ROY R. CELLAN
CORPORATE MANAGER
RECLAMATION

ENVIRONMENTAL, HEALTH, SAFETY
AND GOVERNMENT AFFAIRS

March 21, 2000

Mr. Ken Hooks, Project Manager
Uranium Recovery and Low Level Waste Branch
Division of Waste Management, MS 7E-47
Office of Nuclear Material Safety and Safeguards
11555 Rockville Pike
Rockville, MD 20852

Re: **Docket No. 40-8903**
License No. SUA-1471
Presentation Materials

Dear Mr. Hooks:

Pursuant to your request, please find a copy of the presentation materials used during the meeting at Homestake Mining Company's Grants site office on March 7th .

As agreed, I have also provided the same materials to Ms. Petra Sanchez of the EPA and to the Ms. Mary Heather Nobel from the NM ED.

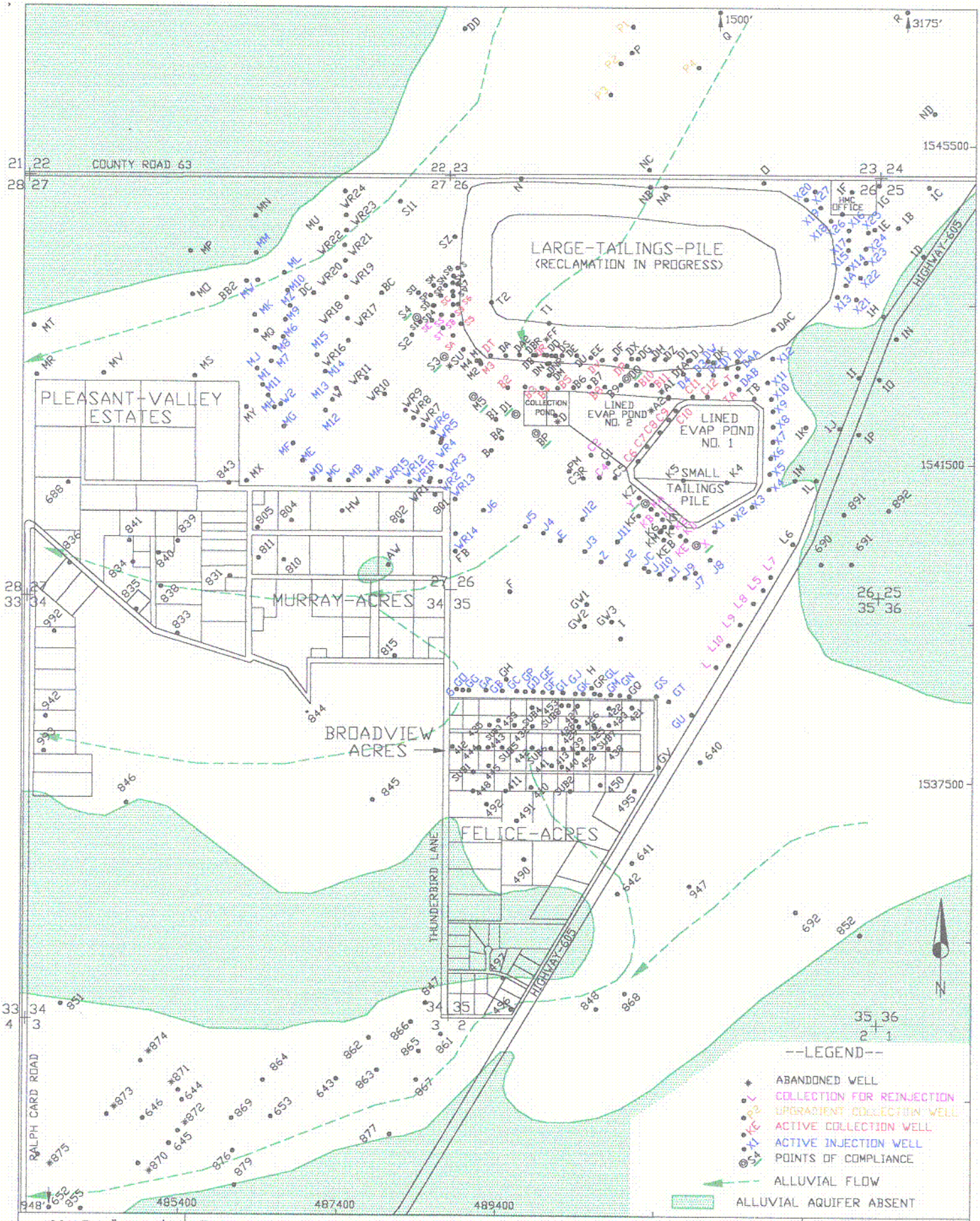
If you have any additional questions regarding this information, please contact me at the Grants site, 505-287-4456. Thank you.

