Shell ed Head ed Head ed Shell Head, Welded
0. N (# Inl Out Dra Man	et let in way	ts: Skirt_	on and safe No. No. 1 1 1 1 Yes (yes or no)	ty valve open Dia or Size 16'' 16'' 4'' 18'' Lugs	Ings: CL150 CL150 CL150 CL150 2 (no.)	PP M RFWN SA RFWN SA RFWN SA RFWN SA Lege	(*F) a1'1 -106B -106B -106B -106B -106B	(pel) Nom. Thickness 500 1/4 500 337 500 3/4 Other	Reinforcement Mail. 4"SA-516-70 Inherent Inherent 8"SA-516-70 - 3/8"SA-516 (describe)	How Attached Welde Welde Welde Welde	(cel) Location ed Shell ed Head ed Head ed Shell (Head, Welded (where & how)
0. N (m Inl Out Dra Man I1. S	et let, out et let in way	ta: inspecti spose let. drain, etc ts: Skirt_ ks: Mariuf	on and safe No. I I I I I Ves (yes or no) acturers' Pa	ty valve open Dia or Size 16" 4" 18" Lugs rtial Data Rei	Ings: Ty CL150 CL150 CL150 CL150 CL150 2 (no.)	PF M RFWN SA RFWN SA RFWN SA RFWN SA Legs	(*F) al11 -106B -106B -106B -106B -106B -106B -106B	(psi) Nom. Thickness .500 1/4 .500 .337 .500 3/1 .500 0the	Reinforcement Mail. 4"SA-516-70 Inherent B"SA-516-70 (describe) ssioned inspecto	How Attached Welde Welde Welde -7Attached	(cel) Location ed Shell ed Head ed Head ed Shell Head, Welded (where & how) on furnished for th
0. N (m Inl Out Dra Man I1. S	et let, out et let in way	ta: inspecti spose let. drain, etc ts: Skirt_ ks: Mariuf	on and safe No. I I I I I Ves (yes or no) acturers' Pa	ty valve open Dia or Size 16" 4" 18" Lugs rtial Data Rei	Ings: Ty CL150 CL150 CL150 CL150 CL150 2 (no.)	PF M RFWN SA RFWN SA RFWN SA RFWN SA Legs Perly identifi Heads S	(*F) =106B =106B =106B =106B =106B (ro ed and sign /N 2542	(ps) Nom. 500 1/4 500 337 500 3/1 0 the 1,2 Ft.	Reinforcement Mail. 4"SA-516-70 Inherent Inherent 8"SA-516-70 - 3/8"SA-516 (describe)	How Attached Welde Welde Welde -7Attached ors have bee ead Co.	(cel) Location ed Shell ed Head ed Head ed Shell Head, Welded (where & how) on furnished for th
0. N (m Inl Out Dra Man II. S II. R fo Ves	et let in way uppor	ts: Skirt_ ks: Mariuf ng items of Exempt	on and safe No. 1 1 1 Yes (yes or no) actures' Pa of the report: Per UG	ty valve open Dia or Size 16" 16" 4" 18" Lugs rtlai Data Rej 144" OD	Ings: Ty CL150 CL150 CL150 CL150 CL150 2 (no.)	Pe M RFWN SA RFWN SA RFWN SA RFWN SA Legs erly identifi Heads S	(*F) a1'1 -106B -106	(ps) Nom. 500 1/4 500 337 500 3/1 0 the 1_2 Ft. 1 number, mire name	Reinforcement Mail. 4"SA-516-70 Inherent Inherent 3"SA-516-70 7 3/8"SA-516 (describe) ssioned Inspecto Worth F&D H	How Attached Welde Welde Welde -7Attached ors have bee ead Co.	(cel) Location ed Shell ed Head ed Head ed Shell Head, Welded (where & how) on furnished for th
