

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Carlsbad Field Office

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 20185. Lease Serial No.
NMNM025527A

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

8. Well Name and No.
WDW-4 49. API Well No.
30-015-44677-00-X110. Field and Pool or Exploratory Area
WILDCAT11. County or Parish, State
EDDY COUNTY, NM

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☐ Oil Well ☐ Gas Well ☒ Other: INJECTION

2. Name of Operator

HOLLYFRONTIER NAVAJO REFINING

Contact: LEWIS R DADE

E-Mail: Lewis.Dade@hollyfrontier.com

3a. Address

501 EAST MAIN STREET
ARTESIA, NM 88210

3b. Phone No. (include area code)

Ph: 575-746-5281

Fx: 575-746-5451

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 23 T17S R27E 1217FSL 2443FWL
32.815815 N Lat, 104.250031 W Lon

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☒ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

Will be installing power from a CVE electric pole to well equipment on the location. Power will be buried from the pole to a electrical power grid on location. Forms will be built on location to support equipment for pumps and panel boards for equipment associated with the injection of fluid into the well.

GC 10-12-18
Accepted for record - NMOCDDOI-BLM-NM-P020-2018-0221-FA
Accepted for Record
NMOCD

NRS JB 9-18-18 USE Existing COA's

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #434577 verified by the BLM Well Information System

For HOLLYFRONTIER NAVAJO REFINING, sent to the Carlsbad

Committed to AFMSS for processing by PRISCILLA PEREZ on 09/18/2018 (18PP2681SE)

Name (Printed/Typed) LEWIS R DADE

Title ENV. SPECIALIST

Signature

(Electronic Submission)

