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WETLAND DELINEATION REPORT

KEYWELL CORPORATION VACAIR ALLOYS DIVISION FREWSBURG, NEW YORK

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1.0 INTRODUCTION

The Keywell Corporation, VacAir Alloys Division Site (Site) is an inactive hazardous waste site located in the Village of Frewsburg, Chautauqua County, New York. The location of the Site is shown on Figure 1. The Site is identified in New York State Department of Environmental Conservation (NYSDEC) "Registry of Inactive Hazardous Waste Sites" as Site Number 907016, a Class II site. Following a number of environmental investigations and interim remediation activities, the New York State Department of Environmental Conservation issued a Record of Decision which identified the selected remedy for the Site.

In addition to other activities, the selected remedy includes excavation and off-Site disposal of sediment from a low lying area located to the north of the Site. The low lying area is included as part of a mapped New York State Freshwater Wetland and also exhibits characteristics of areas regulated by the US Army Corps of Engineers. This report presents a description and wetland boundary delineation of the portion of the low lying area that is proposed to be impacted by remedial activities.

2.0 AREA DESCRIPTION

The land form of the Site region is described as the Cattaraugus Hills of the Appalachian Upland of Western New York. The Cattaraugus Hills are characterized by relatively flat topped uplands with deep intervening valleys. Topographic relief in the immediate vicinity of the Site is minimal to moderate ranging from 0 to 8 percent grade.

Soils of the area consist of alluvial soils deposited in valley bottoms. These deposits originated from glacial melt and from postglacial stream deposits during times of flood. These processes have resulted in creation of valleys with narrow but reltively level alluvial bottoms. Soils in the immediate vicinity of the Site are dominated by level to nearly level silt loam and loamy soils characteristic of these glacial till and alluvial origins.

The Site itself is located in the Conewango Creek valley. Conewango Creek is included in the Allegheny River drainage basin.

3.0 AGENCY RESOURCE INFORMATION

The US Fish and Wildlife Service, National Wetland Inventory Map showing the Site indicates a federally jurisdictional area coincident with Conewango Creek in the Site area. This mapped federally regulated area depicts the main channel of Conewango Creek and is described as; riverine, lower perennial, open water, area exhibiting a permanent water regime. The portion of the National Wetland Inventory map titled "Jamestown, NY" showing the Site area is included as Figure 2.

Review of the NYSDEC Freshwater Wetlands map titled "Jamestown, NY", included as Figure 3, indicates that a portion of New York State Freshwater Wetland JA-6 occurs in the low lying area adjacent to the Site. Wetland JA-6 is a Class II wetland.

A portion of the US Department of Agriculture Soil Conservation Service, Chautauqua County Soil Survey map showing the Site is presented as Figure 4. The soil mapped in the lowlying area is Wayland silt loam, a hydric soil. Soils mapped in the Site area include the following:

Soil Coc	de Soil Name/Description	Hydric <u>Classification</u>
6	Wayland Silt Loam, 0-3% slopes, very deep, nearly level, poorly and very poorly drained soil formed in an alluvium. The available water capacity is high, permeability is slow throughout, and the soil is subject to frequent flooding.	Hydric
64B (Chautauqua Silt Loam, 3-8% slopes, very deep, Non-hydric gently sloping, moderately well drained, medium to low lime, loamy soil formed in glacial till. Available water capacity is moderate; permeability is moderate in the subsoil and moderately slow in the substratum.	
04 r	Wakeville silt loam, 0-3% slopes, very deep, nearly level, somewhat poorly drained, medium hydric lime, silty soil formed in neutral to mildly incl alkaline alluvium. Available water capacity is high; permeability is moderate throughout the soil; subject to periodic flooding.	Potential Jusions
20A I	Raynham silt loam, flooded phase, 0-3% slopes, Hydric very deep, nearly level, somewhat poorly drained, medium lime, silty soil formed in lake-laid deposits. Available water capacity is high; permeability is moderate to slow. Subject to periodic flooding.	

Conewango Creek is identified by NYSDEC as Waters Index Number PA-63. The portion of the Creek in the Site vicinity is designated as a Class C water. NYSDEC "Water Quality Regulations" (NYS, CRR Title 6, Chapter 10, Parts 700-705) describe Class C surface waters by suitability for use:

"The best usage of Class C waters is fishing. These waters shall be suitable for fish propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes."

4.0 METHODOLOGY

The methodology for the wetland delineation followed the routine on-site determination methodology as described in "Technical Report Y-87-1, Corps of Engineers Wetlands Delineation Manual" (1987) and the NYSDEC "Freshwater Wetlands Delineation Manual" (1995). On-site investigations were conducted by Fine Line Technical Services during May 1997.

Observation points corresponding to New York State and federal wetland boundary locations were identified in the field and flagged with labelled marking tape. Characterization of conditions at each boundary location included a qualitative assessment of plant species dominance, characterization of soil conditions, and observations of hydrologic conditions. Flagged wetland boundary locations were surveyed by Krull Land

Survey Company during May1997.

5.0 RESULTS

Conditions observed at delineated boundary locations were consistent with observations of vegetation, soils, and surface water hydrology patterns. No atypical conditions or problem areas were identified during the field delineation. Completed "Wetland Determination Data Sheets" (ACOE Data Form 1) for identified boundary locations are presented in Appendix A. Photographs showing representative conditions in the vicinity of selected wetland boundary locations are presented in Appendix B.

Delineated wetland boundary locations were inspected and confirmed by US Army Corps of Engineers, Buffalo District and NYSDEC Bureau of Wildlife staff. The boundary of the federally regulated area and New York State wetland JA-6 in the delineated area are considered to be coincident. It should be noted that the New York State wetland includes an additional 100 foot "adjacent area". This boundary delineation of Wetland JA-6 at this location is now considered to be the officially accepted New York boundary delineation of this area.

A map depicting the wetland boundary in the low-lying area is presented as Figure 5. This map was prepared from results of surveyed boundary point locations. A full-size plan view of this area including; the wetland boundary, NYSDEC adjacent area, and the area to be excavated within the regulated wetland is contained in Appendix C.

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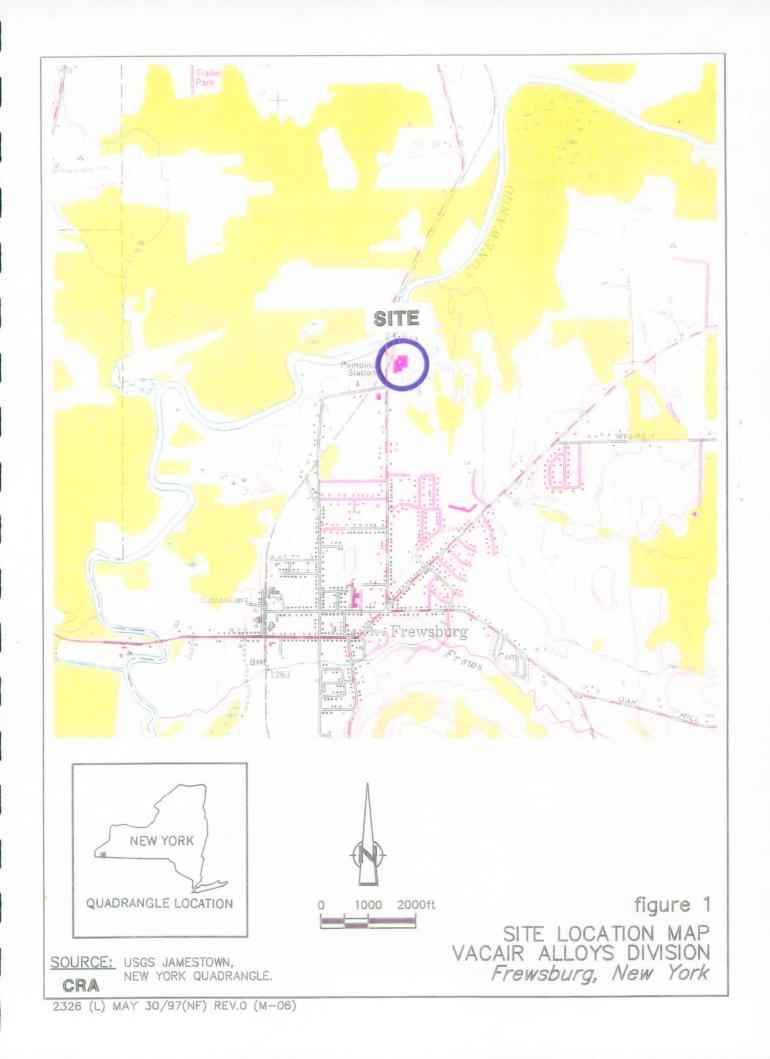
REFERENCES (Cont.)