0. N (H Inl Out Dra Man 11. S 12. R fo Ves Nor	et let in way uppor emark ollowissel -Le	ts: Skirt_ ts: Skirt_ ts: Skirt_ ts: Manuf ng items c <u>Exempt</u>	on and safe No I I I I Ves (yes or no) acturers' Pa of the report: Per UG ervice	ty valve open Dia or Size 16" 16" 4" 18" Lugs rtlai Data Rej 144" OD	Ings: Ty CL150 CL150 CL150 CL150 CL150 2 (no.)	Pe M RFWN SA RFWN SA RFWN SA RFWN SA Lege Perly identifi Heads S (name Pro	(*F) ari -106B	(pel) Nom. Thickness .500 1/4 .500 	Reinforcement Mail. 4"SA-516-70 Inherent Inherent 8"SA-516-70 ; 3/8"SA-516 (describe) ssioned inspects Worth F&D H e and identifying stan r UG-125 No	How Attached Welde Welde Welde -7Attached ors have bee ead Co.	(cel) Location ed Shell ed Head ed Head ed Shell Head, Welded (where & how) on furnished for th
0. N (H Inl Out Dra Man 11. S 12. R fo Ves Nor	et let in way uppor emark ollowissel -Le	ts: Skirt_ ks: Mariuf ng items of Exempt	on and safe No I I I I Ves (yes or no) acturers' Pa of the report: Per UG ervice	ty valve open Dia or Size 16" 16" 4" 18" Lugs rtlai Data Rej 144" OD	Ings: Ty CL150 CL150 CL150 CL150 CL150 2 (no.)	Pe M RFWN SA RFWN SA RFWN SA RFWN SA Lege Perly identifi Heads S (name Pro	(*F) ari -106B -106B -106B -106B -106B (no ed and sig (N 2542 vol part, item essure	(ps) Nom. 500 1/4 500 337 500 3/1 0 the 1_2 Ft. 1 number, mire name	Reinforcement Mail. 4"SA-516-70 Inherent Inherent 8"SA-516-70 ; 3/8"SA-516 (describe) ssioned inspects Worth F&D H e and identifying stan r UG-125 No	How Attached Welde Welde Welde -7Attached ors have bee ead Co.	(cel) Location ed Shell ed Head ed Head ed Shell Head, Welded (where & how) on furnished for th
0. N (H Inl Out Dra Man 11. S 12. R fo Ves Nor	et let in way uppor emark ollowissel -Le	ts: Skirt_ ts: Skirt_ ts: Skirt_ ts: Manuf ng items c <u>Exempt</u>	on and safe No I I I I Ves (yes or no) acturers' Pa of the report: Per UG ervice	ty valve open Dia or Size 16" 16" 4" 18" Lugs rtlai Data Rej 144" OD	Ings: Ty CL150 CL150 CL150 CL150 2 (no) ports prop F & D	Pe M RFWN SA RFWN SA RFWN SA RFWN SA Lege Perly identifi Heads S (name Pro	(*F) a11 -106B	(pe) Nom. Thickness 500 1/4 500 3/4 , 500 3/4 , 500 3/4 , 0the , 0the , 0the , 1,2 Ft. 1 number, mf/s nem Relief pe tached (1	Reinforcement Mail. 4"SA-516-70 Inherent Inherent 8"SA-516-70 ; 3/8"SA-516 (describe) ssioned inspects Worth F&D H e and identifying stan r UG-125 No	How Attached Welde Welde Welde -7Attached ors have bee ead Co.	(cel) Location ed Shell ed Head ed Head ed Shell Head, Welded (where & how) on furnished for th
0. N (W Inl Out Dra Man 11. S 12. R fo Vess Non U-4	ozzier et let in way uppor eman bilowi sel -Le At	ts: Skirt_ ts: Skirt_ ts: Skirt_ ts: Manut ng items c <u>Exempt</u> thal Se tahced	on and safe No. 1	ty valve open Dia or Size 16" 16" 4" 18" Lugs rtlai Data Rej 144" OD -20(f) ade in this rep	Ings: Ty C_150 C	Pe M RFWN SA- RFWN SA- RFWN SA- Legs refly identifi Heads S (name Pro- U TIFICATE OF rrect and the	(*F) a11 -106B	(pai) Nom. Thicknoiss .500 1/4 .500 3/1 .500 3/1 .500 3/1 .500 3/1 .500 1/4 .500 1/4	Reinforcement Mail. 4"SA-516-70 Inherent Inherent B"SA-516-70 7 3/8"SA-516 (describe) soloned Inspecto Worth F&D H re and identifying stan r UG-125 No	How Attached Welde Welde Welde Welde -7Attached ors have bee ead Co. np) *e (39)	(per) Location 2d Shell 2d Head 2d Head 2d Head 2d Shell Head, Welder (where & how) In furnished for th "U"