Sincerely,

Cc: Ms. Petra Sanchez, EPA
Ms. Mary Heather Nobel, NM ED

HOMESTAKE MINING COMPANY
P.O. BOX 98 • GRANTS, NM 87020-0011

NMSS01 Public



SCALE: 1"=1600' | HOMESTAKE-MILL-AND-ADJACENT-PROPERTIES GRANTS-NM-TOWNSHIP-11&12-N-RANGE-10-W | DATE: 03/14/2000

LIMITS OF ALLUVIAL AQUIFER AND WELL LOCATIONS

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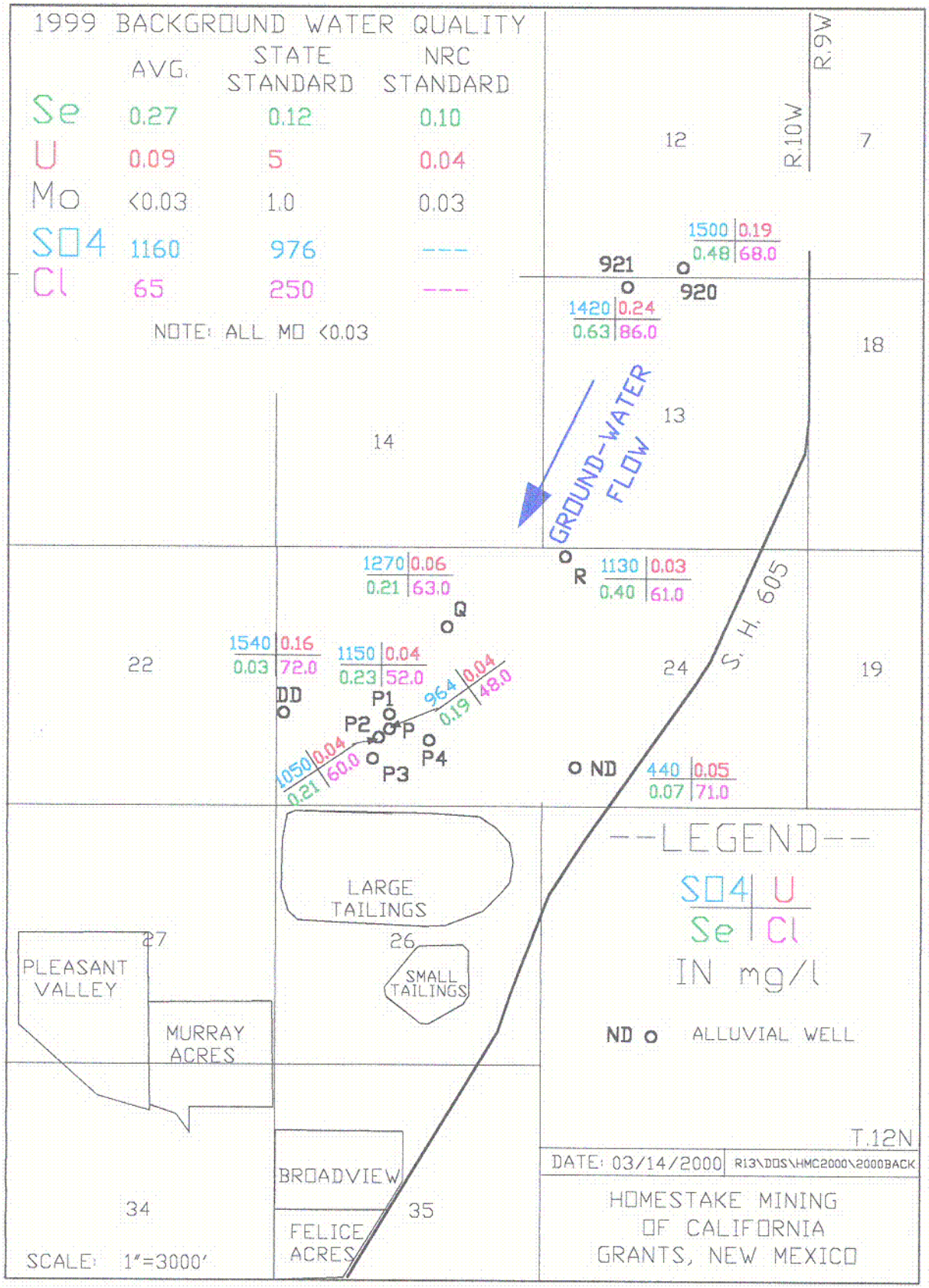

