CHOSEN NITROGEN FERT JARP.

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PHOTO INTELLIGENCE SECTION EVALUATION BRANCH PHOTOGRAPHIC DIVISION AC/AS, INTELLIGENCE

FUNCTIONAL ANALYSIS REPORT NO. F/A-129 Date 7 May 1945

TARGET NO:

84.2-1

NAME OF TARGET:

CHOSEN NITROGEN FERTILIZER CO.

LOCATION:

KONAN, KOREA

COORDINATES: 39051'N - 127038' E

PHOTOGRAPHY:

Date 21 Dec. 44

Mission 468BG/4MR44

Prints 2V:3-5 RV:92-95

LV:91-96

This report has been prepared from a study of aerial photographs and a consideration of evaluated ground information supplied by the Joint Target Group.

2. FUNCTION:

It is reported that the plant is the largest producer of basic war chemicals in the Japanese Empire; also, that the plant has a magnesium plant, and produces alumina, aluminum, small amounts of lead and copper, and some electric steel.

The photographs indicate the probable location of the reported installations with the exception of an electric steel plant.

The basic war chemicals manufactured include ammonia, nitric acid, sulphuric acid, glycerine and nitrogenous and phosphatic fertilizers.

3. LOCATION:

The plant is located on the east coast of KOREA adjoining the town of KONAN and approximately seven miles SSE of KANKO.

4. SERVICES:

The plant is serviced by the HAMGYONG MAIN LINE. There are three small marshalling yards nearby, and RR spurs run to different sections of the plant.

There are adequate highway connections to KONAN and KANKO.

Harbor facilities include a pier 2600 feet long with a 1500 foot warehouse. Large ships can be handled alongside and loaded by means of modern heavy cranes and conveyors. A RR spur runs along the pier.

The plant has electric power available from two nearby hydro-electric power systems.

IDENTIFICATION OF FACILITIES:

- Lead smelters and concentrators
- Lead refinery
- Unidentified
- Copper electrolysis
- Probable contact sulphuric acid plant
- Four 30' tanks
- 7-8. Unidentified
- Building associated with No. 5
- 10-11. Smelters probably for copper
- 12. Unidentified
- 13. Roasting and sintering building probably for copper ore
- Probably conditioning and roasting of lead ore
- 14. Ore concentration building
- Unidentified

IDENTIFICATION OF FACILITIES: Storage 17-22. Warehouse in three sections totaling approximately 1500' long 23. with four travelling cranes and a 40-ton crane near the south end. Four 45' fuel storage tanks 24-27 Possible distillation towers 28. Unidentified 29. Unidentified, however it is connected by pipeline to the probable 30. Sulphuric Acid Plant No. 55 Unidentified 31. Superphosphate manufacture and storage 32. Buildings associated with No. 35 33-34. Distillation and refinery of fish oils and glycerine 35. Buildings associated with No. 35 36-39. 20' storage tank with an adjoining smaller tank 40. Probable customs office building 41. Warehouse 42. 95' fish oil storage tank 43. Unidentified building with two 20' tanks alongside 44. Four 70' fish oil tanks 45-48. Probable water tank 50. Four 35' fish oil or glycerine storage tanks 51. Two 30' storage tanks for building No. 55 52. Building associated with No. 55 53. Two 30' storage tanks for building No. 55 54. Sulphuric acid manufacture 55. One 60' and two 30' storage tanks for building No. 55 56. Building associated with No. 55 57. One 60' and two 30' storage tanks for building No. 55 58. Two 30' storage tanks for building No. 62 59. Building associated with No. 62 60. Two 30' storage tanks for building No. 62 61. Sulphuric acid manufacture 62. Two 30' storage tanks for building No. 62 63. Building associated with No. 62 64. One 60' and two 30' storage tanks for building No. 62 65. Probable Phosphoric Acid Plant 66,68. Six 55' vats 60' storage tanks for building No. 68 67. Group of four cooling towers for building No. 68 69. 70. Building associated with No. 68 71. Unidentified 72-75. Warehouse 76. Unidentified 77-78. 40' gasholder . 79. Unidentified 80. Ammonium Sulphate production 8la. Fertilizer drying and storage b. Western end for fertilizer drying and storage; eastern end for 82. Ammonium Sulphate production Fertilizer manufacture and storage 83. Unidentified 84-85. Probable boiler house 86-87. 30' tank 88. 60' base of dismantled gas holder 89. Four 30' water tower tanks with open tops 90,91. 92-96. Administrative offices and laboratories Ammonia convertor building 97a.

98-100. Unidentified

Compressor building

101-116.16 gasholders each 70' diam. Some of these, most probably some of those adjacent to #120 (a) are for hydrogen storage, and some, most probably some of those adjacent to #98,99,100 are for nitro-

Unidentified 49.

-2-

5.	IDENTIFICAT	TON OF FACILITIES:
		gen storage. Amongst the group there must be some for oxygen
		storage, the gas coming from the activities of #120(a) and
		#117-119.
	117-119.	Air liquefaction and nitrogen fractionation
	120a.	Electrolysis building for hydrogen production
	b.	Rotary convertors for obtaining direct current
	121-125.	Unidentified
	126.	Building under construction
	127a.	Probable machine shop
	b	Extension under construction
	128-130.	Shops
	131-136.	Unidentified
		Storage
	137.	
	138-139.	Shops
	140.	Storage Control house for transformer station
	141.	
	142.	Transformers 7/1
	143.	Building connected with No. 141
	144.	Probable carbon electrode casing plant
	145.	Possible rolling mill
	146.	Unidentified
	147.	Eastern two bays originally reported to be carbon electrode
		plant. The building has been tripled in size and may now be
		used as a rolling mill.
	148.	Probable machine shop
	149-151.	Unidentified
	152.	Probable machine shop
	153-154.	Unidentified, possibly Synthetic Cryolite plant
	155-157.	Storage
	158.	55' gasholder probably for water gas
	159-161.	85' gasholder probably for water gas
	162-165.	Water gas plant
	165.	Building reported to contain "inkler Generators
	166-169.	Carbothermic Magnesium Plant
	167a.	Rotary kiln
	b.	Crushing and briquetting plant
		Electric reduction furnace building
	c.	Area containing wool-bag filters
	d.	Retort building and possibly alloying and casting
	169.	Aluminum pot rooms
	170a.	Rectifier building
	b.	Probable alumina storage
	c.	
	d.	Remelt and alloying
	e.	Probable pot room under construction
	171.	Possible carbon paste building-east section of building
		under construction
	172.	Probable cryolite recovery building
	173.	New construction, possibility that foundations may be for
		furnaces
	174-180.	Unidentified
	181.	Leaching, filtering and clarifiers
	182.	Precipitation, and filters, thickeners
	183.	Unidentified
	184.	Rotary kiln
	185a.	Continuation of sintering process
	b.	Coolers
		Possible boiler house
	186.	Gasholder 55' diameter
	187.	Probable crushing of the calcium aluminate
	188.	Probable rotary kiln for calcining the compound to form
	189.	
		alumina Desliminary drions
•	190.	Preliminary driers

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F/A-129 (Cont'd):

5. IDENTIFICATION OF FACILITIES:

Storage 191-192.