O. N (W Inl Out Dra Man (1. S 12. R (0 Ves Non U-4	et let in way uppor eman bilowi sel -Le At	ts: Skirt_ ts: Skirt_ ts: Skirt_ ts: Manuf ng items of thal Se tahced	on and safe No. 1 1 1 1 1 4 Second Strain St	ty valve open Dia or Size 16" 16" 4" 18" Lugs rtlai Data Rej 144" OD -20(f) ade in this reported	Ings: Ty C_150	Pe M RFWN SA- RFWN SA- RFWN SA- RFWN SA- Legt erly identifi Heads S (name Pro- U VIFICATE Of rrect and the stion VIII, Di	(*F) ari -106B -106B -106B -106B -106B -106B -106B -106B -106B -106B -106B -106B -2542 (mo ed and sig /N 2542 -106B -2542 -106B -2542 -106B -2542 -106B -2542 -106B -2542 -106B	(pai) Nom. Thickness 500 1/4 500 3/1 - 01he - 01he - 1,2 Ft. 1 number, mirs nam Relief pe tached (1 	Reinforcement Mai'l 4''SA-516-70 Inherent Inherent B''SA-516-70 (describe) ssioned Inspecto Worth F&D H as and identifying stan r UG-125 N:) terial, construction of Authorization	How Attached Welde Welde Welde Welde -7Attached ors have bee ead Co. *e (39) *e (39)	(cel) Location 2d Shell 2d Head 2d Head 2d Head 2d Shell Head, Welder (where & how) on furnished for th "U" manship of this ve pires(0-20, 19.9)
0. N (W Inl Out Dra Man 11. S 12. R fo Vess Non U-4	et let in way uppor eman bilowi sel -Le At	ts: Skirt_ ts: Skirt_ ts: Skirt_ ts: Manuf ng items of thal Se tahced	on and safe No. 1 1 1 1 1 4 Second Strain St	ty valve open Dia or Size 16" 16" 4" 18" Lugs rtlai Data Rej 144" OD -20(f) ade in this rep	Ings: Ty CL150 CL150 CL150 CL150 CL150 2 (no) ports prop F & D CERN port are co assets. Sec prict at f	Pe M RFWN SA- RFWN SA- RFWN SA- RFWN SA- Legt erly identifi Heads S (name Pro- U VIFICATE Of rrect and the stion VIII, Di	(*F) ari -106B -106B -106B -106B -106B -106B -106B -106B -106B -106B -106B -106B -2542 (mo ed and sig /N 2542 -106B -2542 -106B -2542 -106B -2542 -106B -2542 -106B -2542 -106B	(pai) Nom. Thicknoiss .500 1/4 .500 3/1 .500 3/1 .500 3/1 .500 3/1 .500 1/4 .500 1/4	Reinforcement Mai'l 4''SA-516-70 Inherent Inherent B''SA-516-70 (describe) ssioned Inspecto Worth F&D H as and identifying stan r UG-125 N:) terial, construction of Authorization	How Attached Welde Welde Welde Welde -7Attached ors have bee ead Co. np) *e (39)	(cel) Location ed Shell ed Head ed Head ed Shell Head, Weldec (where & how) on furnished for the "U" manship of this ve pires 0-20, 19.25