Date 09/10/2018

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By

Cody D. Lytle

Title

AFM-C&D

Date

09/11/2018

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

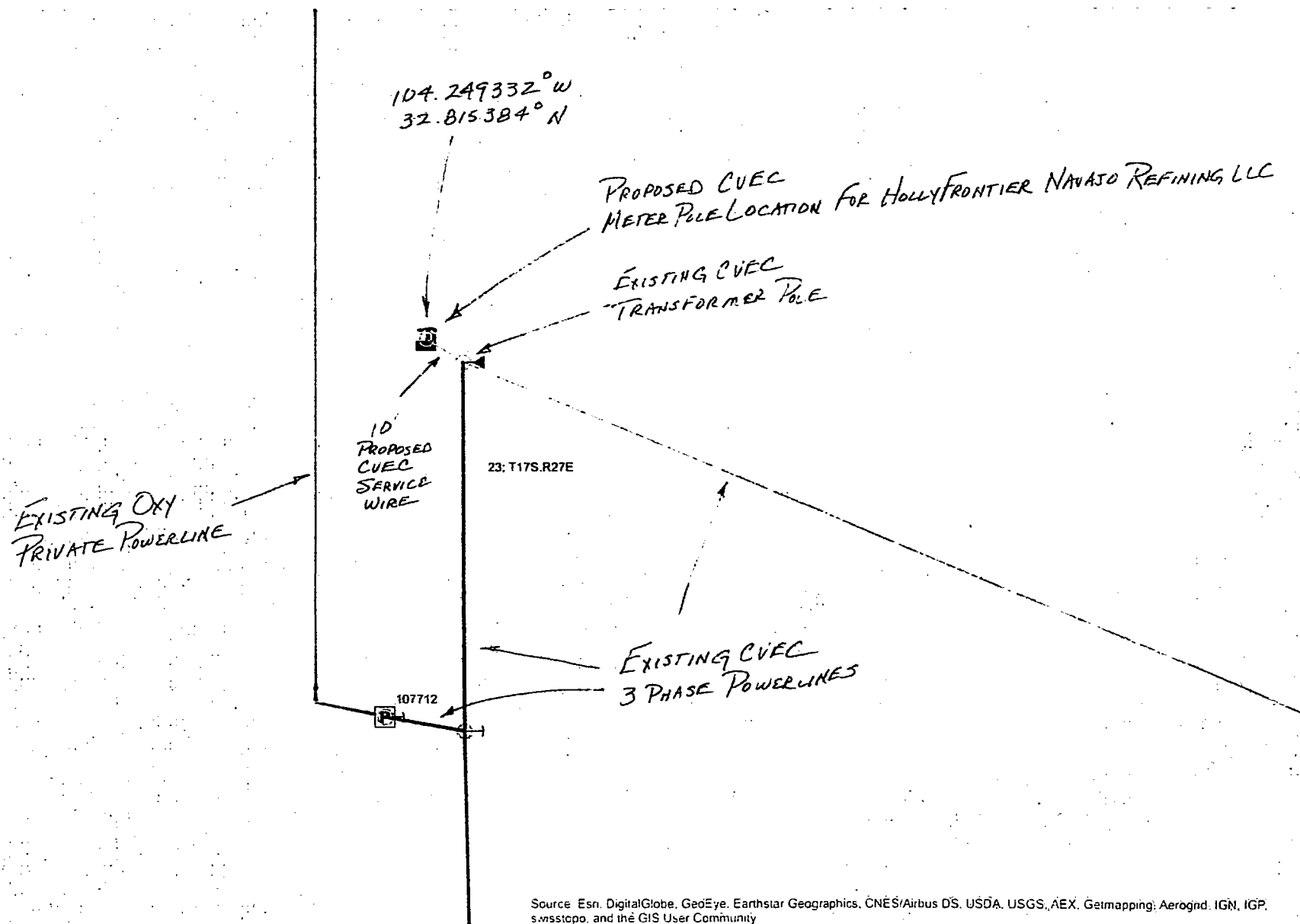
Office

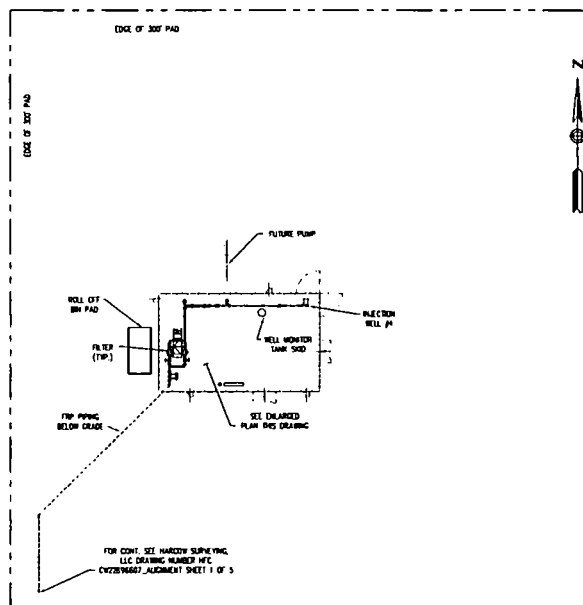
CFO

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

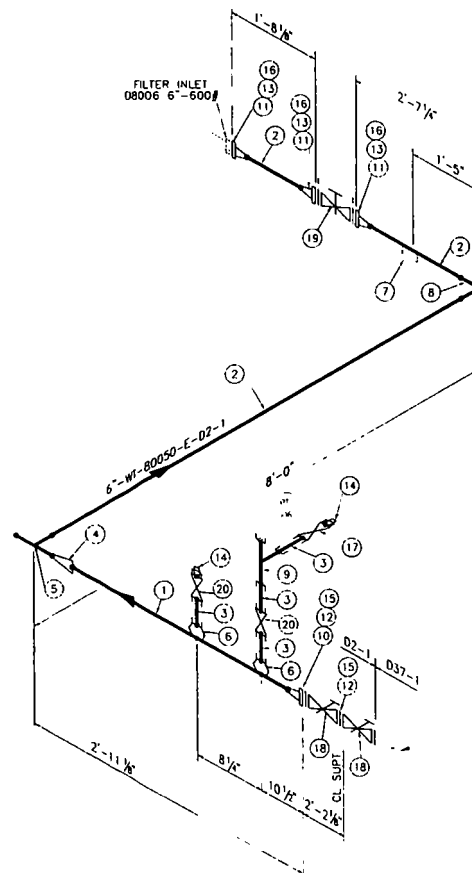
(Instructions on page 2)

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **





		NAVAJO REFINING CO. TINKERBERRY, DEPARTMENT P.O. DRAWING 159 APTESHA, NEW MEXICO	
Company No.	Map No. of	SCALE	
0XB	JAA	AS NOTED	
Date	Survey by	Planner, Remarks	
4/13/18	JAA	80-Z-03-D-01	



CONT ON DWG
WT-80050-1

NO.	SIZE	QTY	DESCRIPTION
1	8"	2LF	PIPE, CS. SMLS, S/80, ASTM A106 GR B
2	6"	12LF	PIPE, CS. SMLS, S/80, ASTM A106 GR B
3	1 1/2"	2LF	PIPE, CS. SMLS, S/160, ASTM A106 GR B
4	8"x6"	1	RED CONC, S/80, ASTM A234 GR WPB, ASME B16.9, BW
5	6"x6"	1	TEE, SIR, S/80, ASTM A234 GR WPB, ASME B16.9, BW
6	8"x4"	2	SOCKOLET, CLASS 3000, ASTM A105, ASME B16.11, ASME B1.20.1
7	6"	1	S-1, SEE DWG. 80-P-101-D-002
8	6"	1	ELL 90° LR, S/80, ASTM A234 GR WPB, ASME B16.9, BW
9	1 1/2"x1"	1	TEE, THRD, CLASS 3000, ASTM A105, ASME B16.11, ASME B1.20.1
10	8"	1	FLG. RFWN; CLASS 600, S/80 BORE, ASTM A105, ASME B16.9
11	6"	3	FLG. RFWN, CLASS 600, S/80 BORE, ASTM A105, ASME B16.9
12	8"	2	GASKET, CLASS 600, RF, SPIRAL WOUND, 304 SS FLEXIBLE GRAPHITE (WRI OR CGI) ASME B16.20
13	6"	3	GASKET, CLASS 600, RF, SPIRAL WOUND, 304 SS FLEXIBLE GRAPHITE (WRI OR CGI) ASME B16.20
14	1 1/2"	2	PLUG, THRD, ASTM A105, SOLID FS, ASME B1.20.1
15	1 1/2"	2	(12) STUD BOLTS, ASTM A193 GR B7 W/ ASTM A194 GR 2H HEAVY HEX NUTS (7/8" LG)
16	1"	3	(12) STUD BOLTS, ASTM A193 GR B7 W/ ASTM A194 GR 2H HEAVY HEX NUTS (6 1/2" LG)
17	1 1/2"	1	GATE VALVE, CLASS 800, THRD, ASTM A105 W/ 13 CR TRIM, HF ST (GA08CB100)
18	8"	2	GATE VALVE, RF, CLASS 600, ASTM A216 GR WCB, W/13 CR TRIM, HF ST, FP (GA06CB501) (2'-2" F-F)
19	6"	1	GATE VALVE, RF, CLASS 600, ASTM A216 GR WCB, W/13 CR TRIM, HF ST, FP (GA06CB501) (1'-10" F-F)
20	1 1/2"	2	GATE VALVE, CLASS 800, SW x THRD, ASTM A105 W/ 13 CR TRIM, HF ST (GA08CB200)