FIGURE 3.2-1. BACKGROUND GROUND-WATER QUALITY

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GRANTS PROJECT WATER QUALITY STANDARDS

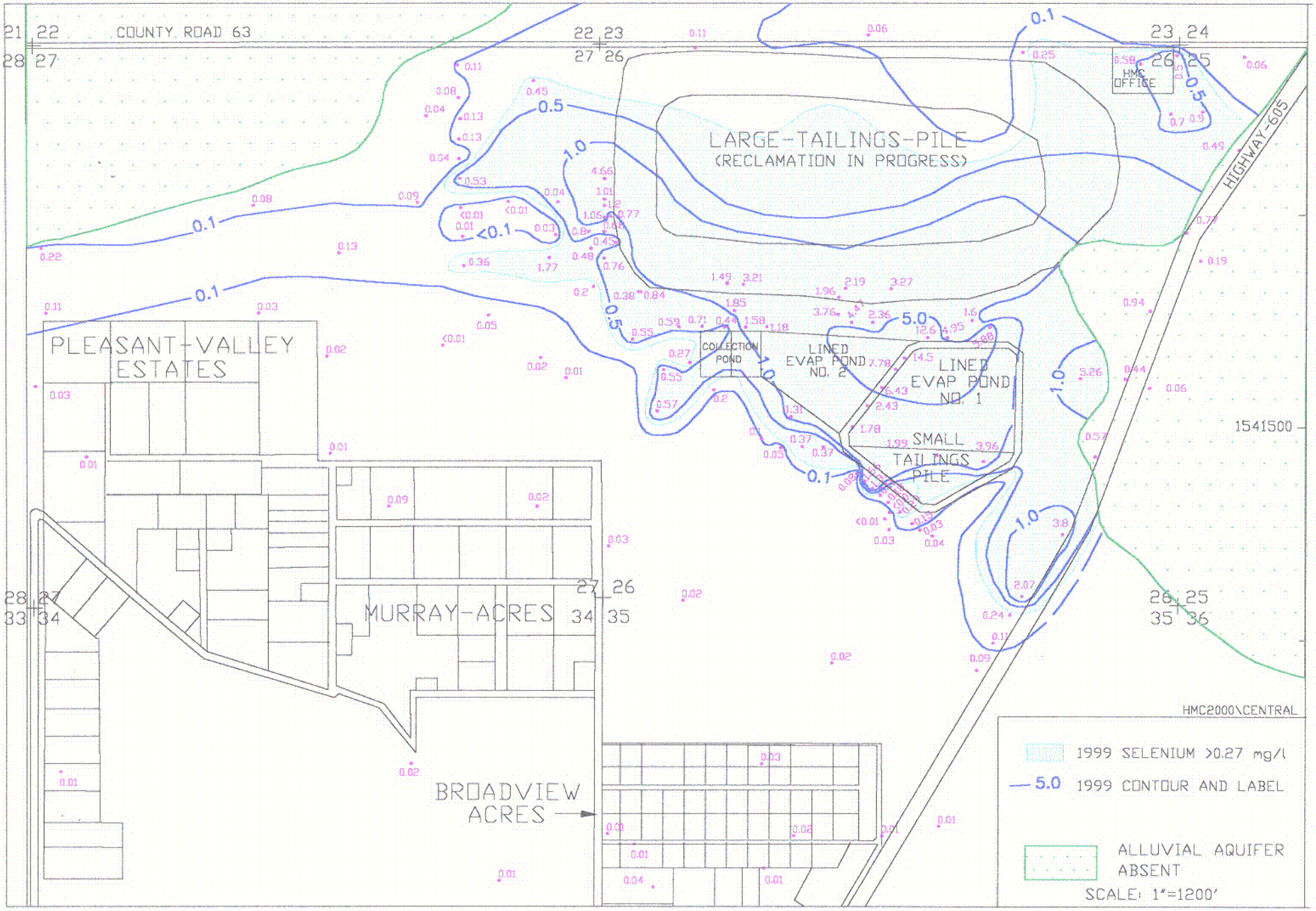
CONSTITUENTS	HOMESTAKE STANDARDS	
	NRC	NEW MEXICO
URANIUM	0.04	5
SELENIUM	0.1	0.12
MOLYBDENUM	0.03	1.0@
VANADIUM	0.02	-----
RA-226 + RA-228	5	30
THORIUM-230	0.3	-----
SULFATE	-----	976
CHLORIDE	-----	250
TDS	-----	1770
NITRATE	-----	12.4