O. N (W Inl Out Dra Man (1. S 12. R (0 Ves Non U-4	et let in way uppor eman bilowi sel -Le At	ts: Skirt_ ts: Skirt_ ts: Skirt_ ts: Manuf ng items of thal Se tahced	on and safe No. 1 1 1 1 1 4 Second Strain St	ty valve open Dia or Size 16" 16" 4" 18" Lugs rtlai Data Rej 144" OD -20(f) ade in this reported	Ings: Ty CL150 CL150 CL150 CL150 2 (no) ports prop F & D CERT port are co assels, Sec pricati (mai	Pe M RFWN SA RFWN SA RFWN SA RFWN SA Legs Pro- Pro- Comment Pro- Commen	(*F) ari -106B	(pe) Nom. Thickness .500 1/4 .500 .500 3/1 .500 3/1 .500 3/1 .000 .000 .000 	Reinforcement Mai'l 4''SA-516-70 Inherent Inherent B''SA-516-70 (describe) ssioned Inspecto Worth F&D H as and identifying stan r UG-125 N:) terial, construction of Authorization	How Attached Welde Welde Welde Welde Welde Welde -7Attached ors have bee ead Co. no +e (39)	(cel) Location ed Shell ed Head ed Head ed Shell Head, Weldec (where & how) on furnished for the "U" manship of this ve pires 0-20, 19.25
0. N (fr Inl Out Dra Man 11. S 12. R fo Vess Vess	et let in way uppor emark ollowi sel -Le At	te: Skirt_ te: Skirt_ te: Skirt_ ks: Manuf ng items o <u>Exempt</u> that the st n to the AS <u>1-14-9</u>	on and safe No 1	ty valve open Dia or Size 16" 16" 4" 18" Lugs rtial Data Rej 144" OD -20(f) ade in this rep r Pressure Ve Rama Fat Fabrical	Ings: Ty CL150	Pe M RFWN SA- RFWN SA- RFWN SA- RFWN SA- Leg: erly identifi Heads S (name Pro- U- (rificate of rrect and the tion Vill, Di- on _ Inc viacture) TIFICATE O Inc.	(*F) a11 -106B	(pa) Nom. Thickness .500 1/4 .500 3/1 .500 3/1 .500 3/1 .500 3/1 .500 1/4 .500 3/1 .500 1/4 .500 1/4 .50	Reinforcement Mail. 4"SA-516-70 Inherent Inherent B"SA-516-70 7 3/8"SA-516 (describe) ssioned Inspecto Worth F&D H te and identifying star r_UG-125 N(D Lerial, construction of Authorization D L 2 (Prospect.	How Attached Welde Welde Welde Welde -7Attached ors have bee ead Co. ************************************	(cel) Location 2d Shell 2d Head 2d Head 2d Shell Head, Welder (where & how) In furnished for th "U" manship of this ve pires(0-20, 19.9) XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
0. N (III) Out a Man 11. S 12. R fo Ves Sol co Oate Vess	entify el corr entify entify entify entify el corr unde	that the st not the Action of the Action that the st that the st that the st	on and safe No 1	ty valve open Dia of Size 16" 16" 4" 18" Lugs rtlal Data Rey 144" OD -20 (f) -20 (f) ade in this rep r Pressure Ve Rama Fat Fabrical	Ings: Ty CL150 CL150 CL150 CL150 CL150 2 (no) ports prop F & D CERT fort are co assels. Set pricati (ma CERT (ma CERT) (ma CER	Pe M RFWN SA- RFWN SA- RFWN SA- RFWN SA- Leg: Provent SA- Provent SA- Comment Provent SA- Provent S	(*F) ari -106B	(pai) Nom. Thickness .500 1/4 .500 	Reinforcement Marit. 4"SA-516-70 Inherent Inherent B"SA-516-70 (describe) ssioned inspecte Worth F&D H e and identifying star r UG-125 N: UG-125 N: terial, construction of Authorization	How Attached Welde Welde Welde Welde -7Attached ors have bee ead Co. ************************************	(cel)
