BUCKEYE PARTNERS, L.P.

Thomas S. (Scott) Collier
Vice President, Performance Assurance
(610) 904-4922
E-Mail: tcollier@buckeye.com

Five TEK Park
9999 Hamilton Blvd.
Breinigsville, PA 18031

November 3, 2015

RECEIVED NOV 04 2015
CN

Mr. Byron Coy
Director, Eastern Region
Pipeline and Hazardous Materials Safety Administration
U. S. Department of Transportation
820 Bear Tavern Road, Suite 103
West Trenton, NJ 08628

RE: CPF 1-2015-5019 – Notice of Probable Violation, Proposed Civil Penalty and Proposed Compliance Order – Macungie PA Inspection Tank 214

Dear Mr. Coy:

Buckeye received the referenced Notice of Probable Violation, Proposed Civil Penalty and Proposed Compliance Order (NOPV) on October 16, 2015 relating to the inspection of Buckeye Partners, L.P. (Buckeye) Macungie station and nearby facilities from July 29 to August 2, 2013.

Upon review of the NOPV Buckeye is providing additional information on Item 1 that shows that an in-service inspection on Macungie Tank 214 was performed on February 28, 2008. A copy of the inspection report has been enclosed for your review.

With this information Buckeye requests that PHMSA revise its Item 1 finding and respectfully requests a reduction in the assessed penalty.

If you have any questions, or need additional information, please feel free to contact myself or Claudia Pankowski, Director, Regulatory Compliance at 610-904-4185.

Sincerely,

Thomas S. Collier

Thomas S. (Scott) Collier

Enclosures

cc: C. Ostach
J. Mattis
C. Pankowski
S. Leiby

D J A INSPECTION SERVICES, INC.

Storage Tank Management & Inspection

814-676-3663 P. O. Box 384 Reno, PA 16343
661-363-5453 P. O. Box 544 Edison, CA 93220

BUCKEYE PIPELINE
MACUNGIE, PA
Tank #214

Date of In - Service Inspection: February 28, 2008

Inspector: Karl Rubendunst
API Certificate #27943

Copies: Buckeye Pipeline – 3
File - 1

Dependable • Judicious • Affordable

DJA Inspection Service, Inc.
Purpose

This report is given to enable one to assess the serviceability of this tank. The report is of an API-653 inspection made by DJA Inspection Services, Inc.

It is the mission of DJA Inspection Services to provide full service tank inspections to the storage tank industry, to be known for quality and detailed inspections through the dedication and experience of our team and to provide the service worldwide as well as to the individual tank owner.

DJA obtains this through the use of proper instrumentation, equipment, and trained inspectors. DJA also insists on its minimum inspection requirements being fulfilled even if they exceed the customer's request. With DJA, the report content and context is weighted heavily in all inspections.

DJA intends to provide this service at a reasonable rate and provide reports in a timely manner.

SUMMARY/RECOMMENDATIONS

Recommendations found in this report made by DJA Inspection Services, Inc. are for report purposes only. Actual repair needs are to be determined and designed by the tank owner after review of the entire report.

DJA
INSPECTION

MISSION STATEMENT

"It is the mission of DJA Inspection Services, Inc. to provide full service tank inspections to the storage tank industry, to be known for quality and detailed inspections through the dedication and experience of our team and to provide the service worldwide as well as to the individual tank owner."

BUCKEYE PIPELINE
MACUNGIE, PA
TANK #214

In-Service Inspection of 02/28/2008

Summary:

CONTAINMENT AREA - The tank sets on an earth foundation in an earth containment area. No serious conditions were found.

LEAK DETECTION - Leak detection drains are installed between the original and second bottoms.

SECONDARY CONTAINMENT - The original bottom is used for secondary containment.

SETTLEMENT SURVEY - An out-of-plane settlement survey was performed on the tank. The out-of-plane settlement is acceptable per API-653.

FIXED ROOF - The steel cone roof was visually inspected and thickness readings were taken. No serious conditions were found.

SHELL - The shell was visually inspected and thickness readings were taken. No serious conditions were found.

NOZZLES - The nozzles were visually inspected and thickness readings were taken. No serious conditions were found.

CHIME - The 2nd bottom chime was visually inspected. No serious conditions were found.

EXTERNAL DETERIORATION PROTECTION - The paint is in serviceable condition. The air scoops should be repainted. The roof should be spot painted in the paint failure areas.

BRITTLE FRACTURE - Brittle fracture should not be a concern since the tank is to remain in the same service.

CATHODIC PROTECTION - Installed; impressed current

OVERFILL PREVENTION - Installed.

BUCKEYE PIPELINE
MACUNGIE, PA
TANK #214

In-Service Inspection of 02/28/2008

Recommendations:

No recommendations at this time.

BUCKEYE PIPELINE
MACUNGIE, PA
TANK #214

In-Service Inspection of 02/28/2008

Suggestions:

1. Repaint the air scoops and spot paint the areas of paint failure on the roof.

SPREADSHEETS

DJA
INSPECTION

MISSION STATEMENT

"It is the mission of DJA Inspection Services, Inc. to provide full service tank inspections to the storage tank industry, to be known for quality and detailed inspections through the dedication and experience of our team and to provide the service worldwide as well as to the individual tank owner."

Tank Data Summary

Customer :	BUCKEYE PIPELINE	**Location :**	MACUNGIE, PA
Tank # :	214	**Serial # :**	UNAVAILABLE
Manufacturer :	GRAVER	**Year Built :**	1953
Tank Description :	BUTT WELDED	**Diameter :**	110.00 feet
Product :	GASOLINE	**Height :**	49.50 feet
Code :	UNKNOWN	**Design Capacity :**	3,518,900 gal
Product Specific Grav. :	0.751		83800 bbl

Maximum Filling Height Used by Facility :	48.50 feet
Calculated Filling Height Using S.G.:	49.50 feet

Is vessel on original location? :	Y
Vessel drawings? :	N
Is vessel modified? :	Y
Any previous inspection records? :	Y
Any maintenance records? :	N
Any weld examination records? :	N
Any leak test records? :	N
Any mill test records? :	N

Normal Venting Evaluation:

Venting, Sq in :
Fill openings, Sq in :
Outlets, Sq in :

Pressure, operating/design (psig) :	ATMOS./ATMOS.
Temperature, operating/design (°F) :	AMBIENT/AMBIENT

Shell Material Spec :	UNKNOWN
Roof type :	STEEL CONE
Floating roof? :	Y
If so, description :	API - Aluminum Pontoon (Internal)
Type of seals :	
Primary :	
Secondary :	
Floating Roof access? :	Y
If so, description :	FIXED LADDER
Bottom construction :	
Second bottom? :	Y
If so, year installed :	
External finish :	PAINT
Internal lining :	
Insulation type :	NA

Flow Rates :

Max Flow Rate:	UNKNOWN
Current Flow Rate:	UNKNOWN

Date of Inspection

Date Taken: 2/28/2008

Tank #: 214

Client: BUCKEYE PIPELINE

Location: MACUNGIE, PA

** Out-of-Service Inspection dates per API-653 code are derived from data accumulated in this In-Service Inspection and do not preclude any scheduled or mandated Out-of-Service Inspection prior to the date given in this spreadsheet.