NOTE: All concentrations are in mg/l except: Ra-226 + Ra-228 and TH-230 are in pCi/l.
@ = Irrigation Standard

COMPARISON OF 1999 BACKGROUND WATER QUALITY AND SITE STANDARDS

CONSTITUENTS	1999 AVERAGE BACKGROUND[2]	STATE STANDARD	NRC STANDARD[3]
SELENIUM	0.27	0.12	0.1
URANIUM	0.09	5	0.04
MOLYBDENUM	<0.03	1.0@	0.03
SULFATE	1160	976	-----
CHLORIDE	65	250	-----
TDS	2050	1770	-----
VANADIUM	<0.01	-----	0.02
THORIUM-230	<0.2	-----	0.3
RA-226 + RA-228	<1.6	30	5
NITRATE	8.3	12.4	-----

NOTE: [2] Wells DD, ND, P, P1, P2, P3, P4, Q, R, 920 and 921
[3] Average of 3 samples from well P in 1988 and 1989
@ = Irrigation Standard


COUNTY ROAD 63
LARGE-TAILINGS-PILE
(RECLAMATION IN PROGRESS)
HMC OFFICE
HIGHWAY-605
PLEASANT-VALLEY ESTATES
COLLECTION POND
LINED EVAP POND NO. 2
LINED EVAP POND NO. 1
SMALL TAILINGS PILE
MURRAY-ACRES
BROADVIEW ACRES
1541500
HMC2000\CENTRAL
1999 SELENIUM >0.27 mg/l
5.0 1999 CONTOUR AND LABEL
ALLUVIAL AQUIFER ABSENT
SCALE: 1"=1200'