0. N (III) Out a Man 11. S 12. R fo Ves Sol co Oate Vess	entify el corr entify entify entify entify el corr unde	that the st unstructed l prose ts: Skirt_ ts: Skirt_ ks: Manuf hg items o <u>Exempt</u> that Se tahced	on and safe No. I	ty valve open Dia of Size 16" 16" 4" 18" Lugs rtial Data Rej 144" OD -20(f) -20(f) ade in this repr r Pressure Ve Rama Fat Fabrical id commissio and employ	Ings: Ty CL150 CL150 CL150 CL150 2 (mo) ports prop F & D CERT in Issued I ed by Th	PP M RFWN SA- RFWN SA- RFWN SA- RFWN SA- Legs erly identifi Heads S (name Pro- U- U- U- TIFICATE OI rect and that tion Vill, Di- on, Inc. Disc. py The Natic	(*F) ari -106B	Nom. Thickness 500 500 337 500 337 - Othe - 1,2 Ft. - 1,2 Ft. number, mirs, nam Relief pe tached (1 DMPLIANCE of design, ma 'U' Certificate Signed at _2310 of Boiler and Fa Boiler and Fa	Reinforcement Mai'l. 4"SA-516-70 Inherent Inherent B"SA-516-70 73/8"SA-516 (describe) ssioned Inspecto Worth F&D H a and identifying stam r UG-125 N: UG-125 N: Construction of Authorization Distance (Prospect. Prospect.	How Attached Welde Welde Welde Welde -7Attached ors have bee ead Co. pp) *e (39) *e (39) *on, and work no IZO22ex Any CA Stantally Odessa. napectors at	(cel) Location 2d Shell 2d Head 2d Head 2d Shell Head, Welder (where & how) In furnished for th "U" manship of this ve pires(0-20, 19.9) XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
0. N (W Inl Dra Man 11. S 12. R fc Vess Nor U-4 We c Sel cc Date	et let in way uppor emarti sel -Le At entify unde	that the st unstructed l resident of the st table of the st table of the st that the st that the st that st that the st that st the structed l resigned, h exas n -	on and safe No. I	ty valve open Dia of Size 16" 16" 4" 18" Lugs rtial Data Rej 144" OD -20(f) -20(f) ade in this repr r Pressure Ve Rama Fat Fabrical id commissio and employ re Inspected	Ings: Ty CL150 CL150 CL150 CL150 CL150 2 (no) ports prop F & D CER port are co sasels, Sec pricati (mai CER tion, J in issued ed by Th the comp	PP M RFWN SA- RFWN SA- RFWN SA- RFWN SA- Leg: erly identifi Heads S (name Pro- U- U- CIFICATE OI rrect and that ition Vill, Di- con, Inc. Dy The Nalic Hartformer description	(*F) ari -106B	(pai) Nom. Thickness .500 1/4 .500	Reinforcement Mai'l. 4''SA-516-70 Inherent Inherent B''SA-516-70 (describe) ssioned inspecto Worth F&D H e and identifying star r UG-125 Nr UG-125 Nr Lerial, construction of Authorization Stare (Prospect, ressure Vessel II I & I Co. rrs' Data Report	How Attached Welde Welde Welde Welde Welde -7Attached ors have bee ead Co. mo *e (39) *e (39) *e (39) *on, and work mo <u>70222ex</u> * * * * * * * * * * * * * * * * * * *	(cel) Location 2d Shell 2d Head 2d Head 2d Head 2d Shell Head, Welder (where & how) on furnished for th "U" manship of this ve pires(0-20, 19.9) XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