Original thicknesses of Shell and Nozzles are assumed for calculations.

Item	Thickness	Date	Minimum Thickness	Inspection Date	Corrosion Rate	Remaining Corrosion Allowance	Remaining Corrosion Life in Days	In-Service Inspection Date Based on ¼ Life	Out-of-Service Inspection Date Based on ½ Life	In-Service Inspection Date Based on 5 Years	Out-of-Service Inspection Date Based on 20 Years
Roof	0.188	1/1/1953	0.151	2/28/2008	2E-06	0.061	33668.65753	16-Mar-2031	1-Apr-2054	27-Feb-2013	28-Feb-2028
Shell Course 1	0.750	1/1/1953	0.710	2/28/2008	1.98551E-06	0.079	39934.4303	29-Jun-2035	29-Oct-2062	27-Feb-2013	28-Feb-2028
Shell Course 2	0.688	1/1/1953	0.647	2/28/2008	2.01032E-06	0.114	56618.97045	29-Nov-2046	31-Aug-2085	27-Feb-2013	28-Feb-2028
Shell Course 3	0.500	1/1/1953	0.475	2/28/2008	1.24094E-06	0.087	70363.29519	26-Apr-2056	25-Jun-2104	27-Feb-2013	28-Feb-2028
Shell Course 4	0.375	1/1/1953	0.368	2/28/2008	3.47464E-07	0.070	201879.5051	4-May-2146	9-Jul-2284	27-Feb-2013	28-Feb-2028
Shell Course 5	0.281	1/1/1953	0.265	2/28/2008	8.06612E-07	0.037	45723.95296	15-Jun-2039	1-Oct-2070	27-Feb-2013	28-Feb-2028
Shell Course 6	0.250	1/1/1953	0.237	2/28/2008	6.45289E-07	0.079	121832.4566	20-Jul-2091	10-Dec-2174	27-Feb-2013	28-Feb-2028
Shell Course 7	0.250	1/1/1953	0.234	2/28/2008	7.94202E-07	0.134	168722.75	24-Aug-2123	18-Feb-2239	27-Feb-2013	28-Feb-2028
Shell Course 8	0.250	1/1/1953	0.239	2/28/2008	5.46014E-07	0.139	254572.1818	29-May-2182	28-Aug-2356	27-Feb-2013	28-Feb-2028
Nozzle A - 20 "	0.375	1/1/1953	0.379	2/28/2008	1E-105	0.279	2.79E+104	###############	###############	27-Feb-2013	28-Feb-2028
Nozzle B - 3 "	0.300	1/1/1953	0.329	2/28/2008	1E-105	0.229	2.29E+104	###############	###############	27-Feb-2013	28-Feb-2028
Nozzle C - 24 "	0.500	1/1/1953	0.510	2/28/2008	1E-105	0.410	4.1E+104	###############	###############	27-Feb-2013	28-Feb-2028
Nozzle D - 20 "	0.375	1/1/1953	0.352	2/28/2008	1.14167E-06	0.252	220730.087	30-Mar-2159	1-May-2310	27-Feb-2013	28-Feb-2028
Nozzle E - 16 "	0.438	1/1/1953	0.408	2/28/2008	1.46431E-06	0.308	210337.8983	17-Feb-2152	6-Feb-2296	27-Feb-2013	28-Feb-2028
Nozzle F - 16 "	0.500	1/1/1953	0.500	2/28/2008	1E-105	0.400	4E+104	###############	###############	27-Feb-2013	28-Feb-2028

See API-653 Sections 4.3.3 and 4.3.4

Data taken: 2/28/2008

Tank No. : 214
Client : BUCKEYE PIPELINE
Location : MACUNGIE, PA

Course	Ht, FT
1	7.50
2	8.20
3	7.60
4	5.90
5	5.90
6	5.90
7	5.90
8	2.60
9	
10	

TANK DIAMETER, D : 110.00 FT
SHELL HEIGHT : 49.50 FT
FACILITY FILL HT : 48.50 FT
G, PRODUCT SP. GRAV.: 0.751 (water = 1.0)
Y, YIELD STRENGTH : 30,000 PSI
T, TENSILE STRNGTH: 55,000 PSI
JOINT TYPE : BUTT

E, JOINT EFFICIENCY: PER CODE OR USE DESIGN VALUE
1.0 FOR CORRODED PLATE CALC.
t, MINIMUM MEASURED SHELL THICKNESS, INCHES
S, MAXIMUM ALLOWABLE STRESS, PSI
COURSE 1-2: 23,595 PSI (SMALLER OF 0.80Y OR 0.429T)
COURSE 3-11: 25,960 PSI (SMALLER OF 0.88Y OR 0.472T)
RCA, REMAINING CORROSION ALLOWANCE, INCHES
REQUIRED THICKNESS FORMULA FROM API-653
t = {2.6D(H)G}/{SE}
OR, REARRANGING TERMS:
H = {t(SE)/(2.6DG)}

SHELL READINGS, CONSTRUCTION, AND RESULTS

SHELL COURSE	MIN. THK, IN	AVG. THK, IN	RCA, in.	JOINT EFF., E	JOINT TYPE	FILL HEIGHTS, FT (BASED ON S.G. = 0.751) ALLOW'D	CAL'D
1	0.710	0.750	0.079	70%	BUTT	49.50	54.60
2	0.647	0.659	0.114	70%	BUTT	49.50	57.25
3	0.475	0.507	0.087	70%	BUTT	49.50	55.89
4	0.368	0.370	0.070	70%	BUTT	49.50	54.43
5	0.265	0.275	0.037	70%	BUTT	49.50	51.62
6	0.237	0.246	0.079	70%	BUTT	49.50	55.15
7	0.234	0.236	0.134	70%	BUTT	49.50	60.80
8	0.239	0.245	0.139	70%	BUTT	49.50	67.12

Controlling fill height based on product S. G. is 49.50 for Shell Course 1 (Fill ht based on S.G.=1.0 is 41.00 ft).

RCA based on Facility FIll Ht and Product S.G.

Nozzle Reinforcement Calcs

See API-653 Section 8.5

Tank #: 214
Client: BUCKEYE PIPELINE
Location: MACUNGIE, PA

THE REINFORCING CROSS-SECTIONAL AREA (X x Y) MUST BE LESS THAN THE FOLLOWING:
(SEE NEXT PAGE FOR DEFINITIONS)

X(Y) < (A)(B-X) + (4)(T)(T)(2) + (2)(T)(Y)

NOTE: Nozzle Ht. Per API-650 column is for informational purposes only. This column indicates whether the height of the nozzle meets the present API-650 normal height requirement, but does not indicate whether it is in violation of API-653.