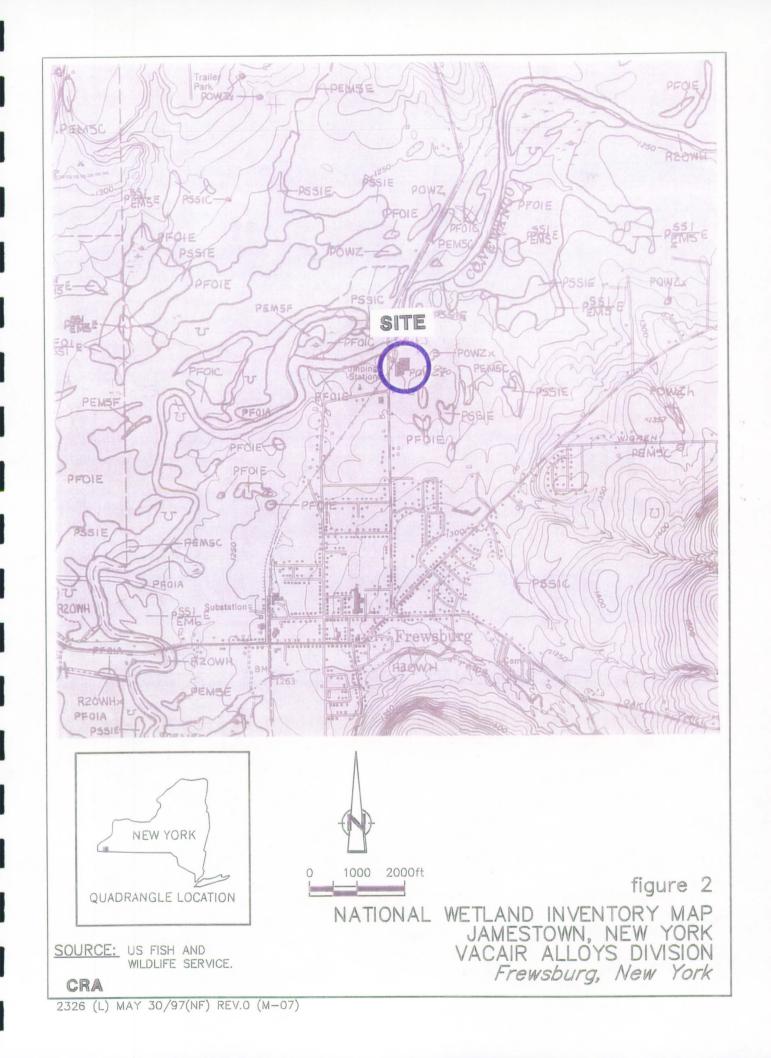
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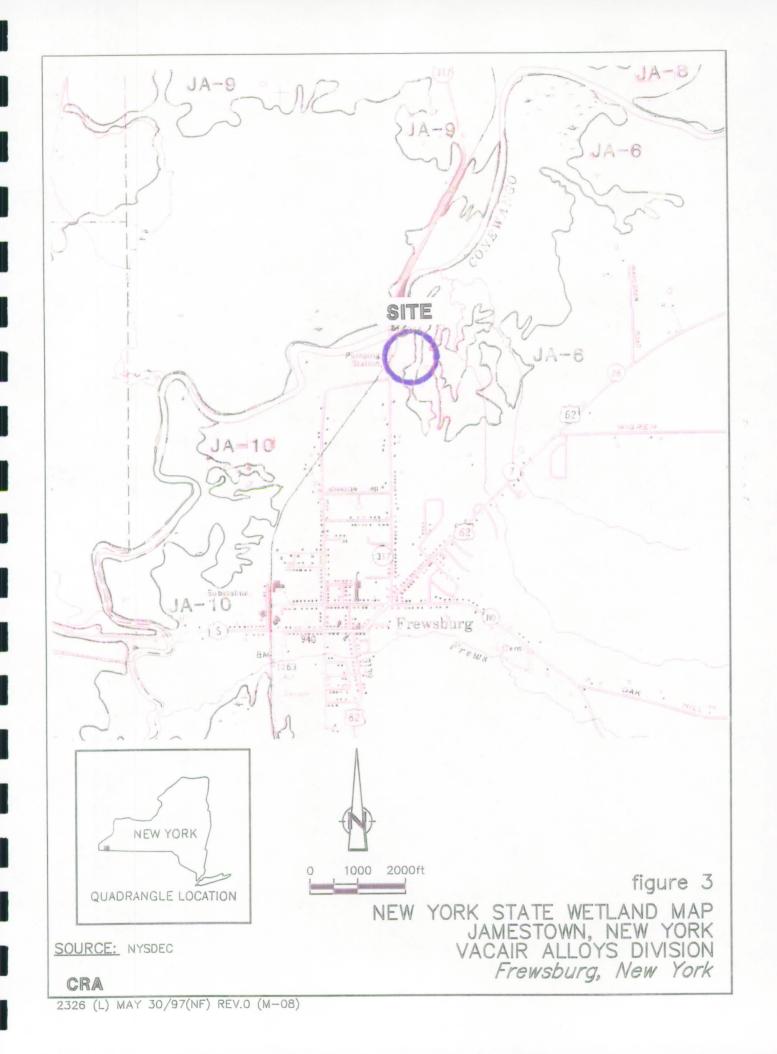
Thompson, J.H. ed. 1966. GEOGRAPHY OF NEW YORK STATE. Syracuse University Press, Syracuse, New York.

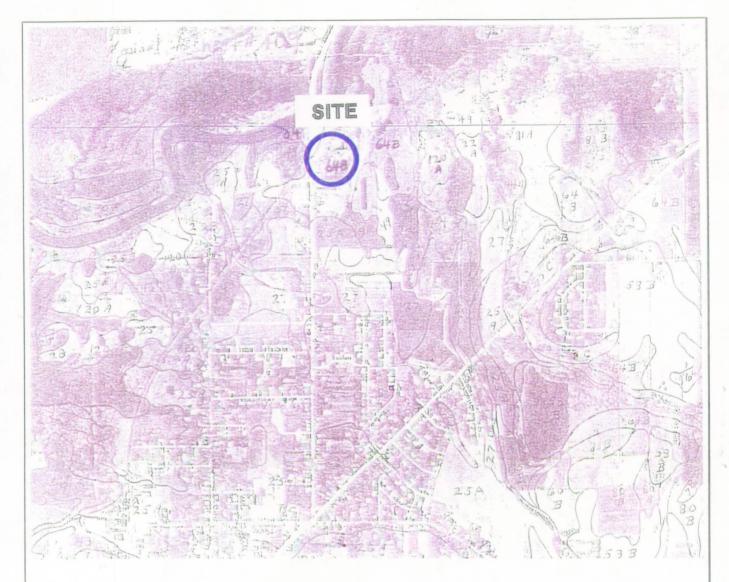
United States Army Corps of Engineers. 1977. WETLAND PLANTS OF THE EASTERN UNITED STATES. North Atlantic Corps of Engineers Division, New York, New York. Publication No. 200-1-1.

FIGURES









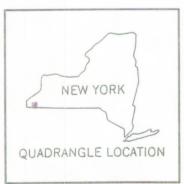
KEY TO SELECTED SOILS

6 WAYLAND SILT LOAM

64B CHAUTAUQUA SILT LOAM

04 WAKEVILLE SILT LOAM

20A RAYNHAM SILT LOAM



SOURCE: US DEPARTMENT OF AGRICULTURE — SOIL CONSERVATION SERVICE.

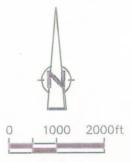
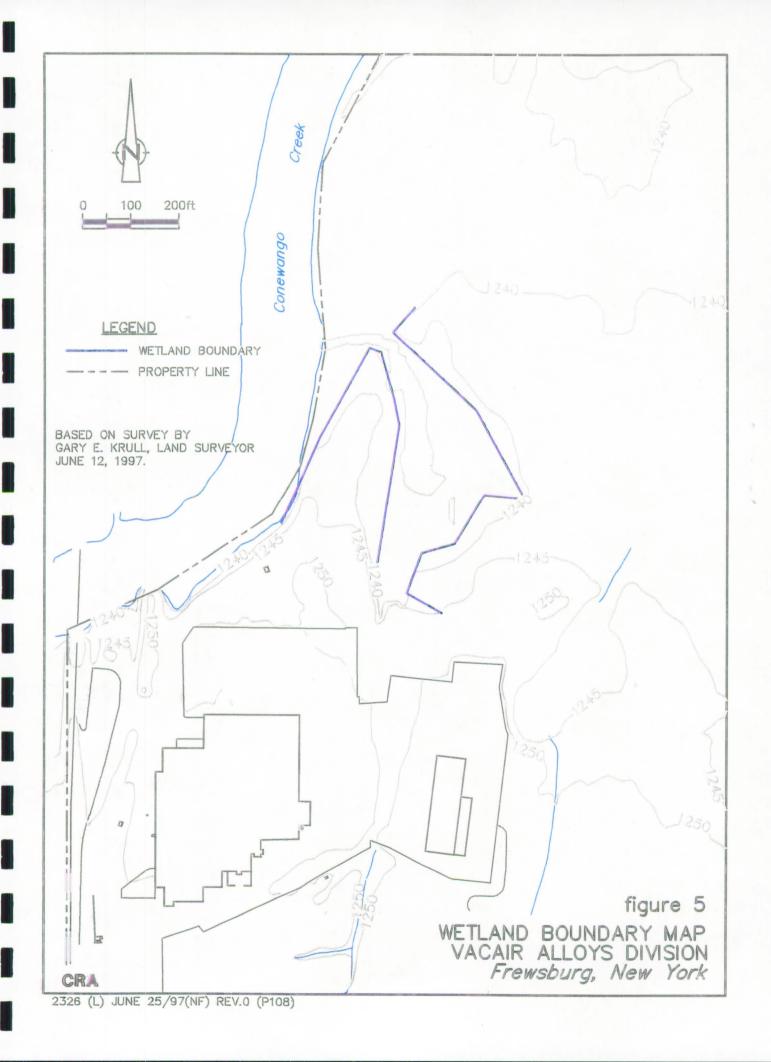


figure 4

CHAUTAUQUA COUNTY SOIL SURVEY MAP VACAIR ALLOYS DIVISION Frewsburg, New York



APPENDIX A

WETLAND DETERMINATION DATA SHEETS (USACOE DATA FORM 1)

Applicant				Applic	atio	n			Proje	ect	
Name:	Keywe	ell Corp		Numb	er		97-97	5-0031(0) Nam	ne: Vac	air Alloys
State New	York	Count	y: Chaut	auqua		Legal	Descri	ption:	Township:		vsburg
Date Apr il	29 , 199	77	Plot No).			A-1		Photo(s):		1028
Vegetation only 1 or 2 physiologic	l aye rs)).	1		pecies	with :.				ayer (5 if gloal or kno	Wr	la ella ede
	S p ecie	c		Status	J101				Coolea		Indicator
Trees	Specie	-		310105		-	Horba		S <u>pecie</u> s		Status
1 ULMUS 2 FRAXI	S AMERIC N US PENI RUBRUM	VSYLVA	NICA	FACW- FACW FAC			Herbs 7 8 9	SYMPLO IMPATIL	OCARPUS FO ENS CAPENS CHIA NUMM SPP.	IS	OBL FACW OBL FACW+
Saplings / s 4 CORI 5 6	hrubs NUS AM	<u>-</u> ОМИМ		FACW			Wood 10 11 12	dy vines			
% of specie Hydrophyti			, FACW, c Yes			C: - No	100	_	er Indicator >50% HYD		C SPECIES
Soil Series and Mottled: Gleyed:	p ha se; Yes Yes	Poorly X	nd sitt Ioam & v. poorty No No			Mottle		soils list 7.5YR 5		es X ix color	No
Hydric soils.	Yes	<u>X</u>	No			Basis:	MOTT	_ED/LOV	V MATRIX C	HROMA	
Hydrology Inundated: Saturated s Other indic	oii:	Yes_	No X	X	No		Depth		rater: rat ed soil:	12 IN.	
Wetland hy			SSING, DE X	טואס טו					A TION		
Atypical sit		Yes _			No No		DUSIS!	SATURA	411017		
Normal circ			Yes	X	140	No					
Wetland De			Wetland			- 110	×	-	Non	wetland:	
Commente			., ., ., ., .,	•					- 100110	wendria.	