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION
2. ALL FIELD CORRECTIONS MUST BE APPROVED BY HOWE ENGINEER
3. HYPOTHESE ALL PIPING IS VALVE FOR A MINIMUM OF 4000 PSI
4. 1 - 6000 PSI
5. SEE HOWE ENGINEER SPECIFICATION FOR ADDITIONAL DETAIL

HC 4

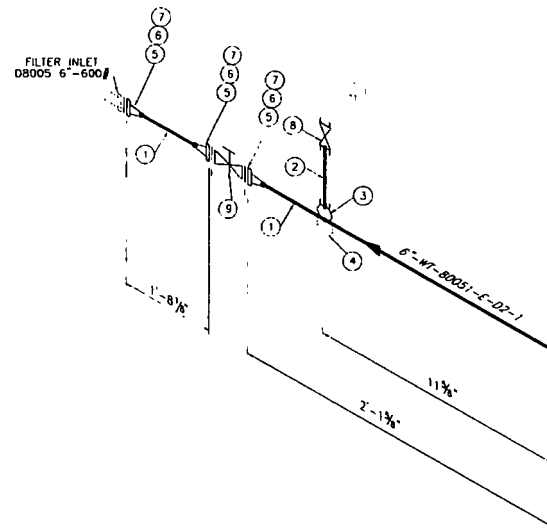
[P	P.B	1-15-64	ALAN H. DEANING CO
----	-----	---------	--------------------

NAVAJO REFINING CO.
SILVERBELL, DEPARTMENT
P.O. (BANK 15)
ARTESIA, NEW MEXICO

APP JAA	100R 110, PV-11876	REV 0
---------	--------------------	-------

[illegible]

DATE	FILE NO.	FILED
SEP 18	100-30151-	SEP 2 1967



CONT ON DWG
WT-80050-2

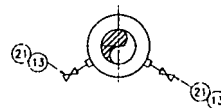
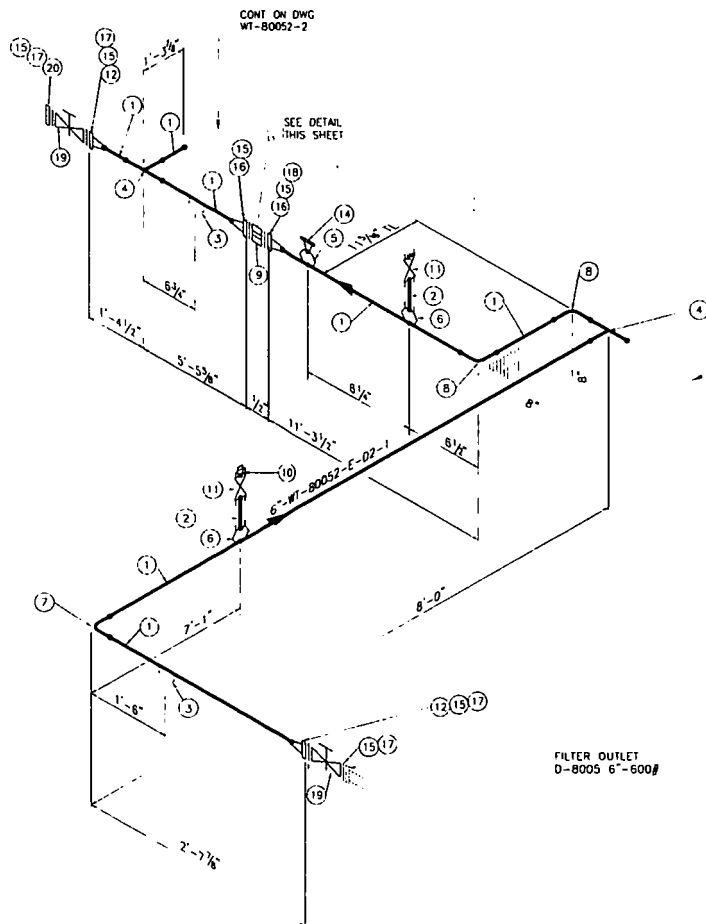
NO.	SIZE	QTY	DESCRIPTION
1	6"	3LF	PIPE, CS. SMLS. 5/80, ASTM A106 GR B
2	1 1/2"	1LF	PIPE, CS. SMLS. 5/160, ASTM A106 GR B
3	6"x2"	1	SOCKOLET, CLASS 3000, ASTM A105, ASME B16.11, ASME B1.20.1
4	6"	1	S-1, SEE DWG. 80-P-101-D-002
5	6"	3	FLG. RFWN, CLASS 600, 5/80 BORE, ASTM A105, ASME B16.5
6	6"	3	GASKET, CLASS 600, RF, SPIRAL WOUND, 304 SS FLEXIBLE GRAPHITE (WRI OR COI) ASME B16.20
7	1"	3	(12) STUD BOLTS, ASTM A193 GR B7 W/ ASTM A194 GR 2H HEAVY HEX NUTS (64" LG)
8	1 1/2"	1	GATE VALVE, CLASS 800, SW x THRD, ASTM A105 W/13 CR TRIM, HF ST (GA08CB200)
9	6"	1	GATE VALVE, RF, CLASS 600, ASTM A216 GR WCB, W/13 CR TRIM, HF ST, FP (GA06CB501) (1'-10" F-F)