Reference Template NR-1

Tag	Size in.	Service	Sheet ID Tag	Co-ord., ft X-Axis	Co-ord., ft Y-Axis	Nozzle Thick, inches Top	Nozzle Thick, inches Left	Nozzle Thick, inches Btm	Nozzle Thick, inches Right	Re-pad Thk, in	B, in	X, in	Y, in	A, in	T, in	X x Y Sq. in.	Reinf Area Sq. in.	Approv'd per API-653	Nozz Ht per API-650
A	20	MANWAY	SC0101	9.8	2.50	0.379	0.379	0.381	0.380	0.912	40.0	20.0	0.72	0.91	0.38	14.46	19.94	YES	YES
B	3	WATER DRAW	SC0101	24.4	0.60	0.331	0.330	0.329	0.330	0.759	7	3.5	0.72	0.76	0.33	2.53	4.00	YES	==NO==
C	24	36"X24" MANWAY	SC0104	23.0	2.00	0.510	0.512	0.510	0.513	0.914	48	24.0	0.71	0.91	0.51	17.09	24.74	YES	==NO==
D	20	MANWAY	SC0107	9.9	2.30	0.353	0.354	0.352	0.353	0.889	40	20.0	0.71	0.89	0.35	14.20	19.27	YES	YES
E	16	BLANK	SC0111	24.3	1.40	0.408	0.411	0.412	0.413	0.772	32	16.0	0.71	0.77	0.41	11.41	14.27	YES	==NO==
F	16	PRODUCT	SC0112	9.9	1.40	0.501	0.500	0.502	0.506	0.752	32	16.0	0.73	0.75	0.50	11.74	14.77	YES	==NO==
G																			
H																			
I																			
J																			
K																			
L																			
M																			
N																			
O																			
P																			
Q																			
R																			
S																			
T																			

Nozzle Reinforcement Pad Layout

Client: BUCKEYE PIPELINE

Tank #: 214

Location: MACUNGIE, PA

Reference Template RPT-1

Nozzle Letter	Repad Type	Measurement Location-measurement in feet				
		A	B	C	D	R
A	2	4.40	1.60	3.70	0.95	
B	2	1.10	0.40	0.85	0.15	
C	12	6.60	2.90	4.60	2.70	
D	2	4.50	1.55	3.70	0.90	
E	12	3.70	1.20	3.00	1.70	
F	12	3.60	1.10	2.95	1.70	

Roof Plate Thickness Readings

Tank #: 214
Client: BUCKEYE PIPELINE
Location: MACUNGIE, PA

Overall Min: 151
Overall Max: 189
Overall Avg: 181.3

Readings in thousandths of an inch.
Data taken: 2/28/08

Reference Template RTR-1

Roof Plate #	Point===> 01	02	03	04	05	06	Plate Type	Roof Plate #	Point===> 01	02	03	04	05	06	Plate Type	Roof Plate #	Point===> 01	02	03	04	05	06	Plate Type	Roof Plate #	Point===> 01	02	03	04	05	06	Plate Type
T-1	184	158	184				C	T-31	183	183	151	185	184		E	T-61	187	184	187	186	186		E	T-91							
T-2	181	183	157	182	157		E	T-32	183	182	182	182	184		E	T-62	186	185	187	186	182		E	T-92							
T-3	185	157	182	183	181		E	T-33	184	184	183	183	184		E	T-63	189	185	188	187	158		E	T-93							
T-4	183	182	185	182	183		E	T-34	151	184	156	183	184		E	T-64	186	187	188	187	185		E	T-94							
T-5	181	182	183	182	182		E	T-35	182	183	183	184	182		E	T-65	186	160	188	159	185		E	T-95							
T-6	184	184	183				A	T-36	184	182	182	162	188		E	T-66	158	160	188	187	188		E	T-96							
T-7	185	181	185	183	183		E	T-37	187	187	160	185	187		E	T-67	188	189	186	185	186		E	T-97							
T-8	182	157	182	183	184		E	T-38	188	188	187	188	186		E	T-68	186	188	185	185	185		E	T-98							
T-9	184	183	182	183	184		E	T-39	185	187	188	161	161		E	T-69	185	188	188	187	188		E	T-99							
T-10	183	182	184	184	183		E	T-40	163	162	187	188	162		E	T-70	185	187	187	188	161		E	T-100							
T-11	182	183	183	183	184		E	T-41	188	160	186	187	188		E	T-71	188	187	186	187	187		E	T-101							
T-12	183	182	188	189	188		E	T-42	188	186	162	161	185		E	T-72	186	186	185	186	187		E	T-102							
T-13	183	182	182	183	181		E	T-43	187	186	161	186	187		E	T-73	184	186	186	185	186		E	T-103							
T-14	156	184	180	182	183		E	T-44	187	188	188	159	185		E	T-74	186	185	187	183	186		E	T-104							
T-15	180	180	183	182	178		E	T-45	161	188	189	186	185		E	T-75	161	162	186	187	187		E	T-105							
T-16	183	180	167	179	181		E	T-46	187	187	162	162	160		E	T-76	187	186	185	184	183		E	T-106							
T-17	183	179	182	182	178		E	T-47	160	186	189	188	188		E	T-77	181	181	183	183	183		E	T-107							
T-18	183	184	178	179	179		E	T-48	187	162	159	185	161		E	T-78	184	183	182	183	183		E	T-108							
T-19	184	179	182	160	179		E	T-49	186	187	187	186	185		E	T-79	184	183	185	183	179		E	T-109							
T-20	157	182	184	183	179		E	T-50	160	162	187	187	187		E	T-80	183	183	158	182	183		E	T-110							
T-21	182	182	179	183	178		E	T-51	185	187	188	161	186		E	T-81	183	181	179	182	179		E	T-111							
T-22	183	180	183	185	185		E	T-52	185	186	186	185	186		E	T-82	179	157	183				F	T-112							
T-23	185	182	180	183	178		E	T-53	188	187	186	185	188		E	T-83	183	153	179	179	183		E	T-113							
T-24	181	184	180	183	181		E	T-54	187	188	187	187	185		E	T-84	182	182	180	184	178		E	T-114							
T-25	184	179	184	184	183		E	T-55	186	188	186	187	187		E	T-85	182	178	183	180	183		E	T-115							
T-26	184	183	183	156	183		E	T-56	185	186	186	188	187		E	T-86	183	180	183	182	183		E	T-116							
T-27	181	181	183	184	184		E	T-57	188	186	187	184	185		E	T-87	185	185	184				D	T-117							
T-28	183	180	184	184	179		E	T-58	186	185	185	185	186		E	T-88								T-118							
T-29	184	178	185	181	182		E	T-59	162	186	187	185	185		E	T-89								T-119							
T-30	179	183	183	179	183		E	T-60	185	188	160	162	188		E	T-90								T-120							