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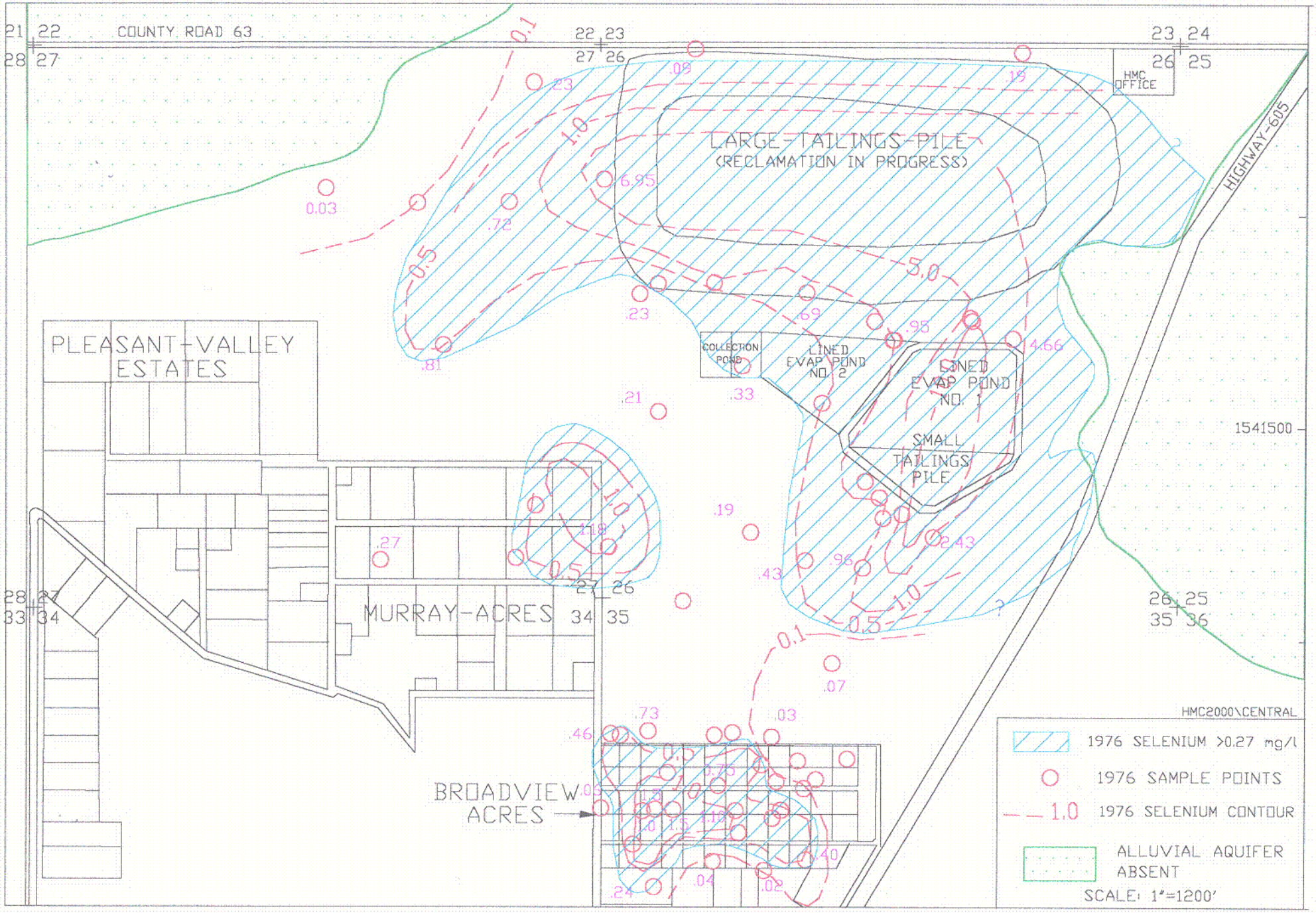
COUNTY ROAD 63
HMC OFFICE
HIGHWAY-605
LARGE-TAILINGS-PILE
(RECLAMATION IN PROGRESS)
COLLECTION POND
LINED EVAP POND NO. 2
LINED EVAP POND NO. 1
SMALL TAILINGS PILE
PLEASANT-VALLEY ESTATES
MURRAY-ACRES
BROADVIEW ACRES
1541500
HMC2000\CENTRAL
1976 SELENIUM >0.27 mg/l
1976 SAMPLE POINTS
1976 SELENIUM CONTOUR
ALLUVIAL AQUIFER ABSENT
SCALE: 1"=1200'