Applican t	Applicatio		Project	
Name: Keywell Co		97-975-0031	(0) Name:	Vacair Alloys
	inty: Chautauqua	_Legal Description:	Town ship :	Frewsburg
Date <u>April</u> 29 , 1997	_ Plot No.	A-2	Photo(s):	1036
Vegetation (list the though only 1 or 2 layers)), physiological adaptation	Indicate species with			n Indicator
S p ecies	Status	_	S pecies	Status
Trees 1 ACER RUBRUM 2 ULMUS AMERICANA 3 CARPINUS CAROLIN		Herbs 7 8 9		
Saplings / shrubs 4 5 6		Woody vine 10 11 12	s	
% of species that are O			her Indicators:	
Hydroph yti c ve getation	n: YesX	NoBasis	: <u>> 50% HYDRC</u>	OPHYTIC SPECIES
Soil Way Series and phase: Poor Mottled: Yes X Gleyed: Yes Hydric soils: Yes X	No NoX	On hydric soils i Mottle color 7.5YI Other indicators Basis: MOTTLED/LC	R 5/8 Matrix o	
Hydrology Inundated: Yes Saturated soil: Yes Other indicators: SEDI	NO X S X NO MENT DEPOSITS, DEBRIS			>18 IN.
Wetland hy drology Yes	X No	Basis: INDIF	RECT EVIDENCE	OF INUNDATION.
Atypical situation: Yes				
Normal ci rc u m stances	Yes X	No		
Wetland Determination	: Wetland:	X	Nonwet	tland:
Commen ts :				
BOU NDA RY LOCAT	TION-TOP OF BANK, BA	NK SLOPES STEEPLY	TO OPEN WATER	R OF SWALE.

Applicant			,	Applic	ation)				Project	-	
Name:	Keywell	Corp.		Numb	er		97-97	5-0 <mark>031(0</mark>))	Name:		air Alloys
State New Y	<u>ork</u> C	County:	Chauto	auqua		Legal	Descr	ption:	Towr	iship:	Frews	
Date Ap ril	29 , 1997		Plot No	,			A-3		Phot	o(s):		011
Vegetation only 1 or 2 lo physiologica Trees	a ye rs)).	Indi	cate sp ith an c	ecies	with :					r knowr	1	Indicator Status
	NUS CARC	LINIANA	ı	FAC			7	_	ANIUM	AMERIC	ANUM	OBL
2 ACER R	RUBRUM		í	FAC			8			INDINAC		FACW+
3 FRAXIN	U S PENNS	YLVANIC	'A 1	FACW			9			AMINIFO		FAC
5 CORNU		um ia : OBL, Fa	ç	FACW FACW FAC and / or X		: No	10 11 12			cators:		20050450
riyatopriyite	vegelai	ЮП.	162	^		NO		_ basis:	> 507	6 HYDIK	JPHY11C	SPECIES
Soil Series and p Mottled: Gleyed: Hydric soils:		X		dr.		Mottle Othe	color er indic	e soils list 7.5YR (cators LED/LOV	5/8 OXID		OT ZON	No 10YR 5/1 ES
Hydrology Inundated: Saturated so Other indico	n to rs: D	Yes EBRIS DI		X INED L	No EAVE	S	Depth	nding w n to satu	rated	soil:	4 IN.	
Wetland hy d Atypical sit u	O ,	Yes	<u>X</u>		No_		Basis:	SATURA	ATION			
Atypical sit u: Normal c irc u		Yes	Yes	Х	No_	X No						
Wetland D e			etland:	^		INO.	×	_		Nonwe	tland	
Commen ts :		<u> </u>	U1141 14.		-				-	Nouwe	iiana:	
	'ENIT LIDI A	7 VID 18 81	الاحدوة	IONA	OLD	CELL						

Applicant		Applic	ation			Project		
Name:	Keywell Corp	o. Numbe	er	97-97	5-0031(0)) Name:	Vacc	air Alloys
State New	Y ork Cour	ity: Chautauqua	Legal	Descri	ption:	Township:	Frews	
Date April	29 , 1997	Plot No.		A-4		_Photo(s):)46
						_		
		ee dominant spec						
only 1 or 2	•	Indicate species		ved mo	orpholog	gical or known	•	
pnysiologic	cal adaptation	ns with an asterisk						
	Co ocios	Indico	itor			0 - 1		Indicator
Troop	Sp ecies	Status		I I a ula a		S <u>pecie</u> s		Status
Trees	C US BICOLOR	FACW+		Herbs 7	_	ANULINA ANAERIO	A B // (B 4	O P!
	'A OVATA	FACU-				ANIUM AMERICA		OBL
3	A O VAIA	PACU		8 9		NIA GRAMINIFOI	LIA	FAC
J				9		DRIUM DUBIUM		FACW-
					CAREX	N SPP.		FACW+
Saplings / s	sh r ubs			Wood	dy vines			
	NUS AMOMUM	FACW		10	<u>.,</u> vcs			
5 SAL IX	N IG RA	FACW+		11				
6 VIBUR	N UM DENTATUN	1 FAC		12				
SPIR E A	A ALBA	FACW+						
% of specie	es th at are OBI	L, FACW, and / or	FAC:	90	Othe	er Indicators:		
Hydroph yt i	ic v egetation:	Yes X	No		_Basis:	>50% HYDRPH	HYTIC SF	PECIES
Soil		and sitt loam	_			_		
	phase: Poorly	· · · · · · · · · · · · · · · · · · ·		•	soils list	_	X_	No
Mottled:	Yes X	No			7.5YR 5	5/8Matrix c	color	10YR 5/1
Gleyed: Hydric so ils	Yes	No X		er indic		A/AAATRIN OUR	0) 44	
nyanc sons	. Yes	No	Basis;	MOIII	LED/ LO	W MATRIX CHR	OMA	
Hydrolog y								
Inundate d		No X	Depth	n of sta	n ding w	rater:		
Saturate d s		×	No		_		3 IN.	
Other ind ic	_	S DRIFT, SEDIMENT				<u>-</u>	2 11 41	
Wetland h y		X	No	Basis:	SATURA	ATION		· ·
Atypical sit	uation: Yes		No X	•				
Normal c ir c	c um stances	Yes X	No		_			
	etermination:	Wetland:	X			Nonwet	land:	
Comme nts								
ADJ A	C EN T UPLAND	IS SUCCESSIONAL	OLD FIELD),				

Applicant			Ap	blicc	TION			Project		
Name:	Keywe	ell Corp	<u>. </u>	mbe	r	97-97	5-0031(0)) Name:	Vac	air Alloys
State New Y	<u>ork</u>	Coun	ty: Chautauc	ua	Lega	Descr	iption:	Township:	Frew	sburg
Date Apr il	29, 199	27	Plot No.			A-5		Photo(s):	1	111
								-		
Vegetati on			ee dominant s	pec	ies in eac	h vege	etation to	ayer (5 if		
only 1 or 2 lc	a ye rs)).		Indicate spec	ies v	vith obse	ved m	orphoto	gical or knowr	;	
physiologic of	al adap	otatior	ns with an aste	erisk.						
			Ind	dica:	tor					Indicator
9	S pe cie	s	<u>Sta</u>	tus				S pecies		Status
Trees						Herbs	3			
1						7	 SPARG	ANIUM AMERIC	ANUM	OBL
2						8	EUTHAI	NIA GRAMINIFO	L/A	FAC
3						9	EUPATO	ORIUM DUBIUM		FACW-
							IRIS VEI	RSICOLOR		OBL
							CAREX	SPP		FACW+
Saplings / sh		_,				Wood	dy vines			
4 CORNU	IS AMO	MUM	FAC	W		10				
5 CORNU	_	1INA	FAC			11				
6 SPIR E A				W+		12				
ALN U S	RUGOS	SA.	FAC	+WC						
			_, FACW, and	or l	FAC:	10	<u>0</u> Oth	er Indicators:		
Hydrophy ti c	: ve get	ation:	Yes	X	No		Basis:	>50% HYDRO	PHYTIC	SPECIES
		14/ 1-	1 -114 4							
Soil .	1 .	•	ind sitt loam		_			_		
			& v. poorty dr.				soils list		X	No
Mottled:		<u>X</u>	No				7.5YR	5/8 Matrix o	color	10YR 5/1
Gleyed:	Yes		No	X		er indi		ALL ALTRIN OUT		
Hydric soi ls :	Yes	<u>X</u>	No		—— Rasis:	MOTI	LED/ LO	W MATRIX CHI	ROMA	
Hydrolog y										
Inundate d :	Yes		No	Χ	Dent	h of sta	ınding w	rator:		
Saturate d s c		Yes	×		No		_		10 IN.	
Other ind ic c		_	IENT DEPOSITS			- Debu	110 3010	irarea soii.	10 111.	
Wetland hy d			X		No	Basis:	SATUR	ATION	-	
Atypical sit u		Yes_			No X	_ 50315.	3/10K			
Normal ci rc u		_	Yes	Χ	No No	_				
Wetland D et			Wettand:	_^_		´ 		Nonwe	tland:	
Commen ts :	. 511111111	<u> </u>	TT GITCH ICA.			^_		_ 11011WE	naria.	
, , , , , , , , , , , , , , , , ,										