Shell Vertical Thickness Readings

Tank #: 214

Client: BUCKEYE PIPELINE

Location: MACUNGIE, PA

Reference Template
STV-1 or STVR-1

Data taken: 2/28/2008

Shell Course	Drop No.	Point No. V - ===> 01	02	03	04	05	06	07	08	09	10	11
		Readings in thousandths of an inch										
SC-1		MAX:	811	MIN:	728	AVG:	771.2					
	1	728	759	731	764	766	797	759	766			
	2	739	774	776	776	778	777	775	777			
	3	776	778	782	780	779	778	778	774			
	4	749	776	774	777	775	775	774	811			
SC-2		MAX:	687	MIN:	647	AVG:	659.3					
	1	676	647	656	654	658	657	685	659	661		
	2	647	654	658	656	687	658	657	657	659		
	3	655	657	658	658	687	659	657	659	659		
	4	659	658	657	656	654	655	654	653	652		
SC-3		MAX:	537	MIN:	475	AVG:	507					
	1	502	505	505	507	507	508	508	507			
	2	506	536	507	475	508	508	502	504			
	3	504	505	479	537	508	509	506	508			
	4	507	535	506	504	503	508	507	504			
SC-4		MAX:	374	MIN:	368	AVG:	370.3					
	1	368	370	368	372	374	370					
	2											
	3											
	4											
SC-5		MAX:	281	MIN:	265	AVG:	275.3					
	1	272	277	281	278	279	265					
	2											
	3											
	4											
SC-6		MAX:	250	MIN:	237	AVG:	246.2					
	1	237	245	246	249	250	250					
	2											
	3											
	4											
SC-7		MAX:	240	MIN:	234	AVG:	236.3					
	1	234	236	235	240	237	236					
	2											
	3											
	4											
SC-8		MAX:	248	MIN:	239	AVG:	244.7					
	1	248	247	239								
	2											
	3											
	4											

Shell Horizontal Thickness Readings

Reference Template STR-1 or STR-2

Tank #: 214

Client: BUCKEYE PIPELINE

Location: MACUNGIE, PA

Data taken: 2/28/2008

Shell Course	Sht No.	Point No.===> 01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
		Readings in thousandths of an inch																															
SC-1		MAX =		787	MIN =		710	AVG =		750																							
	1	758	723	755	775	776	775	754	776	775	776																						
	2	746	739	766	745	746	746	766	765	762	747																						
	3	745	753	747	748	741	750	745	736	777	738																						
	4	712	741	769	763	736	787	753	759	753	754																						
	5	779	759	754	734	754	736	754	754	735	753																						
	6	710	739	736	737	755	777	754	734	732	733																						
	7	755	710	740	742	753	755	755	738	757	746																						
	8	734	735	740	737	733	735	733	734	741	775																						
	9	770	769	754	755	778	779	751	735	755	755																						
	10	740	743	741	747	741	754	755	730	755	755																						
	11	756	749	777	754	755	753	755	713	734	755																						
	12	755	755	753	741	737	748	746	743	734	746																						
	13																																
	14																																
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	28																																
	29																																
	30																																

CORRECTED DATA - Readings in feet.

NOTE: Elevations are based on lowest station point at the shell being 0.00'

Tank #: 214

Tank Dia: 110 ft

Max Reading: 2.26 ft at edge, used to correct data

Distance across tank from edge ==>

seam	edge															
1	0.08															
2	0.06															
3	0.03															
4	0.00															
5	0.10															
6	0.14															
7	0.24															
8	0.29															
9	0.29															
10	0.24															
11	0.18															
12	0.10															
13																
14																
15																
16																
17																
18																
19																
20																
21																
22																
23																
24																

Data taken: 2/28/2008

Description of Benchmark : Concrete Pad At Top of Stairs

Elevation on Benchmark : -7.3

Out-of-Plane Edge Deflection Analysis - API-653 Appendix B

Tank No.: 214

Formula for Out-of-Plane Deflection: |S| < or = (L^2 x Y x 11) / [2(E x H)]

Where:

S = deflection, in feet
L = arc length, in feet
Y = yield strength, in psi
E = Young's modulus, in psi
H = tank height, in feet