Ore crushing and washing and preparation 193. Secondary alumina plant under construction

194-199. Transformers 200.

Control house for transformer station 201.

6. DISCUSSION:

#165 is reported to be a Winkler water-gas generator assembly; but no resemblance to known installations can be noted from either aerial or ground photos. Moreover, no coal handling equipment can be seen. The only apparent function for such an installation would be as an intermediate step in the production of hydrogen to supplement that electrolytically produced in case of power shortages.

The reported nitric acid plant can not be identified as no absorption towers nor acid storage tanks can be seen. It is very logical that nitric acid be produced here particularly in view of requirements for it at the associated explosives plant (Target 84.2-2) located 1 mile to the W. The plant may therefore be entirely under cover and its most probable location

is in the general vicinity of buildings #82, 83, 119.

No evidence on the aerial photos can be found of the reported coke ovens, blast furnaces, nor electric furnaces.

The plant appears very active for the following reasons:

1. Steam issuing from acid manufacturing and glycerine manufacturing plant.

2. Smoke from magnesium, alumina, copper and lead plants

Ore piles of alumite and limestone

4. Piles of coal

The movement of vehicles on the roads, the RR traffic including around 200 freight cars in and near the plant and four ships around 200 feet along the wharves.

6. The extent of new construction.

ENCL: 750.052

INTERPRETED BY:

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ARTHUR L. GANUNG Maj., A.C.

LPPROVED BY:

WALTER HARRINGTON

Major, Air Corps Chief, Evaluation Pranch

Photographic Division Office of /sst Chief of /ir Staff,

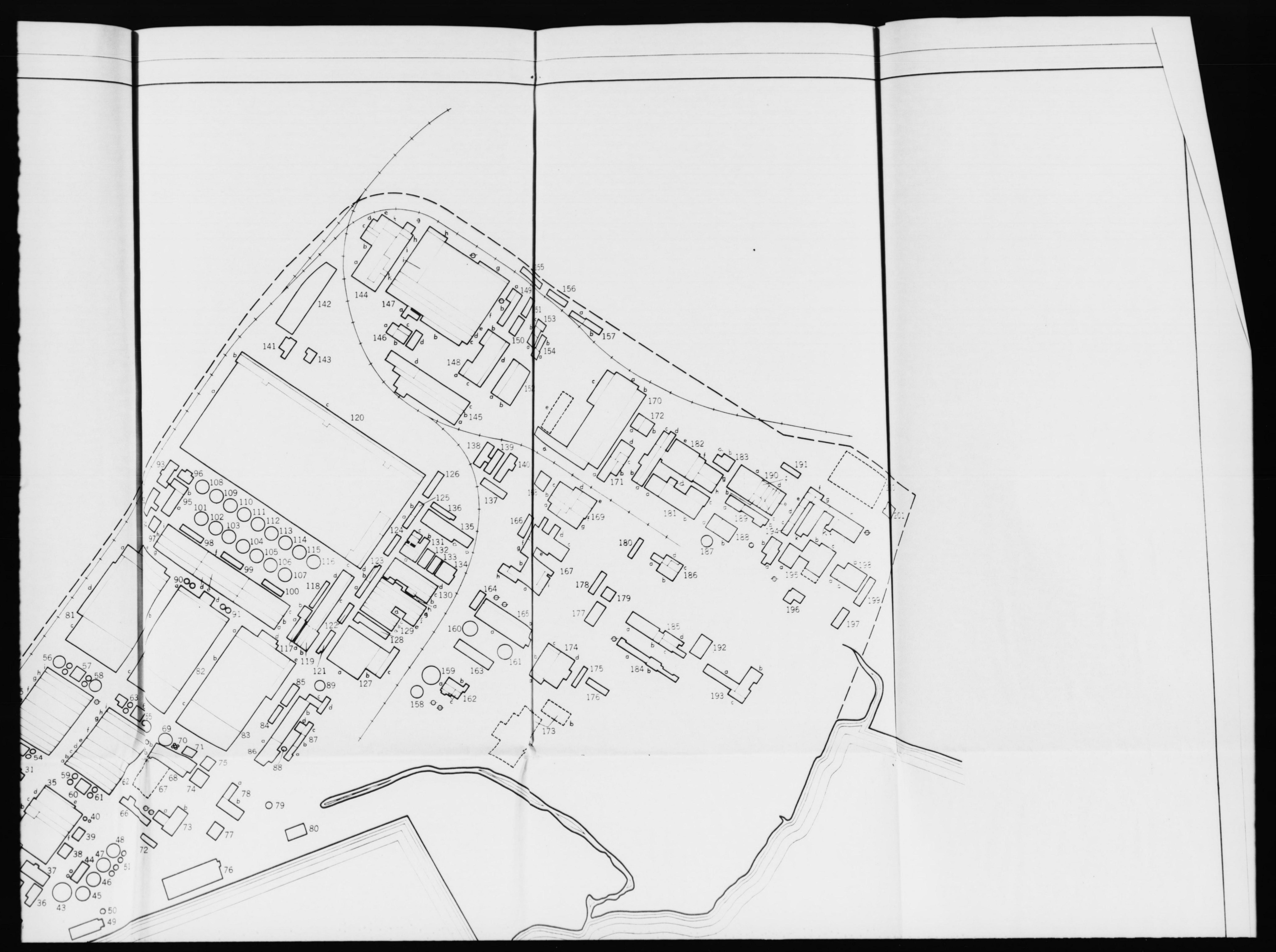
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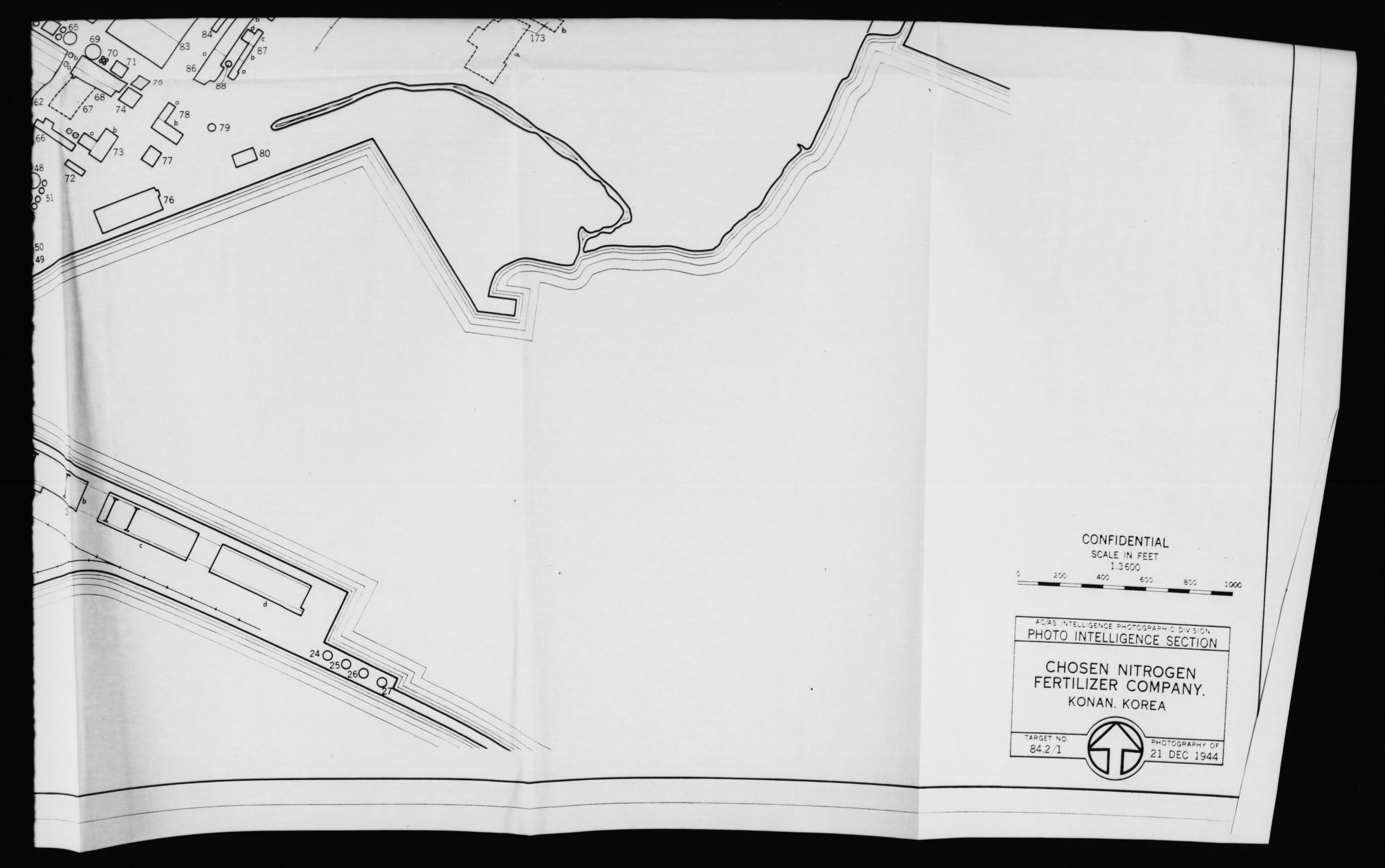
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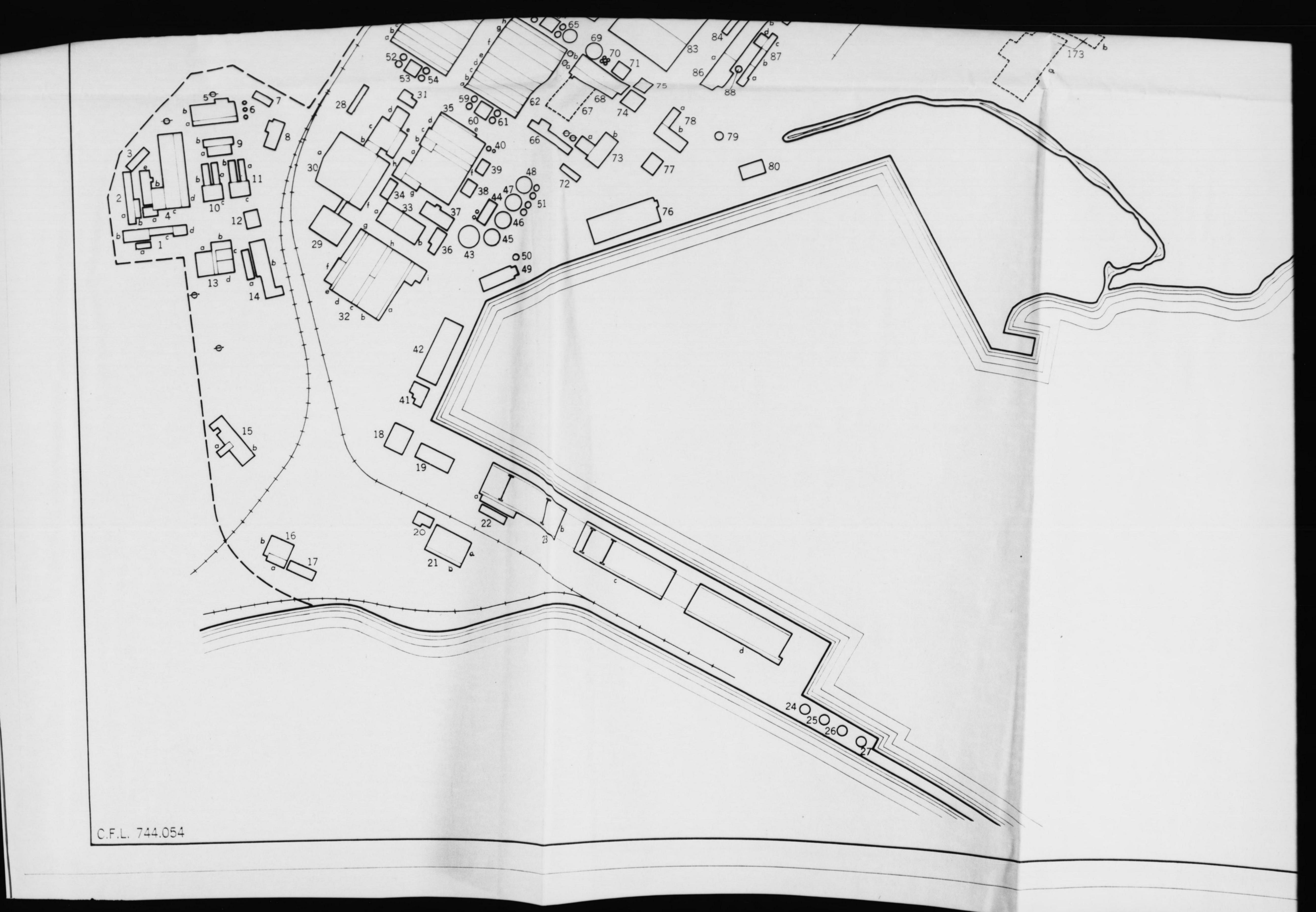
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ROBERT C. BEYER Lt.(jg)USNR