0. N (ir) Inl Out Dra Man 11. S 12. R (Ves Non U-4 We c Sec Vess I, the ince of Sect	et in way uppor emark of ase1 of that, in way uppor emark of that,	that the st that the st to the bess the the st that the st the structed i the stanced the	on and safe No. 1 Yes (yes or no) acturers' Pa of the report: Per UG- (1) atements me SME Code fo Q Name by Rama by Rama by Rama by Rama by Name by Rama by Nama by </td <td>ty valve open Dia or Size 16" 16" 4" 18" Lugs_ rtial Data Rej 144" OD -20(f) -20(f) -20(f) Fabrical ade in this rep r Pressure Ve <u>Bama Fab</u> Fabrical id commissio _ and employ</td> <td>Ings: Ty CL150 CL150 CL150 CL150 CL150 CL150 CL50</td> <td>PP M RFWN SA RFWN SA RFWN SA RFWN SA RFWN SA Legs erly identifi Heads S (name Pro- U- (IFICATE Of rrect and the cition VIII, DC IFICATE Of Data of the cition VIII, DC DC DC DC DC DC DC DC DC DC</td> <td>(*F) ai'i -106B -100</td> <td>(pai) Nom. Solo 1/4 Solo 1/4 Solo 3/1 Nomed by Commi- 1,2 Ft. Number mirs nam Relief pe tached (1 DMPLIANCE of design, ma U'' Certificate Signed DSPECTION at _2310 of Boiler and F am Boiler s Manufacture ructed this pre s manufacture</td> <td>Reinforcement Mai'l 4''SA-516-70 Inherent Inherent 8''SA-516-70 (describe) soloned inspect Worth F&D H is and identifying star r UG-125 N/ D terial, construction of Authorization D L-25 N/ D Prospect. Prospect. I & I Co. rrs' Data Report posure vessel in a kes any warranty</td> <td>How Attached Welde Welde Welde Welde -7Attached ors have bee ead Co. np) -e (39) -e (3</td> <td>(cel) Location ed Shell ed Head ed Head ed Shell Head, Welder (where a how) on furnished for the "U" manship of this ve pires(0-20, 19.9) Texas 79763 nd the state or pro-</td>	ty valve open Dia or Size 16" 16" 4" 18" Lugs_ rtial Data Rej 144" OD -20(f) -20(f) -20(f) Fabrical ade in this rep r Pressure Ve <u>Bama Fab</u> Fabrical id commissio _ and employ	Ings: Ty CL150 CL150 CL150 CL150 CL150 CL150 CL50	PP M RFWN SA RFWN SA RFWN SA RFWN SA RFWN SA Legs erly identifi Heads S (name Pro- U- (IFICATE Of rrect and the cition VIII, DC IFICATE Of Data of the cition VIII, DC DC DC DC DC DC DC DC DC DC	(*F) ai'i -106B -100	(pai) Nom. Solo 1/4 Solo 1/4 Solo 3/1 Nomed by Commi- 1,2 Ft. Number mirs nam Relief pe tached (1 DMPLIANCE of design, ma U'' Certificate Signed DSPECTION at _2310 of Boiler and F am Boiler s Manufacture ructed this pre s manufacture	Reinforcement Mai'l 4''SA-516-70 Inherent Inherent 8''SA-516-70 (describe) soloned inspect Worth F&D H is and identifying star r UG-125 N/ D terial, construction of Authorization D L-25 N/ D Prospect. Prospect. I & I Co. rrs' Data Report posure vessel in a kes any warranty	How Attached Welde Welde Welde Welde -7Attached ors have bee ead Co. np) -e (39) -e (3	(cel) Location ed Shell ed Head ed Head ed Shell Head, Welder (where a how) on furnished for the "U" manship of this ve pires(0-20, 19.9) Texas 79763 nd the state or pro-