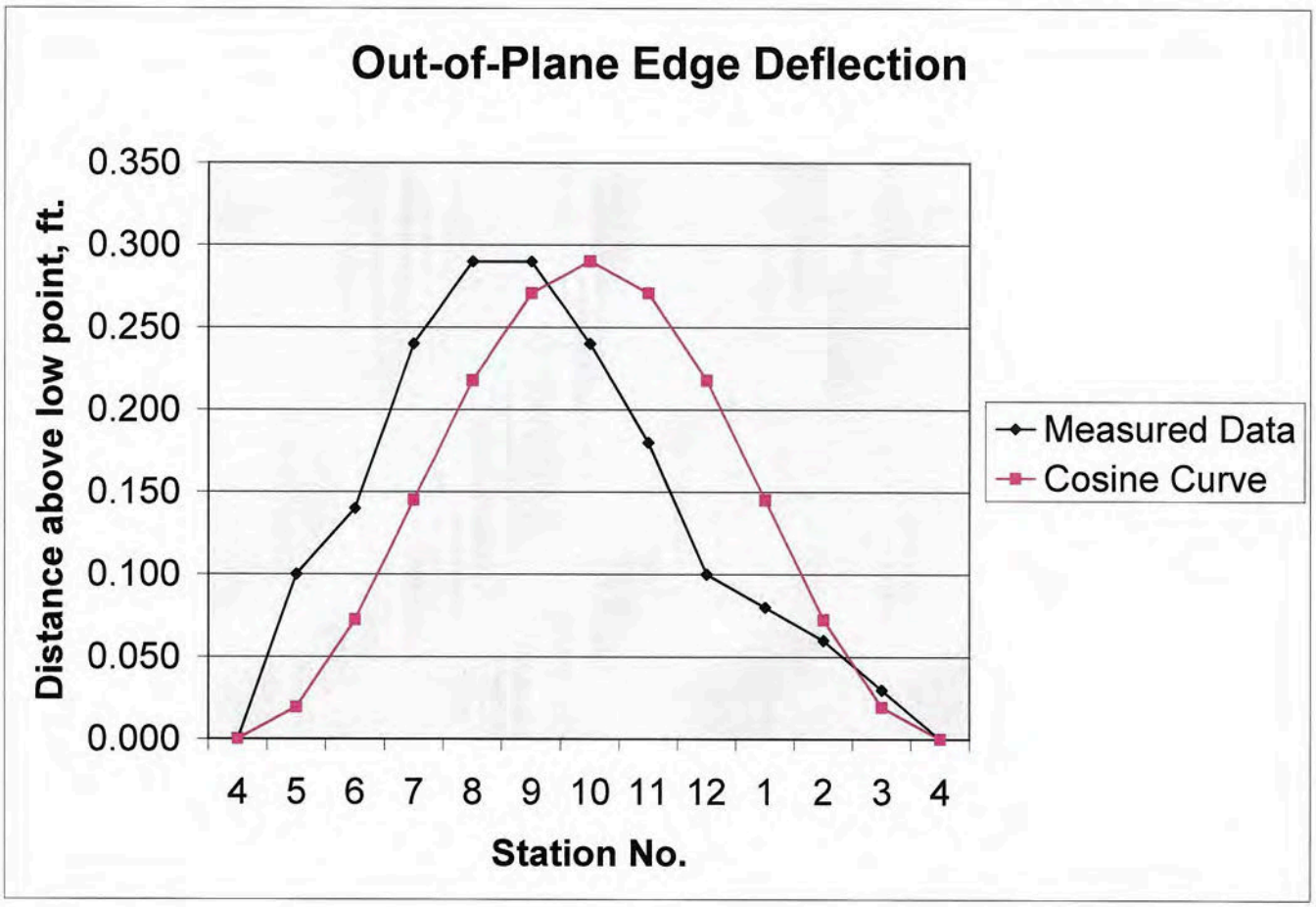
0.047 feet = 0.56 inches

L:	28.8	feet
Y:	30,000	psi
E:	29.5	x 10^6 psi
H:	49.50	feet
S allow:	0.094	feet

Out-of-Plane edge settlement is acceptable per API-653.

Planar Tilt = 0.29

Sequence No.	Station	Equiv. Angle, deg	Data feet	Cos Curve	Diff.	Averaged Diff.
0	4	0	0.000	0.000	0.000	0.040
1	5	30	0.100	0.019	-0.081	0.047
2	6	60	0.140	0.072	-0.067	0.020
3	7	90	0.240	0.145	-0.095	0.025
4	8	120	0.290	0.218	-0.073	0.015
5	9	150	0.290	0.271	-0.019	0.008
6	10	180	0.240	0.290	0.050	0.014
7	11	210	0.180	0.271	0.091	0.007
8	12	240	0.100	0.218	0.118	0.040
9	1	270	0.080	0.145	0.065	0.000
10	2	300	0.060	0.073	0.013	0.015
11	3	330	0.030	0.019	-0.011	0.017
12	4	360	0.000	0.000	0.000	0.005


Out-of-Plane Edge Deflection
Distance above low point, ft.
0.350
0.300
0.250
0.200
0.150
0.100
0.050
0.000
4 5 6 7 8 9 10 11 12 1 2 3 4
Station No.
Measured Data
Cosine Curve

Venting

Customer : **BUCKEYE PIPELINE**
Location : **MACUNGIE, PA**
Tank # : **214**
Date : **2/28/2008**

1. Number of Shell Vents :	
2. Size of Shell Vents :	
3. Top of Tank to Bottom of Vent (Distance) :	
4. Number of Scoop Vents :	6
5. Size of Scoop Vents :	26" X 12"
6. Number of Overflow Vents :	7
7. Size of Overflow Vents :	30" X 9"
8. Top of Tank to Bottom of Overflow (Distance) :	2.5'
9. Size of Center Vent :	24"
10. Type of Center Vent :	MUSHROOM
11. Number of Pressure/Vacuum Vents :	0

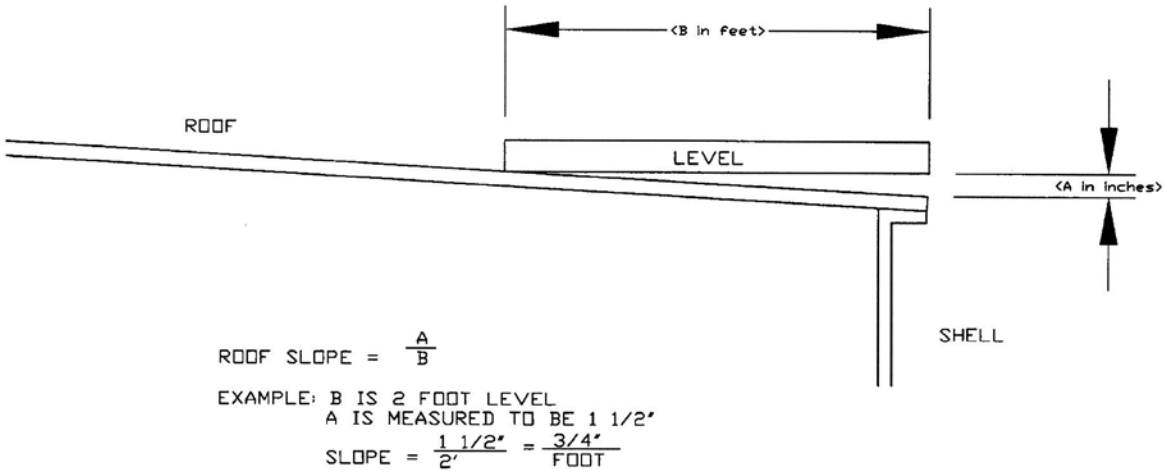
Pressure/Vacuum Vent #1		Pressure/Vacuum Vent #2	
Size :		Size :	
Type :		Type :	
Pressure Setting :		Pressure Setting :	
Vacuum Setting :		Vacuum Setting :	
Pressure/Vacuum Vent #3		**Pressure/Vacuum Vent #4**	
Size :		Size :	
Type :		Type :	
Pressure Setting :		Pressure Setting :	
Vacuum Setting :		Vacuum Setting :	

Pressure Relief Valve #1		Pressure Relief Valve #2	
Nozzle Letter :		Nozzle Letter :	
Size :		Size :	
Type :		Type :	
Pressure Setting :		Pressure Setting :	
Pressure Relief Valve #3		**Pressure Relief Valve #4**	
Nozzle Letter :		Nozzle Letter :	
Size :		Size :	
Type :		Type :	
Pressure Setting :		Pressure Setting :	

Frangible Joint Checklist

Customer : **BUCKEYE PIPELINE**
Location : **MACUNGIE, PA**
Tank # : **214**
Date : **2/28/2008**

1. Size of Frangible Weld :	3/16"
2. Size of Top Angle :	3 X 3
3. Thickness of Top Angle :	3/8"
4. Type of Angle to Shell Connection :	LAP WELD
5. Shell Thickness :	1/4"
6. Roof Thickness:	3/16"
7. Roof Slope (See Drawing Below) :	3/4" / Foot
8. Angle Configuration :	B
9. Tank Diameter :	110.0'



TEMPLATES

For Templates, Please refer to
Templates File

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MISSION STATEMENT

"It is the mission of DJA Inspection Services, Inc. to provide full service tank inspections to the storage tank industry, to be known for quality and detailed inspections through the dedication and experience of our team and to provide the service worldwide as well as to the individual tank owner."