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AFIPH-13

AC/AS INTELLIGENCE PHOTOGRAPHIC DIVISION PHOTO INTELLIGENCE SECTION

S/A-54

PAGE 1 OF 19 PAGES DATE: 22 MAY 1945 REVISED:

BUILDING CONSTRUCTION ANALYSIS

TARGET: CHOSEN NITROGEN FERTILIZER CO. LOCATION: KONAN, KOREA. COORDINATES: 39°5 IN 127°38'E

S4.2-1

	DATE	MISSION	PRINT NOS	PLAN SCALE	SHADOW SCALE	JUALITY
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PHOTO-	Do	Do	RV 92,94-95			Do
GRAPHY	Do	Do	RV 93	1:7.300	1:3,500	Do
GIVAI III	Do	Do	LV 92,95-96	•		00
	Do	Do	LV 93 € 94	1:7,400	1:3,550	Do

SUMMARY SEE FOLLOWING PAGES FOR DETAILS)

26.2% BUILT- UP.

4:0	05.0	TOTAL PLAN	1000'S	_	PLOOR		1000'S	TOTAL			1000'5
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			D			427.0	427.0			9.0	9.0
		SPL.	5		.234.2		234.2		5.0		5.0
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	2	V3	E2	6.3	4.9		11.2	.1	.1		.2
		V3A	F2			25.5	25.5			.5	.5
	. 503	TOTAL	Two STORY	6.3	4.9	25.5	36.7	.1	.1	.5	.7
	3	V3	E2	1		5.2	5.2			.1	1.
	FUB	TOTAL.	THREE STORY		-1	5.2	5.2			.1	.1
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			•							-	

EVALUATED GROUND INFORMATION SUPPLIED BY THE JUINT TARGET GROUP

INTER- D ROWELL, LT (19) USNR SULTANT M. ATKIN

-		LEG	E	ND	: CONSTRUCTION TYPE SY	MB	0L	S	
	ALL SAWTOOTH EXCEPT A1.2, A1.3, A1.		_	_	TH HEAVY TRAV CRANE, EAVE HT > 30			1-STORY, < 10.000 SQ FT, ANY CONSTR'N	D
E 8 3	R C FRAME & ROOF SLAB	A1.2	1=	WI	TH LIGHT TRAV CRANE, EAVE HT < 30'	B2			_
SIN	TOP CHORDS EXPOSED	A1.3	18		COLUMNS 1 SIDE.	C1.1	>	FRAMED, EARTHQUAKE RESISTANT	EI
000 CR	STRESSED SKIN R C	A1.4	18	NES	TRUSSES CONTINUOUS,	C1.2	STOR	FRAMED, OTHER	E2
0 S	, , , , , , , , , , , , , , , , , , , ,	1	12	CRA	SAWTOOTH, TOP CHORDS EXPOSED	C1.3	Ī		
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ARE 75	ARCHES & RIGID FRAMES	A2.2	ARE	75.	ARCHES	C2.1	1	WALL-BEARING, OTHER	F2
E N S	TRUSSES	A2.3	Įĕ.	A	TRIANGULAR & BOWSTRING TRUSSES	C2.2			_
SPA	R C FRAME & ROOF SLAB	A2.4	S	PAN	FLAT TRUSSES (INCL EXP CHORD SAWTOOTH)	C2.3		SPECIAL INDUSTRIAL STRUCTURES	S
- NO	STRESSED SKIN INCL RC SHELL	A2.5	1-	"	STRESSED SKIN INCL R C SHELL	C3	L		

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	H	Н	_	0			120	105	12.	6		2	5	35 .		+	-	+
	H	Н		d			7	5 60	4.	5		1	5	30 .		+	+	+
	H	Н		1			10	5 35	3	7		2	5	35 .	1	+-	+	+
	1			5			6	5 25	16	.2	-	24	5	35		+	1	+
				T				1	_	1	-	+	+	+	-	+	+	1
$\overline{}$			31			¥	8	5 3	3.0	1	3.	0 1	5	35 .	LIGHT	10	10	144
						HOEDHATE	+	+		+	+	+	+	+-	Lieux	1 2	3 N	VA
	L		37	2	MFG. E	STORAGE.	+	+	+-	+	105.		+	1	LIGHT	74	1	T
	L			a			35		5.		+	+3	0	35 .		+	+	1
	L						10			2	+	+	80	30		1	1	
	-	-	_	-			10	5 3	7 3 6	8	1		.5	35 .		T		
	1	L	-	0	-	+	7	50 15	5	7	1		30	17				
	1	-	-	6		-	12	5 4	5 5	6		-	30	45				1
	-	100	-	-	-		4	017	5 7	:0		1	25	35			1	1
	-	5	-	E			17	5 15	1 2	.6		1	30	15		1		
	-	+	-	- 1		v	1	56	0 3	5.9		4	40	60	•	_	-	+
	-	+	-	-	-	•		T							,	-	+	+
	1	+	+		1										-	+	+	+
	1	+	+	+									_	-	-	+	+	+
-	1	+	1	1		NON-COMBUSTIBLE			43	5.6	435	.6				BEMA	NIDER	"R"