1. COMPARE THE FIELD WITH ALL INFORMATION PERTAINING TO FABRICATION
ALL FIELD CHANGES MUST BE APPROVED BY QUALIFICATION

2. HIGHLIGHT ALL PIPING & VALVES FOR A MINIMUM OF 4 HOURS
OFF LINE FOR 24 HRS

3. HIGHLIGHT ALL INFORMATION PERTAINING TO ADDITIONAL DETAIL

	NORWEST ENGINEERING		U.E. # _____ PU-057676
	1700 W. 10TH ST. PORTLAND, ORE. 97201		503-241-8121
WHT N/A			NAVJO REF. CO. 700 PIERCE BLVD. P.O. BOX 100 WHEELAB, NEW YORK 10001
	D/P I-C-R C/B IAA A/D JSA DATE _____ S.C. 1.8	400 (P) PV-0376 1000 (P) WT 50051	REV () 5/11/76



FE-500

CONT ON DWG
WT-8005.3

FILTER OUTLET
D-8005 6"-600#

BILL OF MATERIALS

NO.	SIZE	QTY	DESCRIPTION
1	6"	26LF	PIPE, CS. SMLS, 5/80, ASTM A106 GR B
2	3"	1LF	PIPE, CS. SMLS, 5/160, ASTM A106 GR B
3	6"x6"	2	S-1, SEE DWG. 80-P-101-D-002
4	6"x6"	2	TEE, SIR, S/80, ASTM A234 GR WPB, ASME B16.9, BW
5	6"x1 1/2"	1	WELDOLET, S/80, ASTM A234 GR WPB, ASME B16.9, BW
6	6"x1 1/2"	2	SOCKOLET, CLASS 3000, ASTM A105, ASME B16.11, ASME B1.20.1
7	6"	1	ELL 90° LR, S/80, ASTM A234 GR WPB, ASME B16.9, BW
8	6"	2	ELL 45° LR, S/80, ASTM A234 GR WPB, ASME B16.9, BW
9	6"	1	ORIFICE PLATE, CLASS 600, FE-500 (1" THICK)
10	3"	1	PLUG, THRD, ASTM A105, SOLID FS, ASME B1.20.1
11	3"	2	GATE VALVE, CLASS 800, SW + THRD, ASTM A105 W/ 13 CR TRIM, HF ST (CA08CB200)
12	6"	2	FLG. RFWN, CLASS 600, S/80 BORE, ASTM A105, ASME B16.5
13	3"	2	GATE VALVE, CLASS 800, THRD, ASTM A105 W/13 CR TRIM, HF ST (CA08CB100)
14	1 1/2"	1	FLG. RFWN, CLASS 600, S/80 BORE, ASTM A105, ASME B16.5
15	6"	6	GASKET, CLASS 600, RF, SPIRAL WOUND, 304 SS FLEXIBLE GRAPHITE (WRI OR CGI) ASME B16.20
16	6"	1	(2) ORIFICE FLANGE, RFWN, CLASS 600, S/80 BORE, ASTM A105, ASME B16.5, W/1/2" TAPS
17	1"	4	(12) STUD BOLTS, ASTM A193 GR B7 W/ ASTM A194 GR 2H HEAVY HEX NUTS (6" LG)
18	1"	1	(12) STUD BOLTS, ASTM A193 GR B7 W/ ASTM A194 GR 2H HEAVY HEX NUTS (7 1/2" LG)
19	6"	2	GATE VALVE, RF, CLASS 500, ASTM A216 GR WCB, W/13 CR TRIM, HF ST, FP (CA06CB501) (1'-10" F-F)
20	6"	1	BLIND FLANGE, CLASS 600, RF, ASTM A105 ASME B16.5
21	3"	1LF	PIPE, CS. SMLS, S/160, ASTM A106 GR B

1403

- 1 CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION
2 ALL FIELD CHANGE MUST BE APPROVED BY HOUGHTON/ITIL
3 HYDROTEST ALL PIPING & VALVES FOR A MINIMUM OF 4 HOURS,
4 @ 1.5 - 5000 - 225 PSI
5 SEE HOUGHTON/ITIL SPECIFICATIONS FOR ADDITIONAL DETAILS

(11100111 111111)