DRAWINGS

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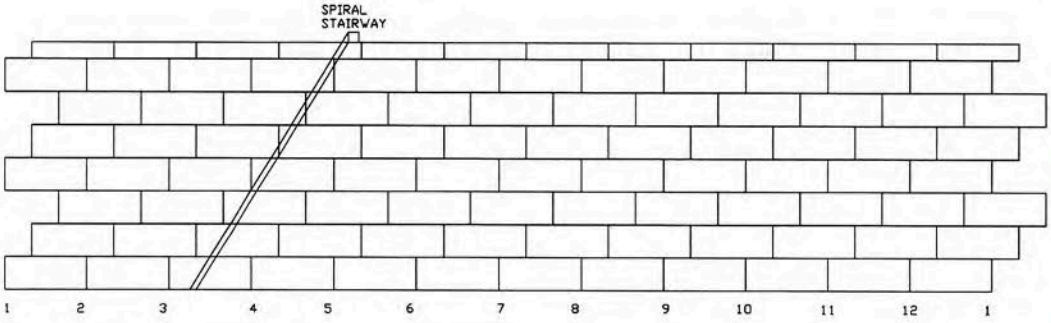

TANK LAYOUT

BUCKEYE PIPELINE

MACUNGIE, PA

TANK # 214

TANK 214 SHELL LAYOUT

NOTES

SEAM 1 IS THE FIRST SEAM LEFT OF THE FIRST MANWAY LEFT OF THE STAIRWAY AS VIEWED FROM OUTSIDE OF THE TANK.

LEGEND

DRAWN BY J. GLAZ

DRAWN USING AUTO CAD LT VERSION 2002

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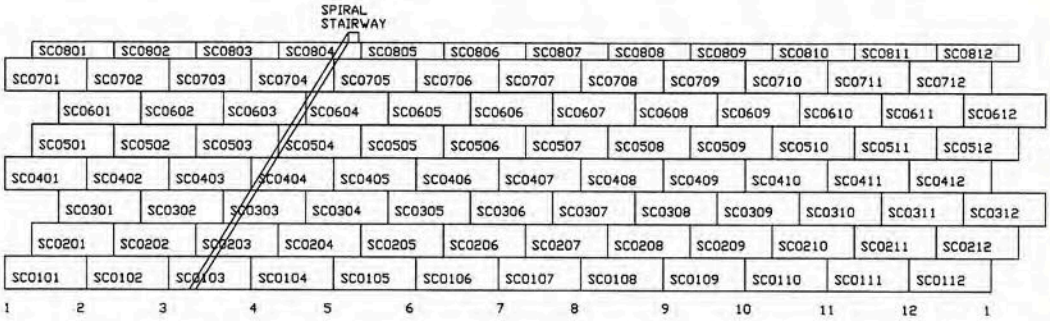
BUCKEYE PIPELINE

MACUNGIE, PA

TANK # 214

TANK 214 SHEET IDENTIFICATION



NOTES

SC#### - SIGNIFIES THE SHELL COURSE AND THE SHEET. THE FIRST TWO DIGIT NUMBER IS THE SHELL COURSE NUMBER AND THE FOLLOWING TWO DIGIT NUMBER IS THE SHEET NUMBER.

LEGEND

DRAWN BY J. GLAZ

DRAWN USING AUTO CAD LT VERSION 2002

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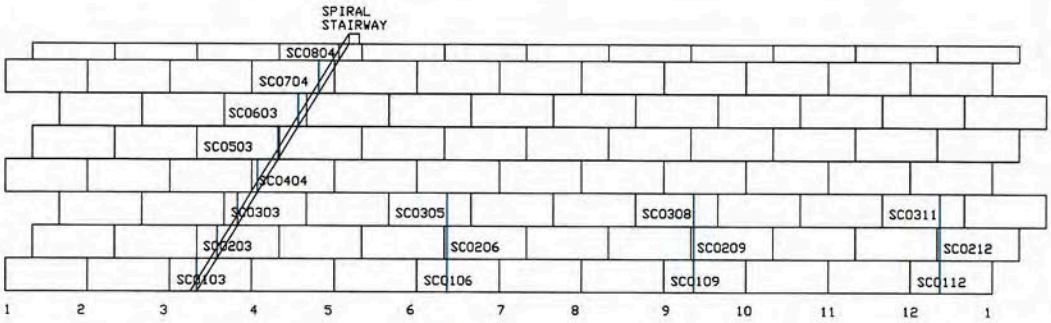
SHEET IDENTIFICATION



VERTICAL THICKNESS READINGS

BUCKEYE PIPELINE

MACUNGIE, PA

TANK # 214

TANK 214 VERTICAL

THICKNESS READINGS

NOTES

SC#### - SIGNIFIES THE SHELL COURSE AND THE SHEET. THE FIRST TWO DIGIT NUMBER IS THE SHELL COURSE NUMBER AND THE FOLLOWING TWO DIGIT NUMBER IS THE SHEET NUMBER.

LEGEND

| - INDICATES THE LOCATION OF THE VERTICAL THICKNESS READINGS ON THE TANK SHELL LAYOUT.

DRAWN BY J. GLAZ

DRAWN USING AUTO CAD LT VERSION 2002

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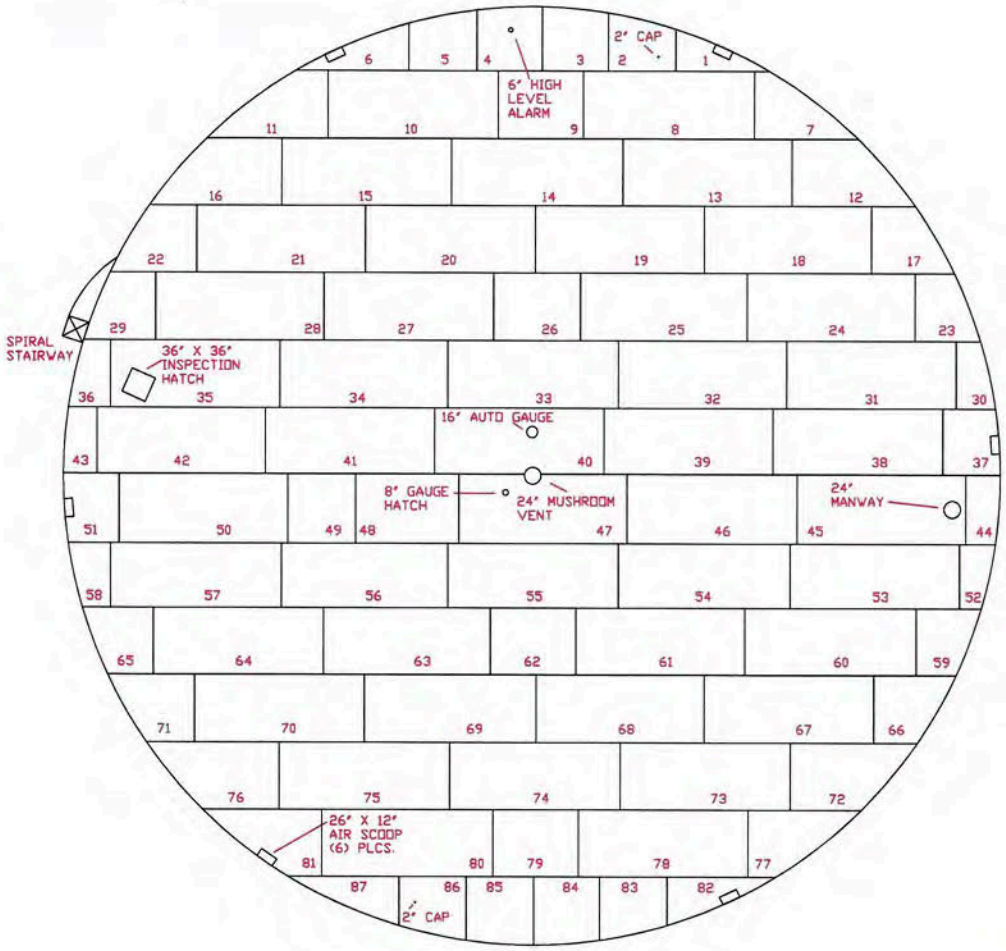