\bigcirc	-	CO	NS	П	DING RUCTION LYSIS CONTINUED			4. 2						PAGE 5 DATE: 2	OF 19	PAGE	L s 45
,	R=REVISED	S-SECONBARY	NUMBER	SUBDIVISION	OCCUPANCY	LENGTH, FT	1 =	PLAN AREA 1000'S OF SQ FT	NO OF FLOORS	FLOOR AREA 1000'S OF SQ FT	TO EAVES T	TO RIDGE H	SIZE OF BAY	ROOF	CONSTRUCTION	COMBUSTI.	H E VULNERA.
	Н	+	33	H	ASSOCIATED WITH #3	55	+	20.0	1	20.0				LIGHT	A23	N	V4
	Ц	Ť		a		90	95		İ		40		47 .		_		
	Н	1	-	Ь		120	95		╀		15		23 .		-	\vdash	\vdash
- 1	Н	+	71	Н		90	15	10	+	10	15		15	11447	D	c	¥4
	Н	ť	34	Н	<u> </u>	90	47	4.0	۲,	4.0	12		45 .	LIGHT	-		
	H	1	35		DISTILLATION OF	NE	T		1	81.5				LIGHT	13.1	2	V2
	П	I		a			140	36.4			30		46 .				
\mathcal{I}	Н	+		Ь		75	35		\boldsymbol{T}		25	_	35 ·				
	+	╀	-	2	*		35				25	\dashv	35 ·				
	+	t		0		200	15	3.0	t		30		15				
ı		1		ç		190	35	6.6			25		35 .				
	\Box	I		00		90	45	4.0			30		45 .				
- 1	+	╀	-	h	· ·	90	45	4.0	H		30	\dashv	45 .				\dashv
	#	1	36	1	ASSOCIATED WITH # 3	5 100	35 30	5.7	1	5.7	15		35 30	LIGHT	D	c	٧4
-	1	1	37	1		105	50	5.2	1	5.2	15		25	LICH+	D	c	V4
-	\pm	3	88	1		60	60	3.6	1	3.6	15		15	LIGHT	0	С	V4
7	+	3	9	1	· · ·	45	60	2.7	1	2.7	15	+	15	LIGHT	D	С	V4
	+	4	.0		20' STORAGE TANK	Κ.		0.4	1	0.4	15				5	2	SPL
F	+	4	1		PROBABLE CUSTOMS		45	4.7	2	9.4		-	13	MILL CONST.	F2	C	V3A
	+	4	2	1	WAREHOUSE			28.5	1	28.5		-		LIGHT		C	V4
	+	4		9	7ANK			7.1	1	7.1	35	1	•		5	N	SPL
	-		4	1	UNIDENTIFIED	110	60		1	6.6			60 .	LIGHT	D	2	V4
	+	45		I	TORAGE TANKS.			15.4	1	15.4		-		2.07	5		SPL.
1	+	45	3	7	TORAGE TANKS.			13.7	1	15.4	"	1			1		/
上	1			1				185.4	1	190.1		+				1	

A SECONDARY OF STANSFER	coi	NS.	ILITR	DING UCTION YSIS CONTINUED			4. 2						PAGE 6 DATE: 2:	IDEN OF 19 2 MA	PAGES	-5
	SECONGARY	NUMBER	SUBDIVISION	OCCUPANCY	LENGTH, FT	WIDTH, FT	1000'S OF SQ FT	NO OF FLOORS	1000'S OF SQ FT	TO EAVES T	GE	SIZE OF BAY	ROOF	CONSTRUCTION	COMBUSTI- BILITY*	HE VULNERA.
	-	49		UNIDENTIFIED	185	50	9.2	1	9.2	15		50	LIGHT	D	C	V4
		50		PROBABLE WATER		30	0.7	1	0.7	-35				5	С	SPL
		51		FOUR 35' FISH OIL			3.9	1	3.9	30				5	2	SPL.
		52		TWO 30' STORAGE			1.4	i	1.4	15		`		5	N	SPL
		53		ASSOCIATED WITH 5	5 60	60	3.6	1	3.6	15		60 .	LIGHT	D	C	V4
		54		TWO 30' STORAGE	-		1,4	1	1,4	15				5	12	SPL
	1	55		SULPHURIC ACID.		7.	9.0	-	114.0	25		7 .	LIGHT	A23	N	٧4
	H		6		300	30				30		30 .				
	Ħ		C		300		10.5			35		35				
	П		d		300	35	10.5			35		35				
	Ц		e		-	45	/			35		45 .		_		
	Н		4			90				30		45		-	-	-
	H		00			45	13.5			40		45		-	-	-
			ا ا	•	300	30	9.0			25		35				
		56		ONE 60' 4 Two 30' STORAGE TANKS	+	<u> </u>	11.2	1	11.2	25				5	N	SPL
	\parallel	57	-	AFFOCIATED WITH	55 60	60	3.6	1	3.6	15		60 .	LIGHT	D	С	V4
H	\parallel	58	+	ONE GO' & TWO 30'	+		4.2	1	4,2	25				5	N	SPL
		59	1.	TWO 30' STORAG	Ε		1.4	1	1.4	15				5	2	SPL
	H	60		ASSOCIATED WITH #6	2 60	60	3.6	1	3.6	15		60.	LIGHT	0	C	V4
		61		TWO 30' STORAG	E		1.4	1	1,4	25				5	2	SPL
1			_	•	+											-
1	$\dagger \dagger$		1	SISTANT, N=NON-COMBUSTIBLE,	1	1	159.6	-	159.6	-		,				

	Ç	0	BU NS AN	ILI TR AL	DING UCTION YSIS	8	REA 3	4. 2	ET	NO 1				PAGE 7 0 DATE: 22 REVISED:	F 19 MA	PAGES	5	
	R=REVISED	S.S.CONONE	NUMBER	SUBDIVISION	OCCUPANCY	LENGTH, FT	WIDTH, FT	PLAN AREA 1000'S OF SQ FT	NO OF FLOORS	FLOOR AREA 1000'S OF SQ FT	TO EAVES	3DC	SIZE OF BAY	ROOF	CONSTRUCTION	COMBUSTI	H E VULNERA. BILITY**	
		П	10		SULPHURIC ACID	F				1140				LIGHT	Δ23	2	V4	1
	H	H	62	a	MANUFACTURE	7.00	30	9.0		114.0	25		30	LIGH.	22.7			Г
		П		Ь		300	35	10.5			30		35					
		П		C	190	300	35	10.5			35		35					
				O.		300	35	10.5			35		35					ı
		Ц		e		300	45	13.5	Ц		35		45					l
		Ц		1		300	90	27.0	Ц		30		45		_			ł
1	L	Н		8		300	45	13.5	H		40		45	-				۱
)	L	\sqcup	_	h		300	35	105	\vdash		-	-	35	-	-		-	۱
	\vdash	\vdash	_)	· ·	300	30	9.0	\vdash		25	-	30	-				١
			63		TWO 30' STORAGE			1.4	1	1.4	25				.5	N	SPL	1
	F	+	64	+	ASSOCIATED WITH 62	. 60	60	3.6	,	3.6	15		60.	LIGHT	D	С	V4	1
	F	F	65		ONE GO' & TWO 30' STORAGE TANKS.	+		4.2	1	4.2	25				5	2	SPL	1
	L	1				1							-			-	-	1
	F	+	66	+	ACID PLANT.	250	45	11.2	1	11.2	30	-	145.	LIGHT	A 2.3	2	V4	1
	F	1	67		51x 55' VATS	1		14.3	1	14,3	10				5	2	SPL	
	1	+	68	3	PROBABLE PHOSPHORIC				1	23.0		+		LIGHT	A 23	2	V4	
				a.		270	35	9.5			4		35 .			_	1	
	L			b	Υ	270	50	13.5	4		4	0	50 .	-	-	-	-	
			69		GO' STORAGE	+		2.8	1	2.8	1	\perp			5	N	SPL	
	-	+	70		GROUP OF FOUR	45	45	2.0	1	2.0	40				5	2	SPL	
	F		71		ASSOCIATED WITH #68	3 60	60	3.6		3.0	6 15	5	60 .	LIGHT	D	C	V4	
	ë								I				-	1	-	-	-	
		-	72		UNIDENTIFIED	95	35	3.3	1	3:3	17	2	35 .	LIGHT	D	C	V4	-
			73			1			T		F				-	-	-	
	-	-		a b		140	45	6.3	1	6.3	20		45	LIGHT	D	С	V4	
)						+	-	100 7	+	1007	+	+-	-	-	-	-	+	
	H	Ļ	FID	F.PF	SISTANT, N=NON-COMBUSTIBLE, C	C= CON	ABUS	189.7	R (N	189.7	DV D	LDGS	S ONLY)	"C" ROOF, R	FMAIN	DER "	?''	