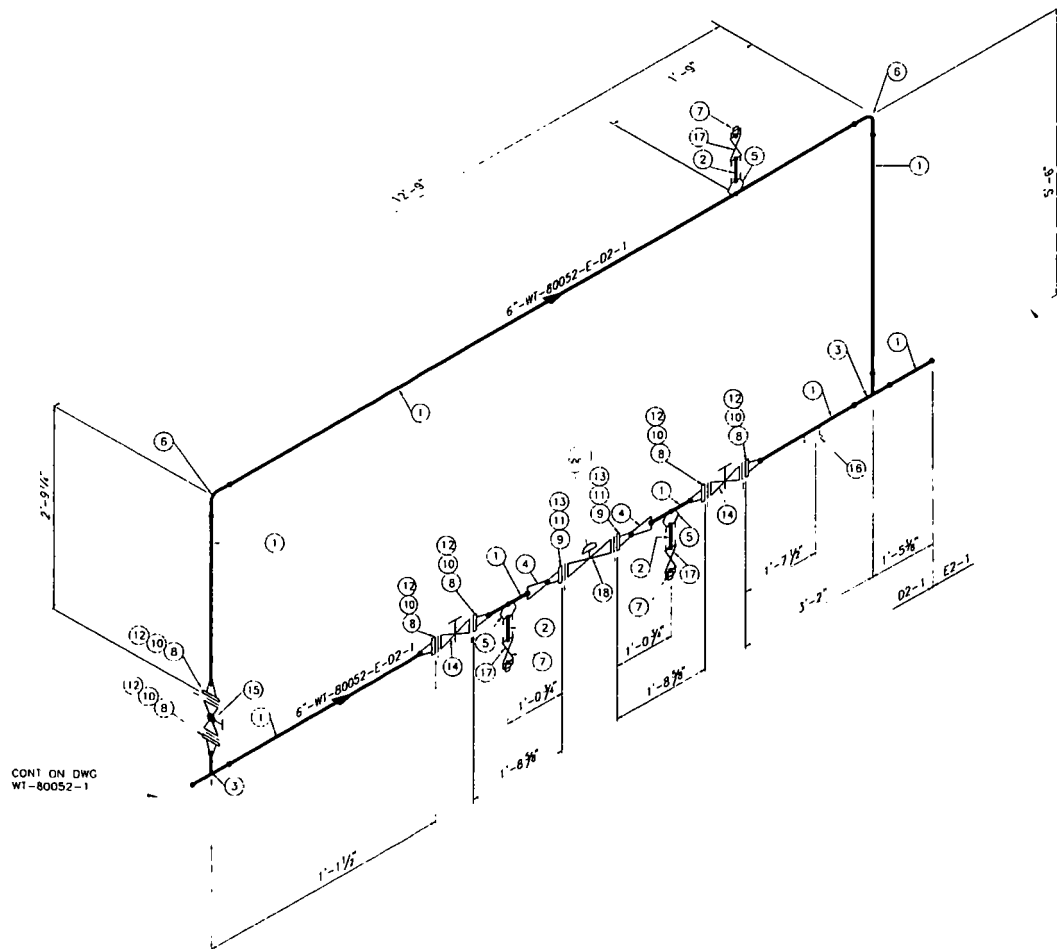
NORWEST ENGINEERING

11 E	8
------	---

1994-1995

APR 21 1961

14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
14	15	16	17	18	19	20	21	22	23	24	25	26	27																																																																									



CONT ON DWG
WT-80052-3

CONT ON DWG
WT-80052-1

BILL OF MATERIALS

NO.	SIZE	QTY	DESCRIPTION
1	6"	22LF	PIPE, CS. SMLS, S/80, ASTM A106 GR B
2	2"	2LF	PIPE, CS. SMLS, S/160, ASTM A106 GR B
3	6"x6"	2	TEE, STR, S/80, ASTM A234 GR WPB, ASME B16.9, BW
4	6"x4"	2	RED CONC, S/80, ASTM A234 GR WPB, ASME B16.9, BW
5	6"x4"	3	SOCKET, CLASS 3000, ASTM A105, ASME B16.11, ASME B1.20.1
6	6"	2	ELL, 90° LR, S/80, ASTM A234 GR WPB, ASME B16.9, BW
7	2"	3	PLUG, THRD, ASTM A105, SOLID FS, ASME B1.20.1
8	6"	6	FLG, RFWN, CLASS 600, S/80 BORE, ASTM A105, ASME B16.5
9	4"	2	FLG, RFWN, CLASS 600, S/80 BORE, ASTM A105, ASME B16.5
10	6"	6	GASKET, CLASS 600, RF, SPIRAL WOUND, 304 SS FLEXIBLE GRAPHITE (WRI OR CGI) ASME B16.20
11	4"	2	GASKET, CLASS 600, RF, SPIRAL WOUND, 304 SS FLEXIBLE GRAPHITE (WRI OR CGI) ASME B16.20
12	1"	6	(12) STUD BOLTS, ASTM A193 GR B7 W/ ASTM A194 GR 2H HEAVY HEX NUTS (64" LG)
13	2"	2	(8) STUD BOLTS, ASTM A193 GR B7 W/ ASTM A194 GR 2H HEAVY HEX NUTS (52" LG)
14	6"	2	GATE VALVE, RF, CLASS 600, ASTM A216 GR WCB, W/13 CR TRIM, HF ST, FP (GA06CB501) SCH 80 (1'-10" F-F)
15	6"	1	GLOBE VALVE, RF, CLASS 600, ASTM A216 GR WCB, W/13 CR TRIM, HF ST (GL06CB500) SCH 80 (1'-10" F-F)
16	6"	1	S-1, SEE DWG. 80-P-101-D-002
17	2"	3	GATE VALVE, CLASS 800, SW x THRD, ASTM A105 W/ 13 CR TRIM, HF ST (GA08CB200)
18	4"	1	CONTROL VALVE, RF, CLASS 600, PV-505 (1'-3 1/2" F-F)

NOTES

- CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION. ALL FIELD HAND-UPS MUST BE APPROVED BY HULL CONTRACTOR.
- HYDROTEST ALL PIPING & VALVE FOR A MINIMUM OF 4 HOURS @ 1.50X DESIGN PRESSURE.
- SEE HULL CONTRACTOR SPECIFICATIONS FOR ADDITIONAL DETAILS.

(EFFLUENT WATER)



NORWEST ENGINEERING

FILE #

DESIGNED BY: JAA

APPROVED BY: JAA

CHECKED BY: JAA

DATE: 5/10/15

SCALE: 1"=10'

PROJECT: NAVAJO REFINING CO.