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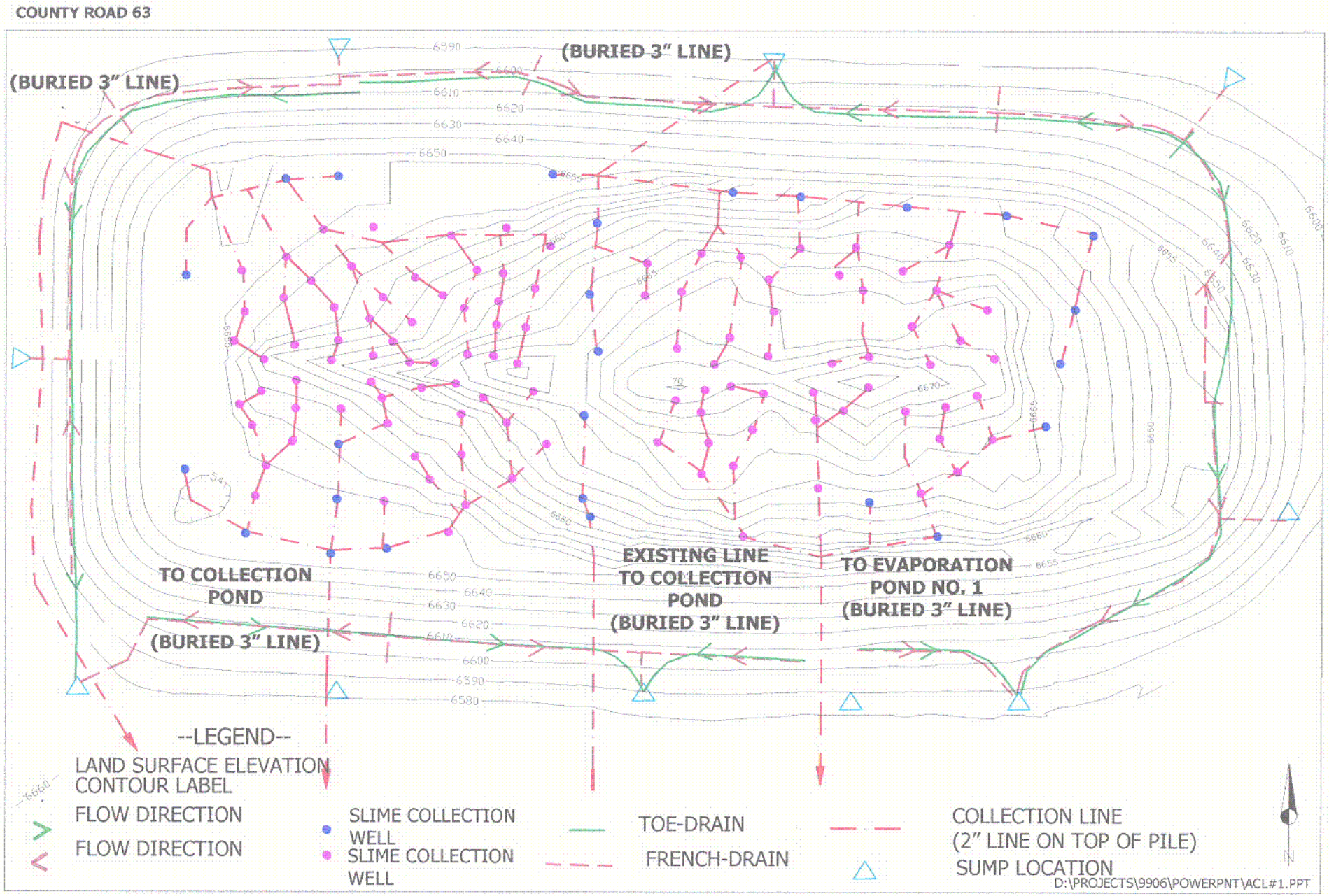
LOCATIONS OF TAILINGS DEWATERING WELLS, TOE DRAINS AND SUMPS