		CC	ONS	TF	DING UCTION YSIS CONTINUED			4.2						PAGE 8 DATE: 2	OF 19	PAGE	S	
	R=REVISED	SESECONORRY	NUMBER	SUBDIVISION	OCCUPANCY	LENGTH, FT	WIDTH, FT	PLAN AREA 1000'S OF SQ FT	NO OF FLOORS	FLOOR AREA 1000'S OF SQ FT	TO EAVES	GE	SIZE OF BAY	ROOF	CONSTRUCTION	COMBUSTI. BILITY*	HE VULNERA.	
			74		UNIDENTIFIED	පිං	80	64	1	6.4	15		40 .	LIGHT	D	c	VA	1
			75		-	65	60	3.9	1	3.9	15		60.	LIGHT	D	С	V4	1
			76		WAREHOUSE		135		-	40.5	15		33.	LIGHT	Δ23		V4	1
			76		TYAKEHOUTE	,,,,	177	40.5	-	40.7	1							1
			77		UNIDENTIFIED	80	60	4.8	1	4.8	15		60 .	LIGHT	0	C	V4	1
			78						1	5.7				LIGHT	D	С	V4	1
		Ц		a			25		-		40		25					1
		Н		Ь	· ·	140	30	4.2			18		30 .					1
			79		40' GASOMETER			1.3	1	1.3	30				5	2	5PL	1
			80		UNIDENTIFIED	105	45	4.7	1	4.7	15		22	LIGHT	D	c	V4	1
	L	L				\vdash			-	2221				LIGHT	A23	2	VA	1
	\vdash	╀	81	a	AMMONIUM SULPHATE	350	60	21.0		223.1	45		30×15	LIGHT	ALI	-10		1
	H	t	_	6	FERTILIZER DRYING	410	325				40		36×12					1
	H	t		C	1	145	325				40		36 × 12					1
	r	T		9			30				20		30 .					1
	F	I		e	•	230	60	13.8			25		30					1
\bigcup	1	+	82	+		+			1	244.8				LIGHT	A23	2	¥4	I
	r	t	1	a	AMMONIUM SULPHATE	325	15	4.9			40		15					1
	r	T		Ь	FERTILIZER DRYING		325	190.1			40		36×12					1
	Г	T		c		145	325	47.2			40		36×12					1
	F	Ŧ	_	d	Y	75	35	2.6			15		35 .					1
	H	+	83	-	FERTILIZER MFG.				1	220.2				LIGHT	A23	2	Y4	1
	[.	I		a		325	60	19.5			45		30×15					1
				Ь		430	325	140.0			40		36 x 12					1
				c		145	325	47.2			40		36×12		-			
	L	1	_	9		110		4.9			25		45.					1
	H	╀	-	e	. *	245	35	8.6			25		35 .					1
0	-	+		-		T												
		T						755.4		755.4) Cir	ONLY	C" POOF OF	MAINIE	ED "'D"		
	Г	•!	R-FIRI	LEA	SISTANT, N=NON-COMBUSTIBLE, C ST VULNERABLE TO HE ATTACK, V	= COM	MORE	VULNERA	(M	E AND SO	ON. S	SEE .	JTG MEMO	NO JTG/M/3	V1, RE	VISED.		

)	(00	NS	ILITR	DING UCTION YSIS CONTINUED			4.2						PAGE 9 PAGE 22	OF 19	PAGE	L 5
	R=REVISED	SECONDARY	NUMBER	SUBDIVISION	OCCUPANCY	LENGTH, FT	WIDTH, FT	1000'S OF SQ FT	NO OF FLOORS	1000'S OF SQ FT	TO EAVES	GE	SIZE OF BAY	ROOF	CONSTRUCTION	COMBUSTI. BILITY*	H E VULNERA.
			84		UNIDENTIFIED	120	30	3.6	1	3.6	15		30.	LIGHT	· D	С	V4
			85		1	135	35	4.7	1	4.7	2.5		35 ·	LIGHT	D	c	V4
			86	a	PROBABLE BOILE		65		1	38.0			· · · · · · · · · · · · · · · · · · ·	LIGHT	A23	2	V4
				b			65				35		65 65				
1		H		C		60	45	27			20		45				
J				d		95	30	2.8		•	15		30				
		Н	87	a		1			1	11.5			-	LIGHT	A2.3	2	٧4
		H		Ь		80	30 45	3.6			20	- 1	45				
				c		80	45	3.6			20		45				
	-	Н		d	*	50	30	1.5	_		20	-	30 ·				
			88		30' TANK.	+		0.7	ı	0.7	20	-			5	N	SPL
			89	H	GO' BASE OF DIS	R											
			90		TWO 30' WATER TOWE	R S.		1,4	1	1.4	35				5	N	SPL
)			91		•	_		1.4	1	.1.4	35				9	N	SPI
			92		ADMINISTRATIVE	160	45	7.2	2	14.4	28		18 ×12	MILLCONST	F2	С	V34
			93			140	45	. 6.3	2	12.6	28		18×12	4" TO 6" CONCRETE	EZ	R	V3
			94			75	60	4.5	1	4.5	18		15	LIGHT	D	С	V4
			95										•	MILL CONST			
				b		75	30	2.2			28	- 1	22		F2 D	c	V3Δ V4
		-	96		*	80	45	3.6	1	3.6	18		22	LIGHT	D	c	V4
)																	
	L	Ļ	FIDE	L DE	SISTANT, N=NON-COMBUSTIBLE, ST VULNERABLE TO HE ATTACK,	C- CC''	PUICT	94.2		116.8	V Bi c	100	ONLY	C" BOOK 55		50.05	