LOCATION: HULL

REVISION: 1

DATE: 5/10/15

BY: JAA

DATE: 5/10/15

BY: JAA

DATE: 5/10/15

BY: JAA

DATE: 5/10/15

BY: JAA

DATE: 5/10/15

BY: JAA

DATE: 5/10/15

BY: JAA

DATE: 5/10/15

BY: JAA

DATE: 5/10/15

BY: JAA

DATE: 5/10/15

BY: JAA

DATE: 5/10/15

BY: JAA

DATE: 5/10/15

BY: JAA

DATE: 5/10/15

BY: JAA

DATE: 5/10/15

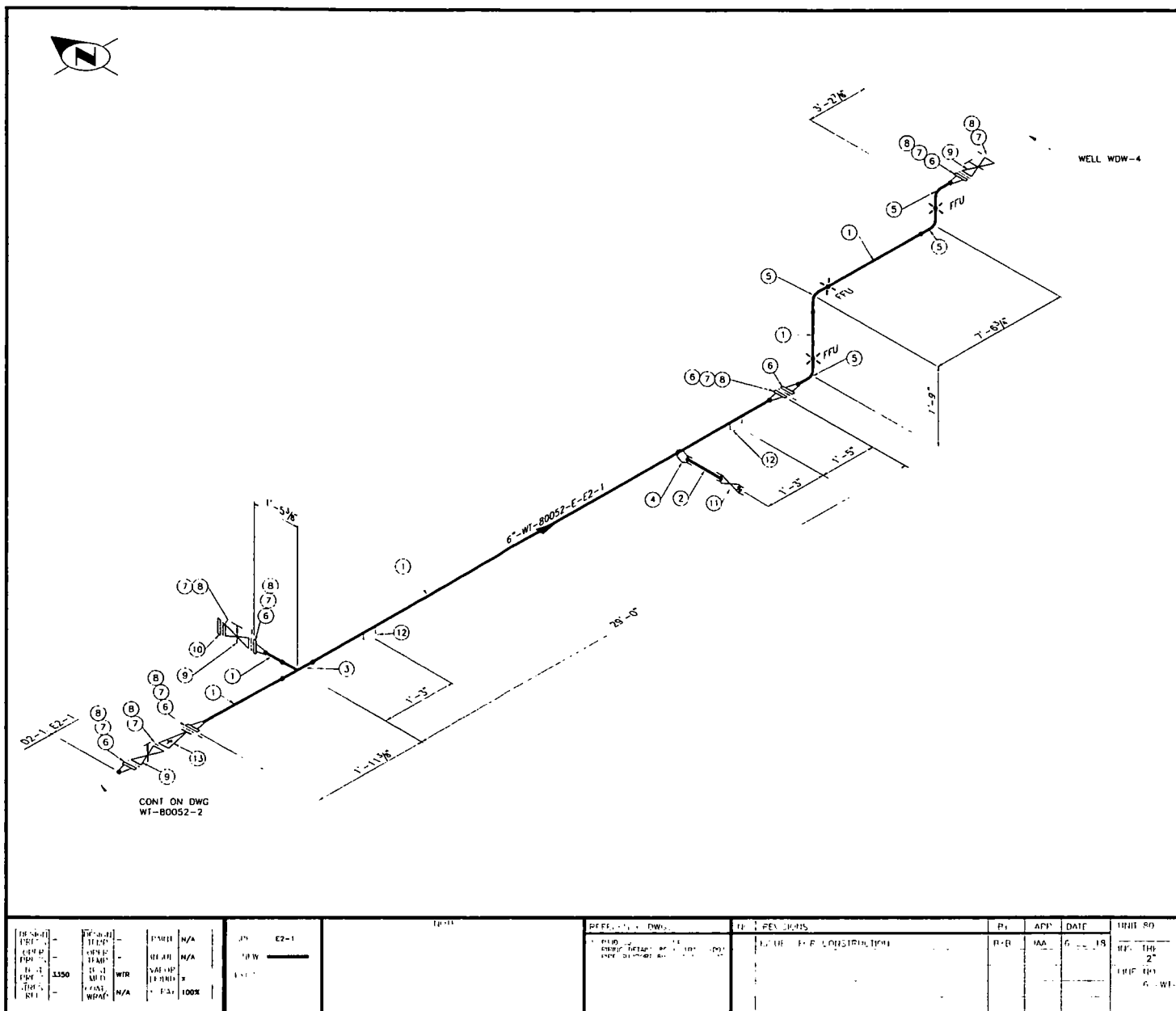
BY: JAA

DATE: 5/10/15

BY: JAA

DATE: 5/10/15

BY: JAA



BILL OF MATERIALS			
NO.	SIZE	QTY	DESCRIPTION
1	6"	37LF	PIPE, CS. SMLS, S/160, ASTM A106 GR B
2	3"	1LF	PIPE, CS. SMLS, S/160, ASTM A108 GR B
3	6"X6"	1	TEE, STR, S/160, ASTM A234 GR WPB, ASME B16.9, BW
4	6"-1/2"	1	SOCKET, CLASS 6000, ASTM A105, ASME B16.11, ASME B1.20.1
5	6"	4	ELL 90° LR, S/160, ASTM A234 GR WPB, ASME B16.9, BW
6	6"	6	FLC, RFWN, CLASS 900, S/160 BORE, ASTM A105, ASME B16.5
7	6"	8	GASKET, CLASS 900, RF, SPIRAL WOUND, 304 SS FLEXIBLE GRAPHITE (WRI OR COI) ASME B16.20
8	1 1/2"	8	(12) STUD BOLTS, ASTM A193 GR B7 W/ ASTM A194 GR 2H HEAVY HEX NUTS (7/8" LG)
9	6"	3	GATE VALVE, RF, CLASS 900, ASTM A216 GR WCB, W/13 CR TRIM, HF ST, FP (GA09CB500) SCH 120 (2'-0" F-F)
10	6"	1	BLIND FLANGE, CLASS 900, RF, ASTM A105, ASME B16.5
11	3"	1	GATE VALVE, CLASS 1500, SW x THRD, ASTM A105 W/ 13 CR TRIM, HF ST (GA15CB200)
12	6"	2	S-1, SEE DWG. 80-P-101-D-002
13	6"	1	CHECK VALVE, RF, CLASS 900, ASTM A216 GR WCB, W/13 CR TRIM, HF ST (CS09CB500) (2'-0" F-F)

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION
ALL FIELD CHANGES MUST BE APPROVED BY HOULIHAN/ENGINEER

2. HYPOTEST ALL PIPING & VALVE FOR A MINIMUM OF 4 HOURS
@ 1,000 / 3,350 PSI
SEE HOULIHAN/ENGINEER SPECIFICATIONS FOR ADDITIONAL DETAILS.