Applicant			Ap	plicat	tion			Project		
Nam <u>e:</u>	Keywe	l Corp.	Nu	ımber		97-975	5-0031(0)	Name:	Vacc	ir Alloys
State New	York	County	: Chautau	qua	Legal	Descri	otion:	Township:	Frews	
Date Ap ril	29 , 199	7	Plot No.			A-6		Photo(s):	11	56
Vegetation only 1 or 2 physiologic Trees 1 QUER 2 ULMU	<u>1</u> (list th I ay ers)).	ne three Incotations	dominant dicate spec with an ast In Sto FAI	cies wi	ith obser	h vege	orpholog S - EUTHAN	yer (5 If ical or known pecies HA GRAMINIFOR		Indicator Status FAC FACW FACW+
5 CORN	PNUM DEN N US AMOI A AL BA es th at a	мим re OBL, f	FA	CW+	AC: .	10 11 12	_	er Indicators: _ >50% HYDRO	PHYTIC	SPECIES
Soil Series and Mottled: Gleyed: Hydric soils	p ha se: Yes Yes	Poorly &	t sitt loam v. poorty dr. No No No	X	Mottle	e colo r er indic		_		No 10YR 5/2
Hydrology Inundated Saturated: Other indic Wetland hy Atypical sit Normal circ	soil: :a to rs: ydrology :uation:	Yes	No	<u> </u>	Deptr 10 10 10 No	Depth Basis	nding wo	ated soil:	10 IN.	
Wetland D Comments	e te rmino		Vetland:	- 1	<u>_</u>		- 	Nonwet	land:	

Applica nt				Applica	ation					Projec ³	t	
Nam <u>e:</u>	Keywe	ell Corp.		Numbe	r		97-97	5-0031(0))	Name:		air Alloys
State Ne w	York	County	: Chaute	auqua	1	Legal	Descr	lption:	Town	ship:		/sburg
Date Ap ril	29 , 199	77	Plot No				A-7		_ Photo	o(s):		202
Vegetation only 1 or 2 physiologic	l ay ers)).	Ind	dicate sp	ecies v	vith c						n	Indicator
	Sp ecie	S		Status					Specie	s		Status
2 AC ER	S AMERIC R UB RUM		i	FACW- FAC FACW	•		Herbs 7 8 9	SYMPL EUPATO	OCARP ORIUM I CLEA SEI	DUBIUM		OBL FACW- FACW
5 SPI RE / 6 CA RP % of spe ci e	DISCOLO A AL BA PIN U S CAI es th at c	<i>ROLINIAN,</i> are OBL, f	A i		FAC:		10 11 12		er India			
Hydroph yt	ic v eget	ation:	Yes_	X		No		_Basis:	>50%	HYDRO	OPHYTIC	SPECIES
Soil Series an d Mottled: Gleyed: Hydric so ils	Yes Yes	Poorly &	v. poorty No No No	dr.		Mottle Othe	color er indic	c soils list 7.5YR cators LED/LO	5/6	Yes Matrix RIX CH	color	No_ 10YR 5/2
Hydrology nundated Saturated s Other indic Wetland hy Atypical sit Normal circ	- soil: c ato rs: ydrology uation:	Yes STAINED Yes Yes	X LEAVES, X	SEDIME	No_	EPOS	Depth ITS, DE	inding w n to satu BRIS DRI SATUR	rated s	soil:	12 IN.	
Wetland De	e te rmino		Vetland:			X		_	_	Nonwe	etland:	

Applicant		Applicat	ion			Project		
Name:	Keywell Corp.	Number		97-975	5-0031(0	·	Vacair	Alloys
State New	Y or k County	: Chautauqua	Legat	Descrip	otion:	Township:	Frewsb	
Date Ap ril	29 , 1997	Plot No.		A-8		Photo(s):	121	
"	,					- ·· -		
Vegetation	$\underline{}$ (list the three	dominant specie	es in eacl	h vege	tation to	ayer (5 if		
only 1 or 2	l ay ers)). In	dicate species wi	ith obsen	ved mo	prphotog	gical or known		
physiologic	cal adaptations	with an asterisk.						
		Indicato	or				l	ndicator
	Sp ecies	<u>Status</u>				Species		Status
Trees				Herbs				
1 ULM U .	S AMERICANA	FACW-		7	ONOC	LEA SENSIBILIS		FACW
2				8	SYMPLO	OCARPUS FOET IL	DUS	OBL
3				9	EUPATO	ORIUM DUBIUM		FACW-
					PHALA	RIS ARUNDINAC	EA	FACW+
					CAREX	SPP.		FACW+
Saplings / s	shrubs			Wood	y vines			
4 CORN	NUS AMOMUM	FACW		10	_			
_	N US FOEMINA	FAC		11				
6 SAL IX	D IS COLOR	FACW+		12				
	NUM DENTATUM	FAC						
	IN US CAROLINIAN							
% of spe ci e	es th at are OBL,	FACW, and / or F.	AC:	100	<u>)</u> Oth	er Indicators: _		
Hydroph yt i	ic vegetation:	Yes X	No		_Basis:	>50% HYDRO	PHYTIC S	PECIES
Soil		d silt l oam						
	phase: Poorly 8			-	soits list			No
Mottled:	Yes	No X		e color		Matrix c	color	5YR 5/1
Gleyed:	Yes	No X		er indi c				
Hydric soils	: Yes <u>X</u>	No	Basis:	LOW N	MATRIX (CHROMA		
Hydrology		A.1	.					
Inundate d		No X			nding w			
Saturated:							3 IN.	
Other indic		D LEAVES, SEDIMEN						
Wetland h			40 <u> </u>	_Basis:	SATURA	AIION		
Atypical sit			√0 X	-				
	<u>cumstances</u>	Yes X	No		_			
		Wetland:		X		_ Nonwet	land:	
Comments	i .							

Applican t			Αŗ	plication	n				Project		
Name:	Keywe	ell Corp.	Nu	mber		97-975	5-0031(0	0)	Name:	Vaca	ir Alloys
State New'	York	County:	Chautau	qua	Legal	Descri	otion:	Town	iship:	Frews	burg
Date April	29, 199	97	Plot No.			A-9		_ Photo	o(s):	12	22
Vegetation only 1 or 2 physiologic	la ye rs)).	. Inc otations v	Ir	cies with	n obse n	•	prpholog	,	r known		Indicator Status
Trees 1 2 3						Herbs 7 8 9	ONOC EUPATO	CLEA SEI ORIUM I NIA GR	US FOETIE NSIBILIS DUBIUM AMINIFOL		OBL FACW FACW- FAC FACW+
5 CORN 6 SALIX VIBURI SPIREA % of specie	S RUGOS IUS AMO DISCOLO NUM DEI A ALBA es th at o	MUM OR NTATUM are OBL, F	FA FA FA ACW, and	CW+ I / or FA		10 11 12	_	ner India	_		
Hydrophy ti	c veget	tation:	Yes	X	_ N o		_Basis:	>50%	HYDRO	PHYTIC	SPECIES
Soil Series and p Mottled: Gleyed: Hydric soi ls :	Yes Yes			X	Mottle Othe	e color er indic	soits list ators MATRIX	·	Yes _ Matrix c	X olor	No 5YR 5/1
Hydrology Inundated: Saturated s Other indic Wetland hy Atypical site	so il: :a to rs: /drolog/	Yes	No	No No	>		nding w to satu INUND	urated i			
Normal ci rc Wetland De Commen ts	etermin		Yes Vetland:	X	No	X	<u>-</u>	_	Nonwet	land:	

Applicant			Ap	plication	on				Projec:	t	
Nam <u>e:</u>	Keywell			mber		97-975	5-0 <mark>031(0</mark>)	Name:	Vac	air Alloys
State <u>New</u> '	Y <u>or</u> k (County:	Chautauc	ua	_Legat	Descrip	otion:	Town	ship:	Frev	vsburg
Date Ap ril	2 9, 1997	<u> </u>	Plot No.			A-10		_Photo	o(s):		223
								_			
Vegetati o n	_					_		, ,			
only 1 or 2	•		icate spec		n obse n	ved mo	prphotog	gical o	know	n	
physiolo gi c	c al adapt	ations w	ith an aste	erisk.							
				dicator	•						Indicator
_	Sp ecies		<u>Sto</u>	<u>itus</u>				S <u>pecie</u>	S		<u>Status</u>
<u>Trees</u>						<u>Herbs</u>	_				
]						7	SYMPLO			IDUS	OBL
2						8		LEA SEN			FACW
3						9		DRIUM [FACW-
								VIA GRA	AMINIFO	DLIUM	FAC
							CAREX	SPP.			FACW+
Saplings / s				~			y vines				
	S RŪGOSA IU S AMON	11 18 4		CW+		10					
	D IS COLOF		FAC	Σvv CW+		11					
	NUM DENI		FAC			12					
	A ALBA	AIUW		CW+							
% of spe ci e		ORI E			C·	100	Oth	er India	atorni		
78 or spe ct e Hydroph yt i			Yes	X	.c. No		_			TOHIVTIC	SPECIES
, a a a a	o rogora		, 03		_ ''		_ 50313.	20076	HUK	<u> </u>	SPECIES
Soil	\	Vayland:	silt toam								
Series an d	p h ase: F	oorly & v	r, poorly dr.		On	hydric	soils list	?	Yes	X	No
Mottled:	Yes		No	Χ	_	color			Matrix		5YR 5/1
Gleyed:	Yes_		No	Χ	_ Othe	er indi c	ators				
Hydric so ils :	: Yes_	X	No		_Basis:	LOW N	AA TRIX (CHRON	ΛA		
					_						
Hydrolog y											
Inundate d :			No	Χ	_Depth	of star	nding w	ater: _	BIN.		
Saturate d s		Yes	X	No		Depth	to satu	rat ed s	oil:	DIN.	
Other in dic		·									
Wetland h y			<u>X</u>	No		Basis:	SATURA	MOITA			
Atypical si ti		Yes		No							
Normal c ir c			Yes	X	_ No		_				
Wetland D e		<u>ion:</u> W	etland:			X		_	Vonwe	etland:	
Comments		E-0									
			F THE FILL.								
FND C	OF SIDE (A	.).									