	C	10	1S	FR	DING			ARE O	4. 2	GET	NO - 1				PAGE 10 DATE: 22	OF19 MA	PAGES	S
	R=REVISED	3 SECONDAR	NUMBER	SUBDIVISION	OCC	UPANCY	LENGTH, FT	WIDTH, FT	PLAN AREA 1000'S OF SQ FT	NO OF FLOORS	FLOOR AREA 1000'S OF SQ FT	TO EAVES	TO RIDGE I	SIZE OF BAY	ROOF	CONSTRUCTION	COMBUSTI. BILITY*	HE VULNERA.
	+	1	7							-	125.4				LIGHT	ВІ	2	V2
		t		a	AMMONIAB	CONVERTER	2.70	35	9.4		167.7	90		35×15				
		1		Ь		SOR BLOG	1					35		60 x 15				
		I		C			270	60	16.2			35		60×1				
				0	AMMONIA	CONVERTER	270	35	9.4			90		35 x 15				
	1	1		9	COMPRES	SOR BLOG.	270	60	16.2			35		60×15				
-	+	-		£	Anamania	CONVERTER	270	60	16.2			35		60× 15		-		
	+	╀	-	8	2	LDG	2/0	35	9.4			90		35× 15				
	+	╀	-	h	COMPRES	OR BLOG		60	16.2			11		60×15		-		-
-	+	₽	-	1		·	4/0	60	16.2	H		35		60×13				
	1	9	8	-	UNIDENT	TIFIED	140	30	• 4.2	1	4.2	15		30	LIGHT	0	C	Y4
	#	o,	19	1			140	30	4.2	1	4.2	15		30.	LIGHT	0	C	¥4
	#	10	00	1		ν	140	30	4.2	1	4.2	15		30.	LIGHT	D	c	V4
	#	101	6		16,70' GAS HYDROGEN	METERS FOR			61.6	1	61.6	45				5	2	SPL
	+	-	7		POSSIBLE LIQUEFAC	TION BLOG				-	7.7				LIGHT	D	c	V4
	1	1	_	a				35	4.5	1		25		35 .				
	+	-		Ь			65	50	3.2	+		25		50 .				
	-	1	8				160	30	4.8	-	4.8	15		30.	LIGHT	D	C	V4
	1	1	9							1	42.6				LIGHT	A23	C	V4
-	+	╀	-	a	(UNDER	CONST.)		45	5.6					45 × 12		-		-
1	+	t		2	(0			45	5.2					45×12				
		t		d		v	111	75						75				
0	+	12	20							1	750.3				LIGHT	A 2.3	2	V4
				2	FOR HYDRO	SGEN MEG.	1210	560	677.6			25		27× N5		-		
				6	ROTARY C	ONVERTERS	1210	45	54.5			40		45 × 15		-		_
	1	1		С	7/04	V SUB DIVISION	_	15	18.2			18		15×15		-		
	-	1		d	(PART O	(a")		25				40		27×15				
	-	1		e	,	-	320	1				40		27× N				-
1		L	IRE	DEC	ISTANT N NON	COMBUSTIBLE, C-	COM	BUST	1005,0	(M	ULTI-STOR	Y BL	DGS	ONLY) -	C" ROOF, RE	MAIND	ER "R	

R=REVISED S:SECONOARY	REF	SUBDIVISION	CONTINUED		1									REVISED:			
H	21			CUPANCY	LENGTH, FT	WIDTH, FT	PLAN AREA	NO OF FLOORS	4	1000'S OF SQ FT	TO EAVES H	GE	SIZE OF BAY	ROOF	CONSTRUCTION	COMBUSTI. BILITY*	HE VULNERA-
H	-	1	UNIDEN.	TIFIED.	150	30		4.5	-	4.5	15		30 .	LIGHT	D	C	v4
П	122				120	30		3.6	+	3.6	30		30 .		0	C	V4
Ш	123							1	+	5.8		-			D	C.	V4
H		a			90	30	-	3.1	1		30		30 .		-	-	-
H	124				120	30		3.6	1	3.6	, 18	3	30 .		0	C	V4
	125				+	1	1		1	4.9		+	7		D	C	V4
H	_	a			90	5 30		2.7	1		10	3	30		+	+	+
H	120	1	(UNDER	CONST.)	16	0 4	1	7.2	1	7.	ż	+	45 .	-	10	· C	·
H	12	7	PROBAB	SLE MACHINE SH		+	+		-	59.			25 .	LIGHT	В	2 N) V
H	F	0	+	R CONST.)	1	50 6	50	9.0			1	25	30×1		+	-	
H	F	-	c	<u> </u>	1	35 2	1	3.7		-	1	1	40.	LIGHT			- V
SH	12	8.	5	HOPS	1	210 4	0	8.4	1		4	20		LIGHT	-	1 1	2
1	12	29	a		_	210 2		5.2	1	55		25	25 x 1	5	-	+	-
H	F		ь с			210 2	25	5.1	1			25	25 x	15			
F			e			75	35	2.	6	-		35 25	35×1	5			
	1		f g			300 300	40	12.	0	-		35 25	40×	15			
			h	<u> </u>		700	2)		1	-							
-			-						1	-					1		
7	\coprod			N=NON-COMBUSTIBLE RABLE TO HE ATTAC				151	.5	15	1.5						

CO	NS	ILC	YSIS	ION				2	AREA	4.	ARG	ET N	1					CONFI PAGE 12 0 DATE: 22 REVISED:	DEN F 19 MA	PAGE V 194	L s 1-5		
R=REVISED S:SECONONRY	NUMBER	SUBDIVISION		OCC	UPAN	NCY	,	LENGTH, FT	WIDTH, FT	PLAN AREA	1000'S OF SQ FT	NO OF FLOORS	FLOOR AREA	TO EAVES T	GE	SIZE OF BA		ROOF	CONSTRUCTION	COMBUSTI	HE VULNERA	BILLIY	
				Sı	101	25		\vdash		-		$\left\{ \right\}$	27	7	-		+	LIGHT.	B2	N	V	2	
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R= REVISED	C. C. P. C. B. W.	~	SUBDIVISION	OCC	UPANCY	LENGTH, FT	WIDTH, FT	PLAN AREA	NO OF FLOORS	FLOOR AREA 1000'S OF SQ FT	TO EAVES	TO RIDGE E	SIZE OF BAY	ROOF	CONSTRUCTION	COMBUSTI-	H E VULNERA- BILITY**
r	t	14	4	PROBABLE	CARBON CASING PLANT				1	72.0				LIGHT	A2.3	2	V4
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	= REVISED	SECONONNY	UMBER	SUBDIVISION	OCCUPANCY	LENGTH, FT	WIDTH, FT	PLAN AREA	OF FLOORS	FLOOR AREA	TO EAVES	TO RIDGE	SIZE OF BAY	ROOF	ONSTRUCTION	COMBUSTI. BILJTY*	H E VULNERA. BILITY**	
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	H	-:	R = FIR	E-RE	SISTANT, N=NON-COMBUSTIBLE, CAST VULNERABLE TO HE ATTACK,	-CON	MORE	TIBLE; C/R	(M	ULTI-STOR	ON.	DGS	JTG MEM	"C" ROOF, RE	MAIND 3/1, RE	ER "R'		
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	159	,	8° F	OR WAT	DER PROBABL	*			5.7	1	5.7	15			F		9	N	SPI	1
H	160	,	+			+		F	5.7	1	5.7	75			+		5	N	5p	
H	16	+	+			+		-	5.7	1	5.7	75			1		5	N	Sp	١.
H	16		1	WATER	GAS PLANT	65	3!	5	2.3	-	8.5	31	5	35 .	L	IGHT	D	N	V4	+
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-	R=REVISED	SECONORRY	NUMBER	SUBDIVISION	occi	JPANCY	LENGTH, FT	WIDTH, FT	PLAN AREA 1000'S OF SQ FT	NO OF FLOORS	FLOOR AREA 1000'S OF SQ FT	TO EAVES T	TO RIDGE H	SIZE OF BAY	ROOF	CONSTRUCTION	COMBUSTI.	H E VULNERA-
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r		*R	- FIRI	RE	SISTANT, N=NON	COMBUSTIBLE, C-	СОМ						ogs	ONLY) -"	C" ROOF RE	MAIND	B "B"	