(EFFLUENT WATER)



NORWEST ENGINEERING

© 1994 by THE LANCET LTD

REPORT AND OPINION D-09-0

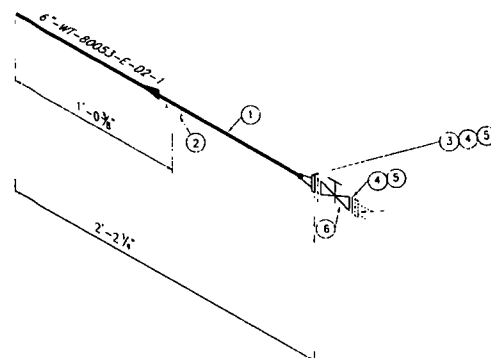
NAVAJO REFINING CO.
 INDEPENDENCE, [REDACTED]
 P.O. DRAWER 153
 ARTESIA, NEW MEXICO

IOR ID PV-0976	REV 0
DWG ID WT-50052-3	SHT 3 OF 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----



CONT. ON DWG
WT-80052-1



FILIER OUTLET
D-8006 6\"/>

BILL OF MATERIALS

NO.	SIZE	QTY	DESCRIPTION
1	6"	3LF	PIPE, CS. SMLS, S/80, ASTM A106 GR B
2	6"	1	S-1, SEE DWG. 80-P-101-D-002
3	6"	1	FLG. RFWN. CLASS 600, S/80 BORE, ASTM A105, ASME B16.5
4	6"	2	GASKET, CLASS 600, RF, SPIRAL WOUND, 304 SS FLEXIBLE GRAPHITE (WRI OR CCI) ASME B16.20
5	1"	2	(12) STUD BOLTS, ASTM A193 GR B7 W/ ASTM A194 GR 2H HEAVY HEX NUTS (6 1/2" LG)
6	6"	1	GATE VALVE, RF, CLASS 600, ASTM A216 GR WCB, W/13 CR TRIM, HF ST, FP (GA06CB500) (1'-10" F-F)

NOTES

- CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION
- ALL FIELD CHANGES MUST BE APPROVED BY HOLLFRONTIER
- HYDROTEST ALL PIPING & VALVES FOR A MINIMUM OF 4 HOURS @ 1.5 X 600# @ 225 PSI
SEE HOLLFRONTIER SPECIFICATIONS FOR ADDITIONAL DETAIL

(EFFLUENT WATER)



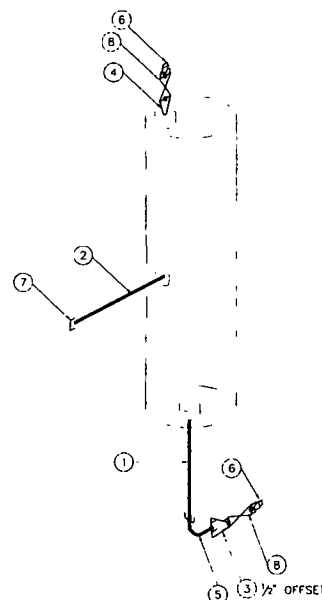
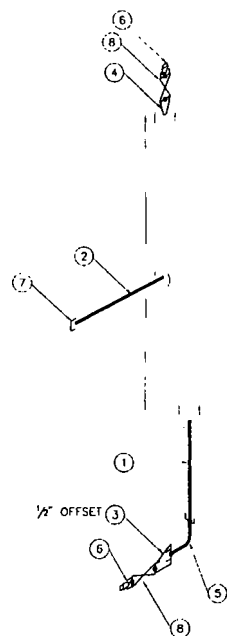
NORWEST ENGINEERING

FILE #

CONSULTING ENGINEERS

NOTED: 06/04/01 EV-0376

REV	DATE	BY	CHKD	DESCRIPTION	REV	DATE	BY	CHKD	DESCRIPTION	REV	DATE	BY	CHKD	DESCRIPTION
1	02-1	RFW			1					1				
2					2					2				
3					3					3				
4					4					4				
5					5					5				
6					6					6				
7					7					7				
8					8					8				
9					9					9				
10					10					10				
11					11					11				
12					12					12				
13					13					13				
14					14					14				
15					15					15				
16					16					16				
17					17					17				
18					18					18				
19					19					19				
20					20					20				
21					21					21				
22					22					22				
23					23					23				
24					24					24				
25					25					25				
26					26					26				
27					27					27				
28					28					28				
29					29					29				
30					30					30				
31					31					31				
32					32					32				
33					33					33				
34					34					34				
35					35					35				
36					36					36				
37					37					37				
38					38					38				
39					39					39				
40					40					40				
41					41					41				
42					42					42				
43					43					43				
44					44					44				
45					45					45				
46					46					46				
47					47					47				
48					48					48				
49					49					49				
50					50					50				
51					51					51				
52					52					52				
53					53					53				
54					54					54				
55					55					55				
56					56					56				
57					57					57				
58					58					58				
59					59					59				
60					60					60				
61					61					61				
62					62					62				
63					63					63				
64					64					64				
65					65					65				
66					66					66				
67					67					67				
68					68					68				
69					69					69				
70					70					70				
71					71					71				
72					72					72				
73					73					73				
74					74					74				
75					75					75				
76					76					76				
77					77					77				
78					78					78				
79					79					79				
80					80					80				
81					81					81				
82					82					82				
83					83					83				
84					84					84				
85					85					85				
86					86					86				
87					87					87				
88					88					88				
89					89					89				
90					90					90				
91					91					91				
92					92					92				
93					93					93				
94					94					94				
95					95					95				
96					96					96				
97					97					97				
98					98					98				
99					99					99				
100					100					100				