Reliable...Responsive...Resourceful...Proactive

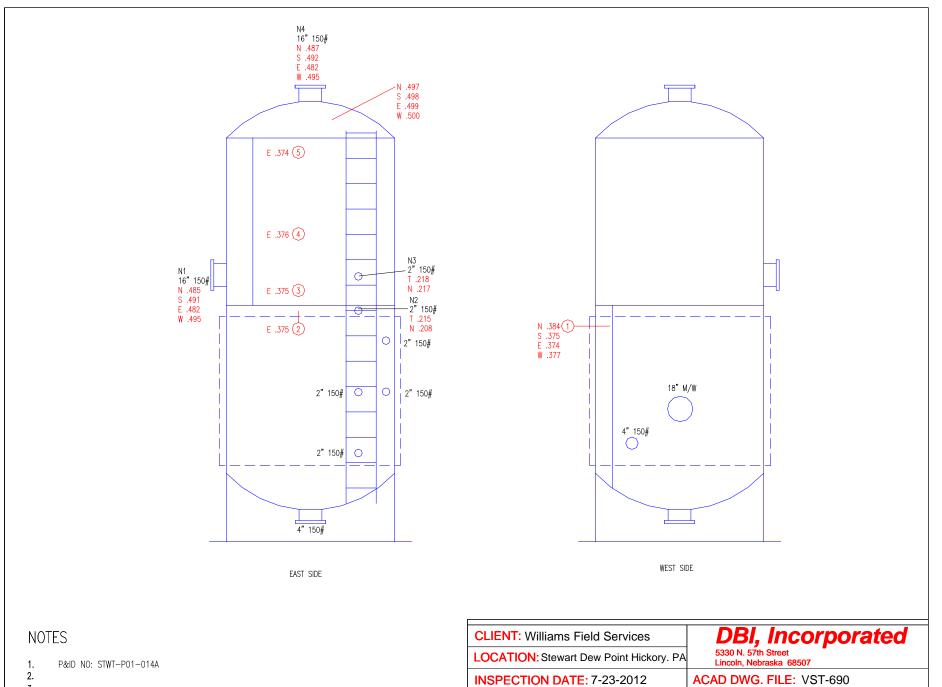
	by Kama rab	rication, In	c., 2310 Pro	spect, O	lessa, Texas 797	62
Manufactured for Exxon	Company, U.	S.A., P.O. B	ox 1600, Mid	liand, Te:	кав 79702	
Location of installation We	01725	21 Mi SE of 1	Lake Charles (name and a D-2584	ddress)	<u>anna</u> 6 10	1990
(horiz., vert., tenh. etc.)	(mir's serial no.)	(CRN)	(drawin		(Nat'l Bd no.)	(yea: built)
Deta Report Item Number			Rem	arks		
10 Anode SH,LLC,LSL	<u>1 4"</u> 6 2"	CL150RFWN CL150RFWN	SA-106-B SA-106-B	.337	14/"SA-516-70 Inherent	Welded Welded
L.G.	6 3/4"	CPLG	SA-100-B SA-105	6000#	Inherent	Welded
		-				
and a bottomber and the set of th						
ander i berrinnen og en beken af grunge besen i viske det her en en viske						
				~	· • ·	
Date 11-14-90 Name	Rama Fabr	cation. Inc.	Sig		Low Vlamme	



Reliable...Responsive...Resourceful...Proactive

	•	A Par	t of a Pr	essure \	Vessel Fab	icated by	One Mar	nufacturer f	ALTERNATIV or Another N VIII, Division 1	anufaciu	
۱.	Man	ufactured and	certified (y Fort	Worth F &	D Head	Co., 30	40 Peden	Rd., Fort	Worth, I	X 76179
							Prospect		ssa, TX 79		
3.	Loca	ation of instal	lation				(nen	Same			>
4.	Тур	fueriz or ve	rt., tank)	SN-254	2-1,2	(CRN)		WO-2542 (drawing no.)	(Nat'l. Bd.	no.)	1990 (year built)
5.	The VES	SEL CODE. T	he constru	roperties ction, and	of all parts me I workmanship	et the requi	ASME Code	naterial specif s, Section VIII,	Ications of the A Division 1:	198	R AND PRESSU
		A-89 (adden:is (da	10#	•	de Case no.)				I service per UG-120		. / . !!
7.	(a) (Posi Shei	tweld heat tre	atment: te	mperature	None	id Co. •F. 1	[ime		pected_(2)_1 /Flang	ed & Die	ned Head
		(met'l. (spec.			ichness (in))	(corr. allow.	(In.)) 100	(die. 10 (11. & In.))	(length (overall	ŋ (ft. & In.))	(no. of courses)
		ms: <u>Db1.</u> E	(iong.)		Full (RT)		(011. (%))		(girth)		(RT)
10.	Hea	ds: (a) SA	-516-	fmat'l (s	70, Carbon pec. no. grade))	<u>3teel</u>	(b)	(mal'l. (spe	c. no. grade))	
	Γ	Location (top, bottom, encis)	Minimum Thickness	Corros		Knuckle Redius	Elliptical Ratio	Conical Apax Angle	Hemispherical Radius	Flat Diameter	Side to Pressur foorwex or conce
	(0)		. 403"		138"	8.75"					
11.	er 11 MAN		s used (de max. tem		er fastenings): .Min. design n			Tes	ipec. no., gr., size, no l press.: iro, pneu., or comb.Xr	in the	(position)
	If re MAN	WPat tool	max. tem	r				(psi) (hyd	t press.: iro, pneu., or comb.)(; Reinforcement	in the	
	If re MAN Noz	WPat	max. tem	r	.Min. design n		("F) Material	(psl) (hyd	t press.: iro, pneu., or comb.)(;	in the	
12.	Noz	WPat total and insp Purp-see (wiet, outiet, drain	max. tem pection op)(*?) anings: Number	.Min. design n Dia. or Size	Type	Material	Tes (psi) (hyc Nominel Thicknese	l press. Iro, pneu., or comb.Xp Reinforcement Material	in the	