	C	0	NS.	TR	DING UCTION YSIS CONTINUED				& TARC						CONF PAGE 170 DATE: 2	F 19	PAGES	.	
	R=REVISED	S-SFCOMBARY	NUMBER	SUBDIVISION		UPANCY	LENGTH, FT	WIDTH, FT	1000'S OF SQ FT	NO OF FLOORS	FLOOR AREA 1000'S OF SQ FT	TO EAVES	GE	SIZE OF BAY	ROOF	CONSTRUCTION	COMBUSTI- BILITY*	H E VULNERA. BILITY**	
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K=KEVISED	S-SECONOARY	NUMBER	EF	SUBDIVISION		UPANCY	LENGTH, FT	WIDTH, FT	PLAN AREA 1000'S OF SQ FT	NO OF FLOORS	FLOOR AREA 1000'S OF SQ FT	TO EAVES	39C	SIZE OF BAY	ROOF	CONSTRUCTION	COMBUSTI- BILITY*	HE VULNERA- BILITY**
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	+	1 K	37		55' GAS	HOLDER	Н		2.4	1	2.4	25	+	-	-	1	10	
_	†	1,	88		PROBABL	E CRUSHING	Н			1	13.5		\vdash		LIGHT	423	N.	V4
_	†	†"	<u></u>	a	OF CALCIUM	ALUMINATE		60	5.4	Ė	17.7	25		60 .		-		1
	†	t		Ь			90	90				25	5	45 .				
	†	T							,									
	T	18	89	1	PROBABL	KILW.				1	10.3		_		LIGHT	A23	N	¥4
	1			a			95	50	4.7	1		30	-	50	-	-	1	-
	1	1		b		V	160	35	5.6	4		30	>	35 .	-	-	-	+-
-	1	+	_	+	0		-			+	ļ	-	+	-	1.	1.00	1	1
-	+	11	90	+	PRELIMINA	RY DRIERS	1.	125		1	38.		-	+	LIGHT	AZ	N	1 1/2
1	+	+		0	1	+		135		Т	-	3	+ .	45		+	+	+
ŀ	+	+	_	C	-		120			T		3	+	25	+	T	T	T
ŀ	1	+		0			+	45		T		30	1	45			1	T
ŀ	1	\dagger		e	-		-	35				30		35.				
İ		T		2		v .	8	45	3.	6		30	,	45				
							1		-	1		1	1			1	-	-
1		1	191	1	STORA	GE	110	35	3.	81	3.	8 10	0	35.	LIGHT	10	C	V4
1		+		+	-		-	17	7	7	+-,	7	-	35 .	1	1	10	1/4
1		-	197	2	-	¥	-110	70	7.	/[1	+-	7 1	5		LIGHT	TD	1	¥4
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	C	Ol	BUI NST AN	LIRAL	DING UCTION YSIS CONTINUED	(4. Z						CONF PAGE 19 DATE: 21	OF 19 2 MA	PAGES	5
P-REVISED	W=KEVISED	SESECONDARY	NUMBER	SUBDIVISION	OCCUPANCY	LENGTH, FT	WIDTH, FT	PLAN AREA 1000'S OF SQ FT	NO OF FLOORS	FLOOR AREA 1000'S OF SQ FT	TO EAVES	GE	SIZE OF BAY	ROOF	CONSTRUCTION	COMBUSTI.	H E VULNERA. BILITY**
+	t	1	193		ORE CRUSHING, WASHING	+			1	229				LIGHT	Δ23	N.	V4
	I	I		a		190	45	8.5	İ		30		45 ·	2.01.1			
-	1	1		b		155	75	11.6			30		75 .				
-	4	1		c	*	95	30	2.8			10		30.				
-	4	4		4	SECONDARY ALUMINA PI	_							1				
-	+	+	194		SECONDARY ALUMINA PL	<u>)</u>			1	52.3				LIGHT	A23	N	V4
-	+	+		2			30	2.7			30		30 .				_
۱ŀ	+	+		b			35	4.9			15		35 .		-		-
卝	+	+		7			35				25		35 ·				
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t	†	t		t		35	30	2.4			25 35		35.				-
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r	†	†		h	•	210		7.3			35		35.				
T	1	1	•	j		135			Ī		30		60.	-			
I	1	1		k		75		2.2	Ī		30		30.	,			
	1	1		1		190		12.4			30		32				
	\Box	I	•										•				
		1	195						1	30.7				LIGHT	42.3	N	V4
	1	1		a		105	75	7.9			30		75 .				
L	1	1		b		110	60	6.6			35		60				
1	4	4		c	•	180	90	16.2			25		60 x 18				
丬	4	4				-	2.										
1	4	+	196	1		75	45	4.4	1	4.4	35		20	LIGHT	D	2	¥4
H	+	+				-				•	-					•	
+	+	+	197			1110	45	4.9	4	4.9	30	-	45 .	LIGHT	D	C	¥4
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ŀ	1	+	198	0		10	AE	20	1	17.7		1		LIGHT	ALS	C	V4
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t	1	†		C			60	7.2			30		45 · 60 ·		-		
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1	4	4															
1	+	-	200	100	TRANSFORMERS.	320	30	9.6	1	9,6	25	-			5	2	SPL
1	1	+	201	44	CONTROL HOUSE FOR	75	65	4.9	1	49	25		20 .	LIGHT	D	C	VA
1		1		Ī	TATION	1	-	150.6	-	150.6	-	-	45	LIGHT			14
	100	·R.	FIRE	RES	STANT, N-NON-COMBUSTIBLE, C	-COM	BUST	IDI E. CAD					NII V. "	C" BOOF BE	MAIND	ED "D'	_