FIXED ROOF LAYOUT

BUCKEYE PIPELINE

MACUNGIE, PA

TANK # 214

TANK 214 ROOF LAYOUT

NOTES

NOT SHOWN: (7) 30" X 9", OVERFLOW VENTS.

LEGEND

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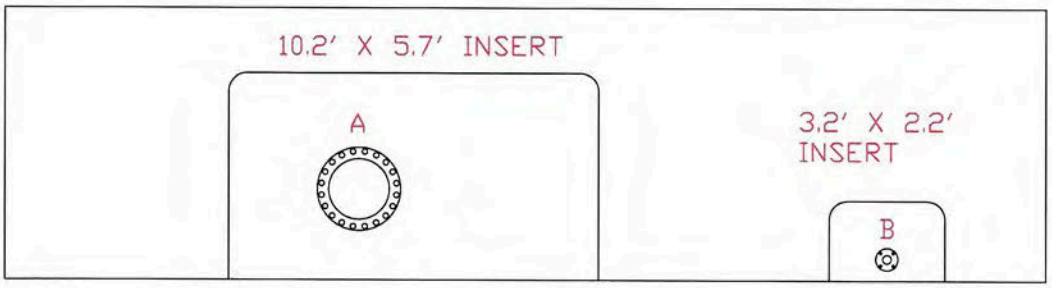

NOZZLE LAYOUT

BUCKEYE PIPELINE

MACUNGIE, PA

TANK # 214

TANK 214 NOZZLE LAYOUT

TANK SHEET #SC0101

NOTES

LEGEND

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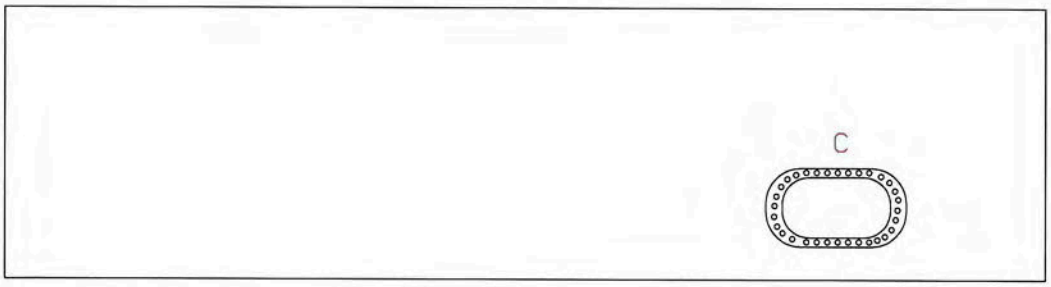

NOZZLE LAYOUT

BUCKEYE PIPELINE

MACUNGIE, PA

TANK # 214

TANK 214 NOZZLE LAYOUT

TANK SHEET #SC0104

NOTES

LEGEND

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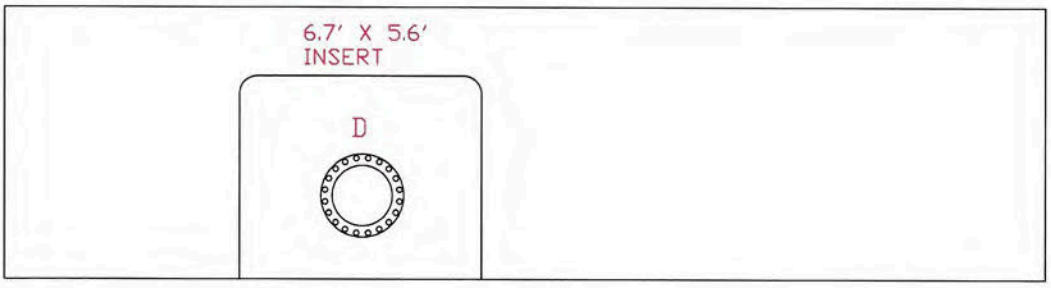

NOZZLE LAYOUT

BUCKEYE PIPELINE

MACUNGIE, PA

TANK # 214

TANK 214 NOZZLE LAYOUT

TANK SHEET #SC0107

NOTES

LEGEND

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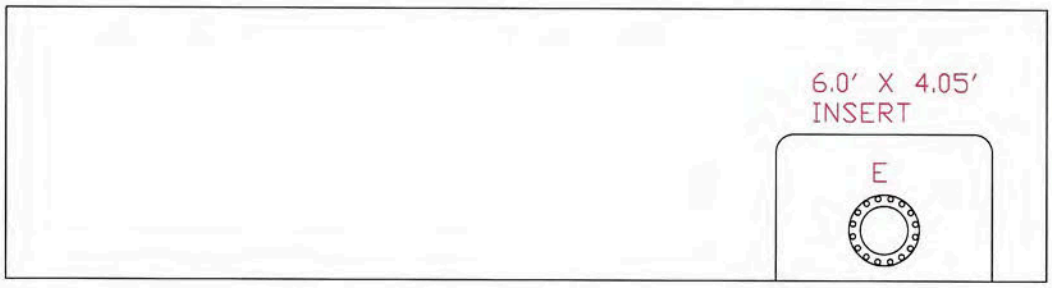