Applicant			Α	pplica	tion			Projec	ct	
Name: _	Keywel	l Corp.	N	umber	7	97-97	5-0031(0) Name	e: Vaca	air Alloys
State New	York	County:	Chautal	Iqua	Leg	al Descr	iption:	Township:		sburg
Date Ap ril			Plot No.		B-1		Photo(s):		124	
2 <i>ULMU</i>	l aye rs)).	Inditations v	with an as I St F/ F/	ecies w	vith obse	_	orpholog s SYMPLO	gical or knov Species OCARPUS FOE CHIA NUMUL	ETIDUS	Indicator Status OBL OBL FACW+
5 VIBUR	NUS AMON N UM DEN R UB RUM es th at ar	TATUM e OBL, f	F <i>)</i>	ACW AC AC dd / or F X		Wood 10 11 12 10	_	er Indicators _>50% HYDR		SPECIES
Soil Series and Mottled: Gleyed: Hydric soils	p ha se: Yes Yes	Poorly &	sitt Ioam v. poorly d No No No No	r.	Mot 01	tle color her indi			x color	No10YR 5/2
Hydrology Inundated Saturated: Other indic Wetland hy Atypical sit	: Yes_soil: soil: ca to rs: ydrology uation:	Yes Yes	No_BRIS DRIFTX	, STAIN	No X IED LEAV No X	Deptl VES, SED	IMENT DE	rat ed soil:	>18 IN. E OF INUN	IDATION
Wetland D Commen ts	etermina		Vetland:			<u> </u>	- 	Nonw	retland:	

Applica nt			Ap	plicati	on				Projec	t	
Name:	Key	well Corp.	Nu	mber		97-975	5-0031(0)		Name		ir Alloys
State Ne w	York	Count	y: Chautauc	ua	Legat	Descri	otion:	Towns		Frews	
Date Ap ril	2 9,	1997	Plot No.			B-2		Photo	•		139
								-	` '		
Vegetati o r	<u>1</u> (lis	st the three	e dominant s	pecle	s in eacl	n vege	tation la	yer (5	if		
only 1 or 2	l ay er:	s)). Ir	ndicate spec	ies wit	th obser	ved mo	photog	gical or	know	'n	
physiolo gi c	cal ac	daptations	s with an aste	erisk.							
			Ind	dicato	r						Indicator
	Sp e	<u>cies</u>	<u>Sta</u>	itus			5	<u>pecie</u>	s		Status
Trees						<u>Herbs</u>	_				
1						7					
2						8					
3						9					
0											
Saplings / s	shrubs	<u> </u>					y vines				
4						10					
5			•			11					
6						12					
% of spe ci e	e tha	t are ORI	FACW, and	/orEA	· C ·		Othe	er Indic	+		
Hydroph yt i			Yes	, 0117	No		Basis:		alois.		
, a. ap , ,	0.08	, o i a i i o i i i			_ '*		_ 50313.				-
Soil		Waylar	id sitt l oam								
Series an d	phase	e: Poorly 8	k v. poorty dr.		On	hydric	soils list?	?	Yes	X	No
Mottled:	Υ	'es X	No		_	-	5YR 5/6		Matrix		10YR 5/2
Gleyed:	. Y	'es	NO	X	Othe	er indi c	ators				
Hydric so ils	: Y	'es <u>X</u>	No		Basis:	MOTT	.ED/LOW	V MATE	X CH	ROMA	
										<u> </u>	
Hydrolog y	_										
nundate d :		es	No	_X			nding w				
Saturate d s		Yes_	1115//2	N-		Depth	to satur	rated s	oil:	>18 IN.	
			MARKS, DEB				-				
Wetland h y		~·	X	N		Basis:	INDIREC	CT EVI	DENCE	OF INUN	DATION
Atypical sit i				N							
Normal c ir c			Yes	X	_ No		-				
Wetland D e Comme nt s		iii idiion:	Wetland:			X		. i	vonwe	etland:	
		ופ אד דשר ד	OD OF DANIE	' DAN	IZ IC NIMT	VECT	' A TCC	UD 01 0	יחרת מד	reni.	
		IS AT THE T /ATER.	OP OF BANK	DAIV	K IS NOT	VEGET	AILU AI	ND SLO	1763 SI	FEPLY	
100	LIN VV	/ \ [_i] \ .	•								

Applicant		A pplication	on .		Project	
Name:	Keywell Corp.	Number	97-975	-0031(0)		Vacair Alloys
State New	Y or k County;	Chautauqua	Legal Descrip	otion: To		Frewsburg
Date Ap ril	29 , 1997	Plot No.	B-3	Ph	oto(s):	1442
Vegetation only 1 or 2 physiologic Trees 1 2 3	-	dominant species dicate species with with an asterisk. Indicator Status	n obse rved m o	•	or known	Indicator <u>Stat</u> us
	es t hat are OBL, F	ACW, and / or FA	10 11 12 C:	-	rdicators:	
Hydroph yt i	c vegetation:	Yes	No	Basis: NO) VEGETATIO	N
Soil Series and Mottled: Gleyed: Hydric soils	Wayland phase: Poorly & Yes X Yes Yes X Yes X		On hydric Mottle color Other indic Basis: MOTTL	<u>5YR 5/6</u> ators	Yes Matrix co	
Hydrology Inundated Saturated Other indic Wetland hy	o il: Yes ators: WATER N vdrology Yes	MARKS, DEBRIS DRII	Ba si s:	to saturate	ed soil: >1	8 IN. FINUNDATION
Wetland D o Comme nts LO CA	c um stances etermination: V :	Yes X Vetland: DP OF BANK. BANK	NoX	ATED AND S	Nonwetlo	

Applicant				Applica	ation			Project	t	
Name: _	Keyw	vell Corp),	Numbe	er	97-97	5-0031(0			air Alloys
State New	Y or k	Coun	ty: Chaut	auq ua	Legal	Descri		Township:	Frew	
Date Ap ril	2 9, 19		Plot No		<u> </u>	B-4		Photo(s):		146
										. 10
Vegetati o r	n (list	the thre	e domina	int spec	les in eacl	n vege	tation to	ayer (5 if		
only 1 or 2								gical or know	n	
physiolo gi c	cal add						,			
				Indica	itor					Indicator
	Speci	ies		Status				Species		Status
Trees		_				Herbs				
1 QUER	C US BIC	COLOR		FACW+		7	ONOC	LEA SENSIBILIS		FACW
2 CARY	'A OVA	TA		FACU-		8	OSMUN	DA CINNAMO	MEA	FACW
3 FRAXII	NUS PEI	NNSYLVA	NICA	FACW		9	CAREX	SPP.		FACW
Saplings / s	shrubs					Wood	ly vines			
4 CORN	IUS AM	OMUM		FACW		10	_			
5 VIB UR	N UM D	ENTATUN	1	FAC		11				
6 ALNUS	S RUGC)SA		FACW+		12				
% of spe ci e			. FACW, c	ind / or	FAC:	89	_	er Indicators:		
Hydroph yt i	ic vege	etation:	Yes	X	No		_Basis:	> 50% HYDRO	OPHYTIC	SPECIES
Soil		· ·	nd sitt l oam		_					
Series and				ar.			soils list		X	No
Mottled:	Υe		No.				5YR 5/0	Matrix	color	10YR 5/2
Gleyed:	Y∈		No	X		er indic				
Hydric soils	; YE	es <u>X</u>	No.		Basis:	MOIN	-ED/LOV	MATRIX CHR	ROMA	
Lludroloma										
Hydrology Inundated:	_ : Ye	.	No	~	Donth					
Saturate d		Yes	X No.	X_			nding w		0.151	
Other indic		_	DRIFT, SE	こうしゅう かんしょう	No DEPOSITE	Debiu	i io satul	rat ed soil:	8 IN.	
Wetland h y			X		No.	Docto:	CATUD	ATION!		
Atypical si t	-					Basis:	SATURA	AHUN		
Normal circ		_	Yes	X	No X					
Wetland D e			Wetland			X	-	Nlas. :=	المصالح	
Comments		ranon,	WENGING	•				Nonwe	illana:	

Applicant			Ap	plicat	ion			Proj	ect	
Name:	Keywe	II Corp	Nu	ımber		97-975	5-0031(0			acair Alloys
State New '	York	Count	y: Chautau	qua	Legat	Descri		Township		rewsburg
Date Ap ril	29 , 199	77	Plot No.			B-5		Photo(s):		1455
								•		
Vegetati o n	<u>(</u> list tl	ne thre	e dominant	specie	es in each	r vege	tation la	ayer (5 if		
only 1 or 2	i aye rs)).	lr	ndicate spec	cies wi	ith obsen	ed mo	prphotog	gical or kn	own	
physiologic	al adap	otations	with an ast	erisk.						
			Ir	dicat	or					Indicator
	S p ecie	S	_Stc	atus			9	Species		Status
Trees						Herbs				
1						7	_ ONOC!	LEA SENSIBI	LIS	FACW
2						8	EUPATO	DRIUM DUBI	UM	FACW-
3						9	OSMUN	NDA CINNA	МОМЕА	FACW
							CAREX	SPP.		FACW+
Saplings / s	hrubs	•				Wood	y vines			
4 CORN	IU S AMO	MUM	FA	CW		10				
	N UM DEN		FA	С		11				
6 SALIX	DISCOLO)R	FA	CW		12				
			FACW, and			100	_	er Indicato		
Hydroph yt i	c veget	ation:	Yes	X	No		_Basis:	>50% HY[DROPH)	YTIC SPECIES
Soil		Waylar	nd sitt l oam							
	o ha se:	-	š v. poorty dr.		. On	hydric	soils list	2 \	⁄es	X No
Mottled:	Yes		No				5YR 5/6		trix colo	
Gleyed:	Yes		No -	X		er indic			IIIX COIC	1011072
Hydric soils:		X	No _					V MATRIX (HPOM	ΙΔ
,						1010111	CO/LOV	V IVIZALION C	21 11(()14)	<u> </u>
Hydrology										
Inundate d :	- Yes		No	X	Depth	of star	nding w	ater:		
Saturate d s		Yes	× —	N	<u> </u>			rated soil:	10 11	N.
Other indic	a to rs:	SEDIME	NT DEPOSITS	S, DEBI	RIS DRIFT	, ,				
Wetland h y			Х		10	Basis:	SATURA	MOITA	****	
Atypical sit i	_	Yes	-		10 X			<u> </u>		
Normal c ir a			Yes	X	No	•				
Wetland D e			Wetland:			X	-	Nor	wetlan	d:
Comments:										