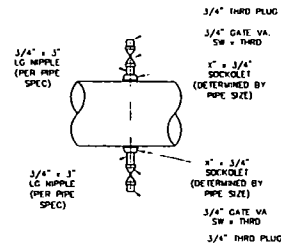
NO.	SIZE	QTY	DESCRIPTION
1	2"	1LF	PIPE, CS. SMLS. 5/80, ASTM A106 GR B
2	1"	1LF	PIPE, CS. SMLS. 5/80, ASTM A106 GR B
3	2"x1"	2	SWAGE ECC, S/80, ASTM A234 GR WPB, ASME B16.9, TBE
4	1"x2"	2	SWAGE CONC. STR. S/80, ASTM A234 GR WPB, ASME B16.9, TBE
5	2"	2	90° ELL. THRD. CLASS 3000, ASTM A105, ASME B16.11, ASME B1.20.1
6	1"	4	PLUG, THRD. ASTM A105, SOLID FS, ASME B1.20.1
7	1"	2	CAP. THRD. CLASS 3000, ASTM A105, ASME B16.11, ASME B1.20.1
8	1"	4	GATE VALVE, CLASS 800, THRD, ASTM A105 W/ 13 CR TRIM, HF ST (GA08CB100)

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.
ALL FIELD CHANGES MUST BE APPROVED BY HOUZ STATIONER.

3. HYDROTEST ALL PIPING & VALVES FOR A MINIMUM OF 4 HOURS.
5. 1" BOPG - 15 PSI
SEE HOUZ STATIONER SPECIFICATIONS FOR ADDITIONAL DETAILS

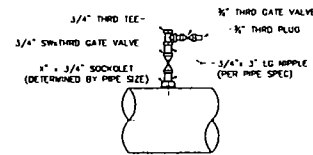
	NORWEST ENGINEERING	THE A
10000 11th Avenue NE	PHILADELPHIA, PA 19120	SV-097

[illegible]

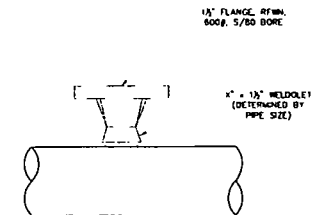


TYP 3/4" VENT & DRAIN CONNECTION

DETAIL 1
NTS



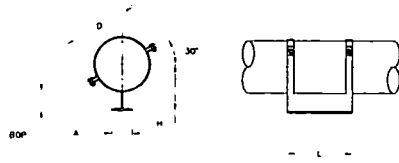
PT
DETAIL 2
NTS



TW
DETAIL 3
NTS

NORWEST ENGINEERING CONSULTING ENGINEERS		11.E. 01/03/2018
NAVAJO REFINING CO. ENGINEERING DEPARTMENT P.O. BOX 150 ARTESIA, NEW MEXICO		
DRAWING TITLE WDW-4 PROJECT PIPING STANDARD DETAILS	SCALE NONE	PROJECT NUMBER 80-P-101-D-001
DATE 5/7/18	DRAWN BY JAA	CHECKED BY JAA

REV.	DESCRIPTION	DATE	BY	CHKD.	APP'D.	REVISION
0	ISSUED FOR CONSTRUCTION		JAA	JAA		



ITEM	QTY	UNIT	DESCRIPTION	REMARKS
1	1	EA	PIPE SUPPORT BRACKET	
2	1	EA	PIPE SUPPORT BRACKET	
3	1	EA	PIPE SUPPORT BRACKET	
4	1	EA	PIPE SUPPORT BRACKET	
5	1	EA	PIPE SUPPORT BRACKET	
6	1	EA	PIPE SUPPORT BRACKET	
7	1	EA	PIPE SUPPORT BRACKET	
8	1	EA	PIPE SUPPORT BRACKET	
9	1	EA	PIPE SUPPORT BRACKET	
10	1	EA	PIPE SUPPORT BRACKET	
11	1	EA	PIPE SUPPORT BRACKET	
12	1	EA	PIPE SUPPORT BRACKET	
13	1	EA	PIPE SUPPORT BRACKET	
14	1	EA	PIPE SUPPORT BRACKET	
15	1	EA	PIPE SUPPORT BRACKET	
16	1	EA	PIPE SUPPORT BRACKET	
17	1	EA	PIPE SUPPORT BRACKET	
18	1	EA	PIPE SUPPORT BRACKET	
19	1	EA	PIPE SUPPORT BRACKET	
20	1	EA	PIPE SUPPORT BRACKET	

 NORWEST ENGINEERING 1111 1ST AVE. SUITE 100 • DENVER, CO 80202 • (303) 733-1111		SHEET # 80-P-101-D-002
PROJECT TITLE WDW-4 PROJECT PIPE SUPPORT DETAILS		DRAWN BY JAA
CHECKED BY JAA		DATE 5/7/10
APPROVED BY JAA		SCALE NONE
PROJECT FOR CONSTRUCTION YES		PROJECT NUMBER 80-P-101-D-002