NOZZLE LAYOUT

BUCKEYE PIPELINE

MACUNGIE, PA

TANK # 214

TANK 214 NOZZLE LAYOUT

TANK SHEET #SC0111

NOTES

LEGEND

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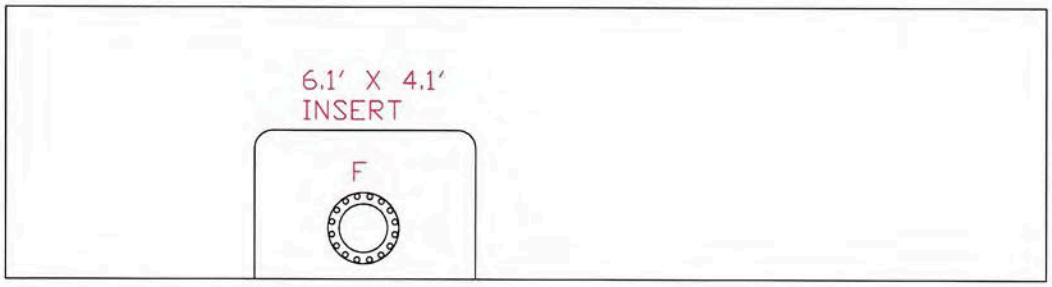

NOZZLE LAYOUT

BUCKEYE PIPELINE

MACUNGIE, PA

TANK # 214

TANK 214 NOZZLE LAYOUT

TANK SHEET #SC0112

NOTES

LEGEND

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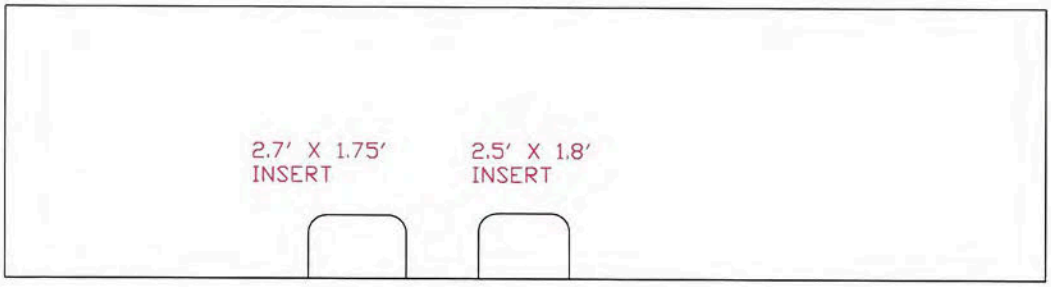

PATCH LAYOUT

BUCKEYE PIPELINE

MACUNGIE, PA

TANK # 214

TANK 214 PATCH LAYOUT

TANK SHEET #SC0102

NOTES

LEGEND

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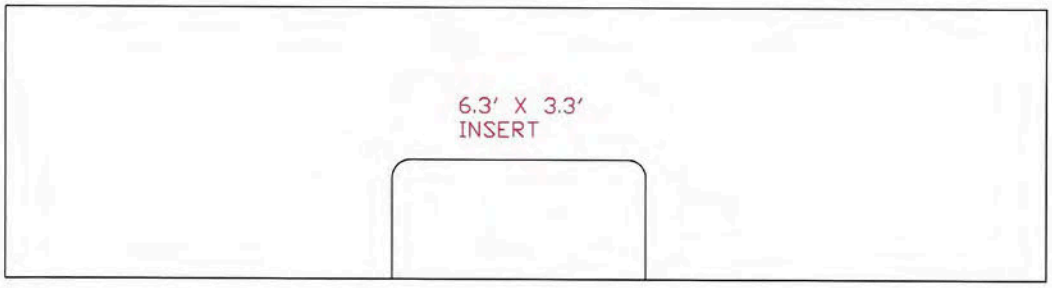

PATCH LAYOUT

BUCKEYE PIPELINE

MACUNGIE, PA

TANK # 214

TANK 214 PATCH LAYOUT

TANK SHEET #SC0105

NOTES

LEGEND

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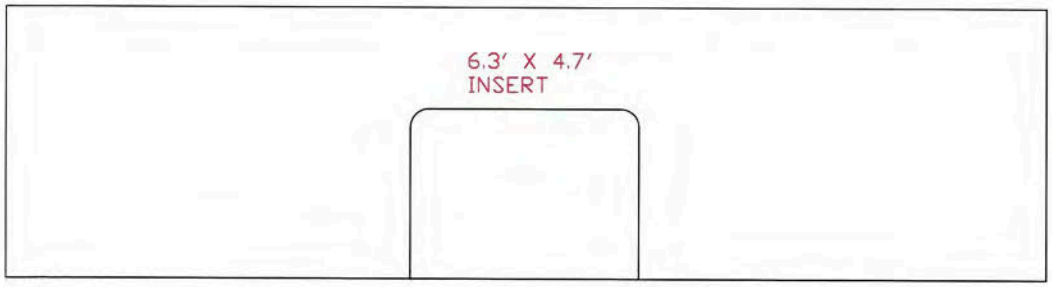

PATCH LAYOUT

BUCKEYE PIPELINE

MACUNGIE, PA

TANK # 214

TANK 214 PATCH LAYOUT

TANK SHEET #SC0110

NOTES

LEGEND

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PHOTOS

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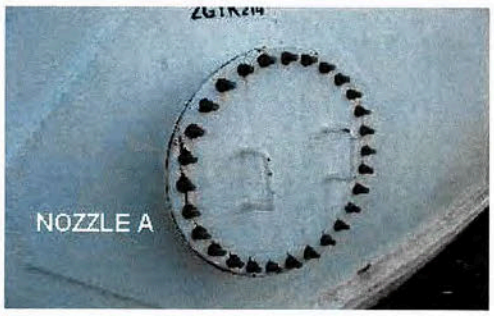
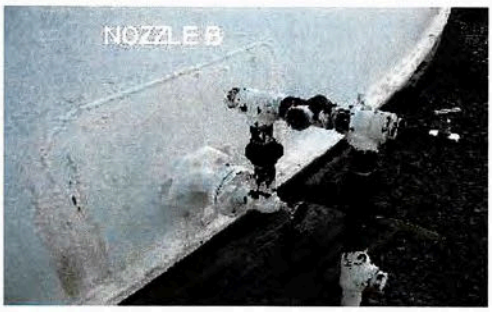
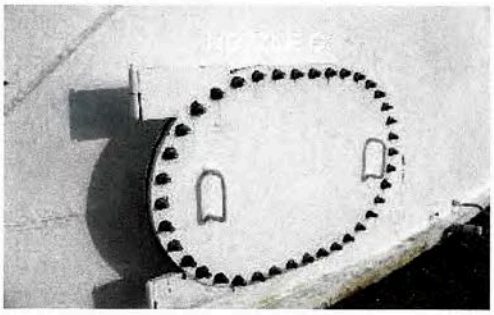
TANK #214


NOZZLE A


NOZZLE B



NOZZLE D

NOZZLE E

NOZZLE F

STAIRWAY TREAD

LEAK DETECTION & GROUNDING

PLATFORM

ACCESS HATCH

ROOF NOZZLES

ALARM

AIR SCOOP

CERTIFICATION

For Certifications, Please refer to
Inspector Certification File

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RAW DATA

Hand written field obtain data will be available upon request.

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