Applicant Name: K	eywell Corp.	Applic Numb		97-975	5-0031(0)	Project Name:	Vacair Al	lovs
State New Yor		y: Chautauqua		Descrip		Township:	Frewsburg	
	9 , 1997	Plot No.		B-6		Photo(s):	1501	2
<u>, , , , , ,</u>		, , , , , , , , , , , , , , , , , , , ,		<u> </u>		-	1001	
only 1 or 2 lary	re rs)). Ir	e dominant spe ndicate species with an asterisi Indic	with obser k.	_		•		
Qr.	ecies	Status			e,	nacios		icator
Trees	<u>Decles</u>	Sidius		Harbs	၁	<u>oecies</u>	<u>- `</u>	<u>Status</u>
1 FRA X INU. 2 3	S NIGRA	FACW		Herbs 7 8	EUPATO	EA SENSIBILIS RIUM DUBIUM	6	FACW-
3				9	IIRIS VEIRS	SICOLOR	•	OBL
Saplings / shr				Wood	y vines			
	AMOMUM	FACW		10	_			
5 ALNUS RI		FACW-	+	11				
6 VIBURNU	M DENTATUM	FAC		12				
% of spe ci es t Hydroph yt ic v		FACW, and / a		100	_	r Indicators: >50% HYDRO	PHYTIC SPE	CIES
Soil	Waylan	id si lt loam						
Series an d ph	ase: Poorly 8	š v. poorly dr.	Or	hydric	soits list?	Yes	X	No
Mottled:	Yes X	No		•	5YR 5/6	-		10YR 5/2
Gleyed:	Yes	No X		er indic			-	
Hydric soils:	Yes X	No				MATRIX CHR	OMA	
Hydrolog y								
Inundate d :	Yes <u>X</u>	No			_	ater: <u>4 IN.</u>		
Saturate d soil	_		No	_Depth	to satur	at ed soil:		
Other indicate								
Wetland h ydr		X	No	_Basis:	INUNDA	JION		
Atypical sit ua			No_X_	_				
Normal c ir cur		Yes X	No		_			
Wetland D ete	rmination:	Wetland:		X		Nonwe:	tland:	
Comme nts :							_	
LOCATE	D AT THE TOE	OF THE FILL						

Determined by: Fine Line Technical Services

END OF SIDE (B).

DATA FORM 1 WETLAND DETERMINATION

Applicant				Applic	ation	n			F	Projec	†		
Name:),	Number			<u>97-975-0031(0</u>)Name:		:Vac	Vacair Alloys	
			ty: Chaut	Chautauqua			Legal Description:		Township:		Frev	Frewsburg	
			Plot No) .		C-1		_Photo	(s):		1424		
									_				
Vegetati o r			ee domina	ant spe	cies i	in each	ı vege	tation ic	ayer (5 i	f			
only 1 or 2	•		Indicate s			obser	red mo	orphotog	gical or	know	n		
physiologic	cal ada	otation	ns with an	asterisk	ζ.								
	Indicato					In					Indicator		
	Sp ecies			Status			_			5	Status		
Trees							Herbs						
1 ACER	1 AC ER RUBRUM						7 SYMPLOCARPUS FOETIDUS				OBL		
	UL MU S AM ERICANA			FACW-			8 LYSIMACHIA NUMULARIA				RIA	OBL	
3 CARP	3 CA RPINUS CAROLINIANA			FAC			9 CAREX SPP.					FACW+	
Saplings / s	shrubs	-					Wood	ly vines					
	VUS AMO		_	FACW			10						
5 VIB UR N UM DENTATUM				FAC			11						
6 ACER	R UB RUM			FAC			12						
0/		- ODI	FA0144			_	100						
% of specie							100	_	er Indic				
Hydroph yt	ic v eger	ation:	Yes	X		N 0		_ Basis:	>50%	HYDR	SPHYTIC	C SPECIES	
Soil		Wayla	nd silt l oan	n									
Series and	p ha se:					On	hydric	soils list	2	Yes	X	No	
Mottled:	Yes		No					7.5YR 5		Jatrix		10YR 5/2	
Gleyed:	Yes		No			•	er indic			VICITIA	COIO	10111 0/2	
Hydric soils		X	No			-		LED/LOV	VMATR	IX CHI	201/14		
.,,			, , ,				1410111		V 1017 (71)	// C) II	CONTA		
Hydrolog y													
inundated	_		No	X		Depth	of sta	nding w	ater:				
Saturate d :		Yes			No			to satu		oil:	>18 IN		
Other indic	a to rs:		DEBRIS DR	IFT, STA	INED	LEAVE	s, sedi	MENT DI	EPOSITS			·	
Wetland h y	ydrology		Х		No						OF INU	INDATION	
Atypical sit		Yes		•	No								
Normal c ir c	cu m stan	ices -	Yes	. X		No							
Wetland D			Wettano	:		•	Х	_	١	Jonwe	etland:		
Comments);				•				-				

Determined by: Fine Line Technical Services

DATA FORM 1 WETLAND DETERMINATION

Applicant			Α	pplica	ation			Projec	:†	
Name:			N	r	97-975-0031(0)) Name	Vacair Alloys		
State New York County:		y: Chautau	: Chautauqua			iption:	Township:	Frewsburg		
Date Apr il 29 , 1997		Plot No.	Plot No.				_Photo(s):	14	1430	
Trees 1 ACE	la ye rs)). cai ada; S p ecie	. Ir otations s	s with an as li <u>St</u> FA	ecles v terisk. ndica atus	vith obse	Herb	s SYMPLO	gical or know Species OCARPUS FOE	TIDUS	Indicator Status O8L
				CW-		8 9	LYSIMA CAREX	\RIA	OBL FACW+	
5 VIBUR 6 ACER	NUS AMC RN UM DEI R R UB RUM es th at c	NTATUM I are OBL,	FA	CW CC Cd/or		Wood 10 11 12 10	_	e r Indicators: >50% HYDR(SPECIES
Soil			nd sitt l oam						<u> </u>	01 20120
Series an d	p ha se:	Poorly 8	k v. poorty di	·,	C	on hydrid	c soits list	? Yes	. X	No
Mottled:	Yes	X	No_				7.5YR 5		color	10YR 5/2
Gleyed:	Yes		No_	Χ		her indi				
Hydric so ils	s: Yes	<u>X</u>	No_		Basi	s: <u>MOT</u>	LED/LOV	V MATRIX CH	ROMA	
Hydrology Inundated Saturated Other indic Wetland h Atypical sit Normal circ	: Yes soil: ca to rs: ydrology tuation:	YesD Yes Yes	No EBRIS DRIFT, X Yes	STAIN	No X No X No X	Depti VES, SED	IMENT DI	rat ea soil:	>18 IN. OF INUN	DATION
Wetland D	et er mina	ation:	Wetland:	-		X		Nonwe	etland:	
Comments	3:							_		

Determined by: Fine Line Technical Services

APPENDIX B

PHOTOGRAPHS



WETLAND BOUNDARY LOCATION A-1



WETLAND BOUNDARY LOCATION A-2



WETLAND BOUNDARY LOCATION A-3



WETLAND BOUNDARY LOCATION A-4



WETLAND BOUNDARY LOCATION A-5



WETLAND BOUNDARY LOCATION A-6



WETLAND BOUNDARY LOCATION A-7



WETLAND BOUNDARY LOCATION A-8



WETLAND BOUNDARY LOCATION A-9



WETLAND BOUNDARY LOCATION A-10



WETLAND BOUNDARY LOCATION B-1



WETLAND BOUNDARY LOCATION B-2



WETLAND BOUNDARY LOCATION B-3



WETLAND BOUNDARY LOCATION B-4



WETLAND BOUNDARY LOCATION B-5



WETLAND BOUNDARY LOCATION B-6



WETLAND BOUNDARY LOCATION C-1



WETLAND BOUNDARY LOCATION C-2

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APPENDIX C FULL SIZE WETLAND BOUNDARY MAP

CONESTOGA-ROVERS & ASSOCIATES

2055 Niagara Falls Boulevard, Suite Three Niagara Falls, New York 14304

(716) 297-6150 Fax: (716) 297-2265

June 25, 1997

Reference No. 2326

Mr. Gary McDannell ARMY CORPS OF ENGINEERS Attn: NCBCO-EN 1776 Niagara Buffalo, NY 14207

Dear Mr. McDannell:

Re: Sediment Excavation

Keywell L.L.C. - VacAir Division

Frewsburg, New York



On behalf of Keywell L.L.C. (Keywell), we are pleased to submit the following documents relative to the proposed wetland sediment excavation project at the Keywell VacAir Alloys site (Site) in Frewsburg, new York for your review:

- Wetlands Delineation Report, dated May 1997;
- ii) Sediment Excavation Plan, dated May 1, 1997, prepared and submitted by Roy F. Weston, Inc. (Contractor);
- iii) Figures 1, 2, and 3 detailing the excavation limits and details; and
- iv) New York State Department of Environmental Conservation (NYSDEC) May 22, 1997 letter to Fine Line Technical Services approving the wetland boundary delineated at the Keywell Site.

Also included is a full size drawing (Drawing No. C12) of the Sediment Excavation Plan and details for your use.

The work is tentatively scheduled to commence during the first week of August 1997 and is expected to be completed within six weeks of the start. It would be appreciated if the review and approval of these documents could be expedited so that the proposed work could be done in the dry weather.

June 25, 1997

- 2 -

Reference No. 2326

Should you have any questions regarding this information, please do not hesitate to contact us.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Wai Chin Lachell

WCL/ms/2

Encl.

c.c. G. Sutton, NYSDEC

J. Baker, Keywell

D. Trostle, Keywell

B. White, Karaganis & White (w/o encl.)

K. Sullivan, CRA (w/o encl.)

R. Snyder, CRA (w/o encl.)

Sediment Excavation Plan

VacAir Alloys

Frewsburg, New York

Prepared **fo**r: Keywell **Co**rporation

Prepared by:



Roy F. Weston, Inc.
Three Hawthorn Parkway, Suite 400
Vernon Hills, Illinois 60061-1450
(847) 918-4000

Purpose

The purpose of this Sediment Excavation Plan is to summarize the preparation and procedures required to perform sediment excavation at the VacAir Alloy Site located in Frewsburg, New York. The intent is to demonstrate compliance with specified requirements of Article 3.5 of Section 02220 and Section 02755 and to assist ENGINEER with scheduling of testing and measurement activities.