12.	If re MAN Noz	WPat spein sites and insp Purpose timel, outlet, drain poports: Skirt, marks: Fol	max. tem		.Min. design n Dis. or Size Legs_ D Head Cop	Type Ot	Material	Nominal Thickness Attac Attac	l press. Iro, pneu., or comb.Xp Reinforcement Material	in the	heada wer
12. 13. 14. We	Noz Sup Ren 	WPat good insp purpose purpose purpose purpose purpose purpose sports: Skirt, nerks:FOI fOI 	max. tem pection op , etc.) rt Wort rmed co tatementa ASME Coo		.Min. design n Dis. or Size Legs D Head Con Batisfy CER	Type Type Ot mpany pe the re TiFICATE O correct and Section VII	Material ther crformed equirement equirement of SHOP CO that all detail i, Division 1 expires company	Nominal Thickness Attac no_desig nts_of_UC MPLIANCE alls of materia	I press. no, preu, or comb % Reinforcement Material hed 5-79(d)_6_1 I, construction,	in the Attack 	heads ver
12. 13. 14. We par	Noz Sup Ren 	WPat gen Purpase intel, outlet, drein Purpase intel, outlet, drein Purpase intel, outlet, drein Purpase Intel, outlet, drein Purpase Intel, outlet, drein Purpase Intel, outlet, drein Purpase Intel, outlet, drein FOI Intel, drein FOI Intel, drein FOI Intel, drein FOI Intel, drein FOI Intel, drein FOI Intel, drein FOI FOI FOI FOI FOI FOI FOI FOI	max. temp pection op , etc.) rt Wort rmed co tatements ASME Coor thorization Name	Number Number Lugs t_E & I Ld_and Id_and for Pres no10 Fort_Wi Nild comm	CER CER CER CER CER CER CER CER	Type Type Of Dany pe the re the re tificATE O correct and Section VII D Head ((menule trificATE O by The Nalk	Meterier rformed rformed inter inter rformed inter	Nominel Thickness Allac no_design hts_of_UC MPLIANCE alls of materia SPECTION of Boiler and P Company	I press. no, preu, or comb lip Reinforcement Material hed <u>function</u> S-79(d) <u>function</u> I, construction, Signed ressure Vessel i	In the	heads wer
12. 13. 14. We par "U" Dat I, til inc of_ and AS	Noz Sup Ren Certor Certor Certor Da d sta	WPat gen gen triet, outlet, drain ports: Skirt, nerks:FOI fOI tilly that the s nform to the rtificate of Au 10-22-90 ndereigned, h fOI 11asTX te that to the Code Section	max. tem pection op , etc.) rt Wort rmed co tatementa ASME Coo thorization Name olding a vi h best of my Vill, Divia	Mumber Number Number Lugs Lugs Lugs L and and and Fort Wild comm and empi ve inspec knowledg on 1. By t vessel ne	.Min. design n 	Type Type Type Ot mpany pe the re the re TiFiCATE O correct and Section VII D. Head C (menule ITIFICATE O to pThe Natil loyera (re vessel pa he manufac rtificate nel the Monufe	Material Inter	Tes (psi) (hyc Nominel Thickness Attac no_desig nts_of_UC DMPLIANCE alls of materia 	I press. press. Peinforcement Material hed 5-79(d). & I I, construction, Signed.	In the	In the state or accordance with accordance with accord

NO 133 Rev. 3



VESSEL No: VST-690

VESSEL ID: Liquid Storage Tank

DWN BY: MCS

CKD BY:

MECHANICAL INTEGRITY INSPECTION

3.

4. 5.

5. 6.