Preparation .

Preparation of the excavation area will begin with diverting the influent flow into the sediment excavation area. This will be accomplished by installing an in-line pump within the existing 36" storm drain. The pump will convey the influent water around the excavation work area and into Conewango Creek. Further preparation activity will consist of construction of an earth embankment/dam at the outlet of the sediment excavation area into Conewango Creek to prevent backflow. This will sufficiently isolate the area so that work may commence. Any standing water in the excavation area will be pumped into an on-site frac tank to be treated by the on-site water treatment facility.

The boundary of the sediment excavation area will be located by a professional land surveyor (PLS) registered in the state of New York. This perimeter boundary will be staked out per the contract drawings or as otherwise directed by the ENGINEER, and a pre-excavation topographic survey of the surface will be performed. Survey stakes will be driven to provide grade control for the proposed 6 inch deep excavation. Excavation will proceed deeper than 6 inches and beyond the proposed perimeter only at the direction of the ENGINEER. A four foot high security (snow) fence will be erected around the open perimeter of the excavation area and sediment stockpile to control access of equipment and personnel. Caution tape will be placed through wooded areas around the perimeter. The proposed locationt of the perimeter fence and caution tape as well as the excavation area are shown on Figure 1-1. Trees that interfere with access or work performance in the excavation area will be cleared and staged on site prior to excavation activities. Clearing of trees, required for access roads or working area, will be minimized, and locations of access roads will be selected in the field with the ENGINEER's concurrence.

Excavation Method

After preliminary survey work is completed, excavation of the sediments will commence utilizing an excavator and two off-road dump trucks. The excavator will be positioned on clean soil immediately adjacent to the excavation perimeter and will pull back sediment. Sediment will be loaded into off-road dump trucks which will also be operating on clean soil. Care will be taken when loading the dump trucks to prevent loose sediments from falling onto the ground around the trucks. Truck loads will be kept to approximately 75% capacity as further effort to prevent spillage. Applying this method will result in only the excavator bucket (and potentially the boom) to physically contact the sediments.

Sequencing and Scheduling of Excavation and Backfilling

In general, sediment excavation will commence at the south end of the excavation area and proceed toward the outlet to Conewango Creek at the north. Excavated areas will be stripped of 6 inches of sediment, or deeper as directed by the ENGINEER. Clean areas will be identified as those areas where the underlying clay is exposed or otherwise deemed "clean" by the ENGINEER. WESTON anticipates that the ENGINEER will perform visual observation in order to make real-time identification of clean areas. Once an area is deemed clean, the excavation and loading operation will move onto the stripped area adjacent to the interface of clean and dirty soil. This process will continue until the entire area has successfully been excavated.

After the sediments have been excavated, the new contours will be surveyed. Comparison of the topography before and after the excavation will result in the quantity of sediment excavated. After receiving notification from the ENGINEER that backfilling may commence, off-site topsoil will be imported with dump trucks and placed to grade with a bulldozer to achieve the original elevations. Elevation control will be provided by grade stakes set during the pre-backfill survey. Since the sediment excavation area will be deemed clean at this phase, no decontamination of vehicles and equipment entering and leaving the area will be required.

After backfilling is complete, a final verification survey will be taken of the excavation area to provide in-place measurement of imported topsoil. The perimeter security fence will be removed and seeding of the area will be the final phase in restoring the area.

WESTON anticipates the use of one excavator and two off-road dump trucks for the excavation activity. Dump trucks and one bulldozer will perform the backfilling activity. Additional laborers will be utilized as necessary to aid with grade control and to perform decontamination procedures. A professional land surveyor will perform the noted surveys before and after excavation and after backfilling is completed. Given this crew size, WESTON anticipates an excavation duration of approximately five days and a backfilling and grade verification duration of one to two days.

Stockpiling Operations

Excavated sediments will be transported to a constructed stockpile area on site. Location of the stockpile area is shown on Figure 1-1. WESTON will submit its design for the stockpile basin for ENGINEER approval prior to construction. The constructed stockpile basin will be inspected by the ENGINEER prior to excavation activities in order to verify that it meets the approved design. Only after approval of the construction of the stockpile area will the excavation and stockpiling activity commence

The stockpile basin will be prepared with a bulldozer grading the existing ground into a rectangular area approximately 30 ft x 100 ft with a perimeter berm. This basin will be lined with a 40-mil polyethylene plastic liner with sealed seams to prevent migration of water or soil from

the stockpile to the surrounding area. The basin will be stoped toward one end with a sump to collect stormwater runoff

Stockpiling activities will be performed concurrently with the sediment excavation. Off-road dump trucks will drive onto the lined stockpile basin and dump sediments, beginning at the end farthest from the stockpile basin entrance. Dump trucks will back up to the stockpile and dump while pulling toward the entrance. Care will be taken to avoid driving on previously stockpiled material. This method allows the dump trucks to be driven on clean plastic liner, and thus prevents contamination of the tires and haul routes. At the close of daily operations, the stockpile will be covered with a minimum 6-mil polyethylene plastic cover to protect it from detrimental weather conditions.

During the stockpiling activities, stormwater collected in the stockpile basin sump will be pumped into the on-site frac tank for treatment in the on-site treatment facility. Sediments collected in the sump, as well as the daily cover plastic and the basin liner, will be disposed with the main stockpile in accordance with applicable State and Federal Regulations.

Access Roads

Access roads will be established between the sediment excavation and the stockpile basin for transportation of the sediments. As can be seen on Figure 1-1, these routes will be limited to those areas immediately adjacent to the excavation and stockpile entrance or as otherwise required by site conditions. Since the off-road dump trucks will be operating on clean soil near the excavation and will not drive through the stockpiled sediments, these access routes will remain clean throughout the duration of the excavation.

Access roads definated on Figure 1-1 will be constructed from the native soils. Aggregate, geotextiles or other materials will not be utilized to upgrade the access roads, due to WESTON's utilization of off road dump trucks for material transport. All access roads along with other disturbed areas will be restored to their preconstruction conditions.

Decontamination Facilities

A personnel decontamination area will be prepared at the entrance to the exclusion zone. WESTON will also construct an equipment decontamination pad near the entrance to the stockpile area as shown on Figure 1-1. Construction of the equipment decontamination pad will be similar to that of the stockpile basin, consisting of a perimeter berm with a polyethylene plastic liner. The pad will be sloped to one end with a collection sump. Collected water will be handled by the on-site water treatment facility, and sediments will be collected for disposal with the sediment stockpile.

WESTON will perform personnel decontamination on a daily basis and/or whenever personnel exit the exclusion zone. Equipment that comes in contact with the contaminated sediments will

remain in the exclusion zone during the duration of the excavation activity. Upon completion of sediment excavation and stockpiling, dump trucks will be decontaminated by utilizing a shovel to clean residual sediments from the beds. A pressure washer will be utilized for a final rinse. Decontamination of the excavator will be performed by positioning the equipment on the decontamination pad for a thorough scrubbing and pressure washing of the bucket and boom. Any sediments accumulated on the excavator tracks will be removed prior to deconing the excavator. These sediments will considered non-contaminated and will not be staged for disposal. To prevent puncturing the plastic liner, boards will be placed under the excavator tracks. These boards, the plastic liner, and sediments removed from equipment will be placed with the sediment stockpile for disposal

Methods to Prevent Cross-Contamination

Minimizing contaminant exposure, limiting dispersion of sediments, and preventing cross-contamination of clean areas are crucial to minimizing the volume of off-site hazardous waste disposal and overall impact of the sediment excavation and stockpiling activity. Personnel will be kept abreast of these issues through safety meetings and good communication in order to ensure understanding of the concepts and goals of this activity.

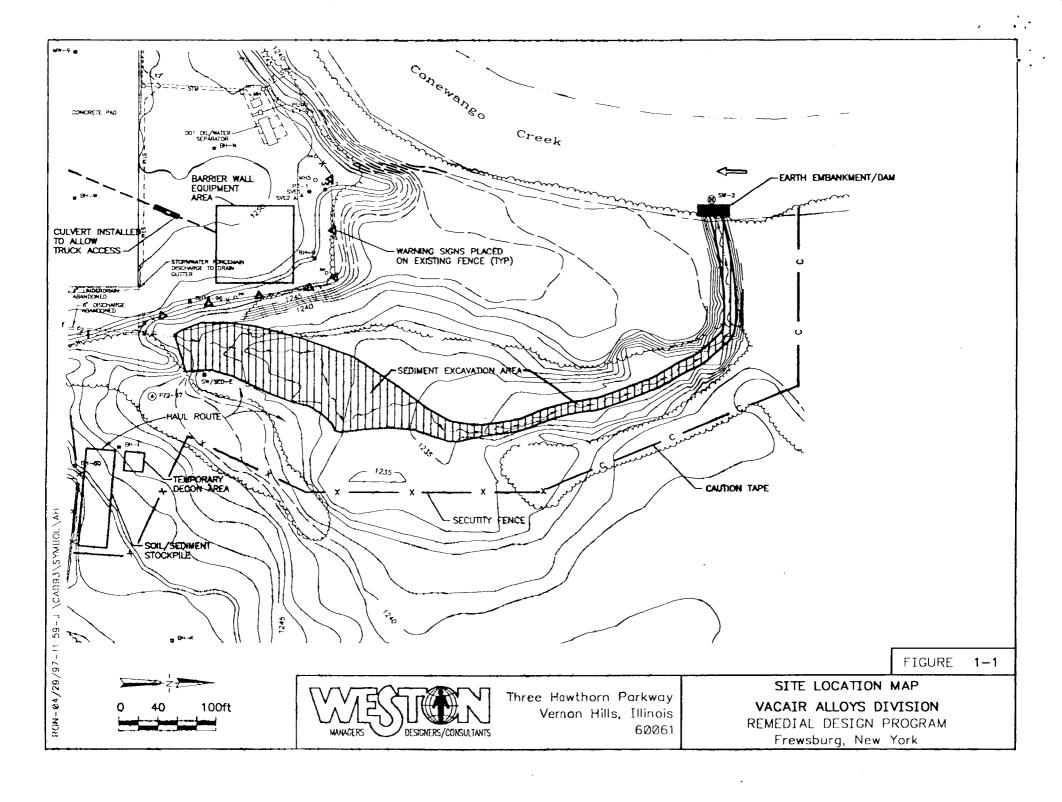
Steps will be taken to avoid truck traffic through contaminated areas and to limit contact of trucks and sediments to truck beds only. No unnecessary deviation from the established haul route will be permitted. Location of the excavator will be confined to clean areas (reaching with the boom and bucket into dirty areas) to avoid tracking contaminated sediments around the site. Additional care will be taken when loading trucks so as not to spill contaminated sediments on the surrounding ground. Trucks will not be loaded to full capacity in order to prevent spillage during transport to the stockpile area.

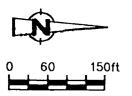
Safety Features and Personal Protection

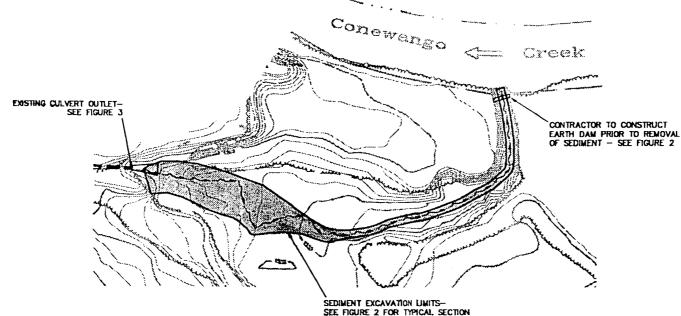
Due to the nature of the VOC contaminated sediments, personnel who are in direct contact with the sediments, such as laborers and surveyors, will be in Level C PPE. The excavator operator, drivers of the off-road dump trucks, and those who do not directly contact the sediments will work in Level D PPE. Requirements for personal protective equipment may be modified based on monitored site conditions and as defined in the Health and Safety Plan.

WESTON will incorporate dust control measures, as necessary, to prevent windblown transport of contaminated sediments and nuisance dust. Truck traffic will be kept to an acceptable speed to minimize dust generation. In the event that excessive dust is generated, water will be applied at a sufficient rate to maintain adequate conditions in the excavation area, haul routes, and stockpile area. Water usage will be monitored to prevent excessive application that may result in ponding or muddy conditions.

Site safety issues will be a primary concern of all personnel performing excavation activities. The site supervisor will ensure that all activities are performed with an awareness of potential safety concerns such as vehicle traffic, equipment operation, and contaminant awareness. Due to the shallow depth of the excavation, shoring will not be required. Other safety issues will be addressed as noted in the Health and Safety Plan







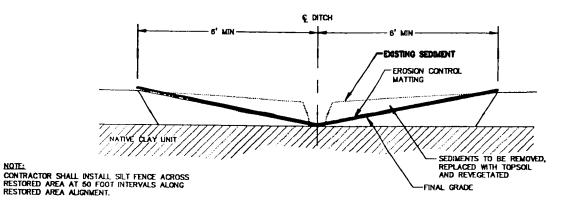
PROPERTY LINE PROPERTY LINE FENCE LINE 1240 EXISTING CONTOUR DITCH TREELINE PP G POWER POLE STORM SEWER LIMITS OF SEDIMENT EXCAVATION FOR OFF-SITE DISPOSAL

NOTES:

- SEDIMENT REMOVAL SHALL PROCEED FROM CULVERT OUTLET TOWARD CONEWANGO CREEK.
- 2. CONTRACTOR'S TRAFFIC SHALL REMAIN WITHIN THE SEDIMENT REMOVAL UMITS WHEN POSSIBLE. TRAFFIC OUTSIDE OF THE SEDIMENT REMOVAL AREA WILL ONLY BE ALLOWED AT THE ENGINEERS DISCRETION.

figure 1
SEDIMENT EXCAVATION PLAN
VACAIR ALLOYS DIVISION
Frewsburg, New York

CRA



TYPICAL SEDIMENT EXCAVATION SECTION

N.T.S.

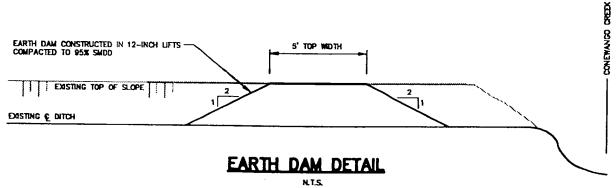
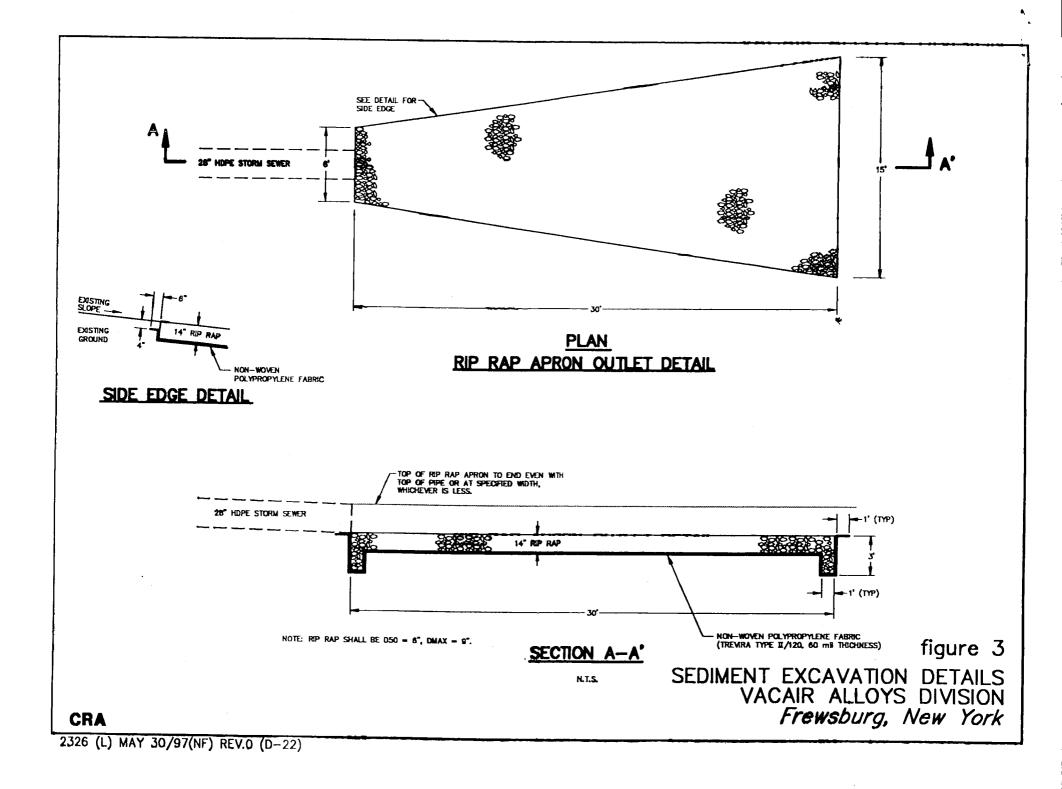


figure 2
SEDIMENT EXCAVATION DETAILS
VACAIR ALLOYS DIVISION
Frewsburg, New York

CRA

2326 (L) MAY 30/97(NF) REV.0 (D-21)



New York State Department of Environmental Conservation

Natural Resources Office - Region 9 128 South Street Olean, New York 14760-3632 (716) 372-0645



May 22, 1997

Fine Line **T**echnical Services 12492 Smi**th** Road Medina, New York 14103

Dear Mr. Lindberg:

This letter serves as notification that on May 9, 1997, I met with you to confirm the boundary delineation of NYS Regulated Wetland JA-6 adjacent to the Keywell Corporation, Vacair alloys Site in the Town of Carroll, Chautauqua County.

The wetland boundary which was delineated by you with orange plastic flagging numbered A-1-10; B-1-6; and C-1-3 was inspected and accepted by this Department.

The wetland boundary should be surveyed to determine its location relative to the property boundary of Keywell Corporation and drawn on any remediation plans for this site. A copy of Requirements for Wetland Survey and Mapping is enclosed. Please provide these to your surveyor.

If you have any questions on this wetland boundary confirmation, please contact my office.

Sincerely,

Thomas Jurczak

Sr. Wildlife Biologist

Region 9 - Olean

TJ/rm

Enclosure

Requirements For Professional Surveys of Wetland Boundaries

The Department of Environmental Conservation presently allows State regulated wetland boundaries, delineated by Department staff, to be fixed for a period of three years, providing the boundary has been professionally surveyed. Delineated boundaries that are not professionally surveyed are subject to possible change in following years if wetland conditions change. The following are the requirements for an acceptable professional survey:

- 1. The survey map must be signed and certified by a licensed land surveyor registered in the State of New York.
- 2. The map must contain a description of the metes and bounds of the wetland boundary (either coordinates of flagged points or bearing and distance between points) sufficient to allow another surveyor to reproduce this boundary at a future time.
- 3. At least two tie-ins by bearing and distance to property lines and/or corners are to be made to the wetland boundary.
- 4. This description of the flagged points of the boundary may either be placed on the map or referenced to attachments.
- 5. The map must include a warrant of accuracy that the surveyed boundary reflects the boundary flagged by the Department. The surveyor must apply his/her seal over the signed warranty.
- 6. At least two copies of the survey map shall be provided to:

Mr. Steven J. Doleski Regional Permit Administrator N.Y.S. Department of Environmental Conservation 270 Michigan Avenue Buffalo, NY 14203-2999

- 7. The Department Biologist or Technician who delineated the wetland boundary will then verify the accuracy of the map to the best of her or his abilities.
- 8. If determined to be accurate, the map will be signed and dated by the delineator. The signed map will be placed in the Department's Wetlands File. A signed copy will also be returned to the landowner or person otherwise providing the survey.