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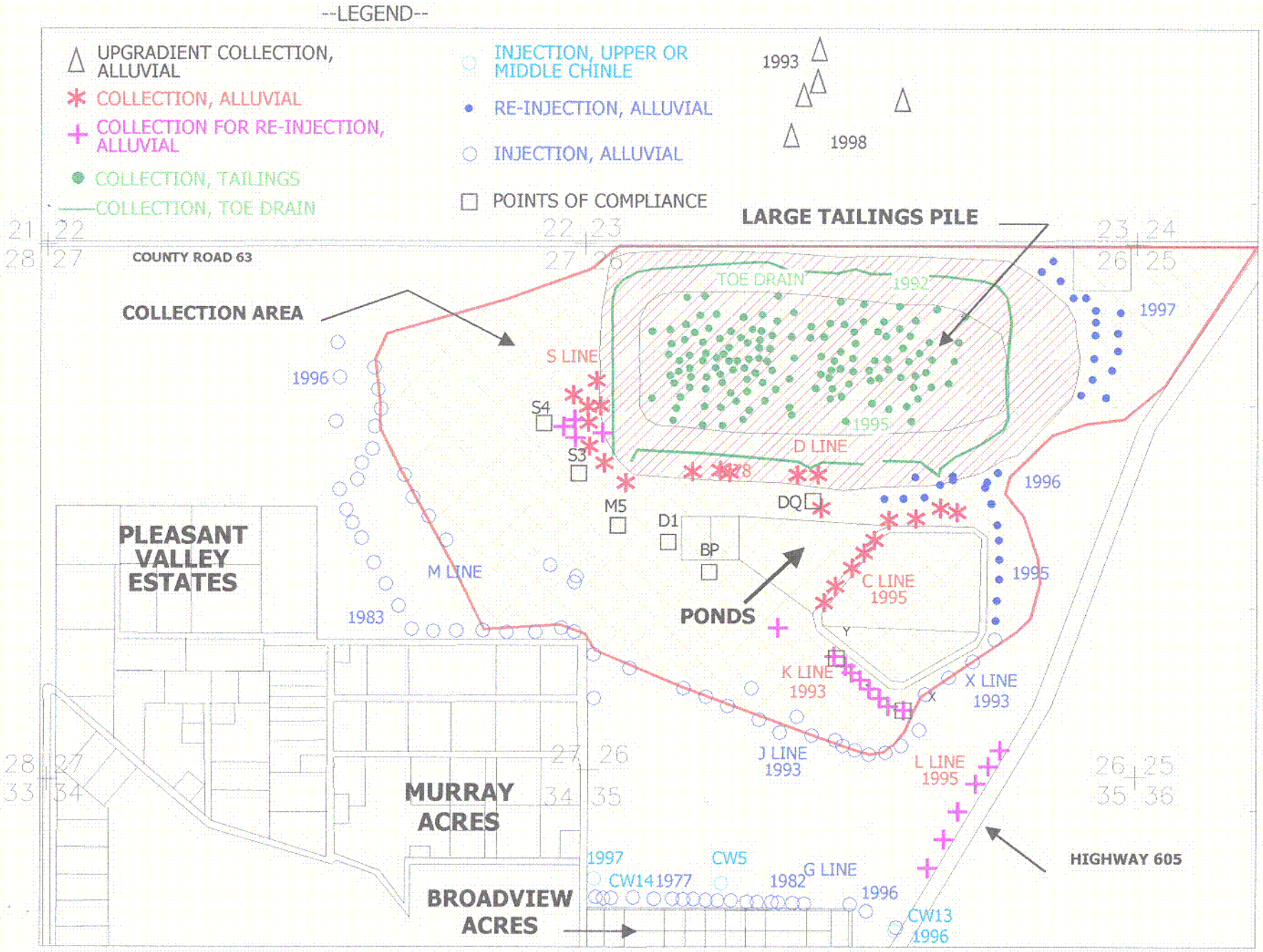

LOCATIONS OF PRESENT INJECTION AND COLLECTION SYSTEMS WITH START OF OPERATION DATES

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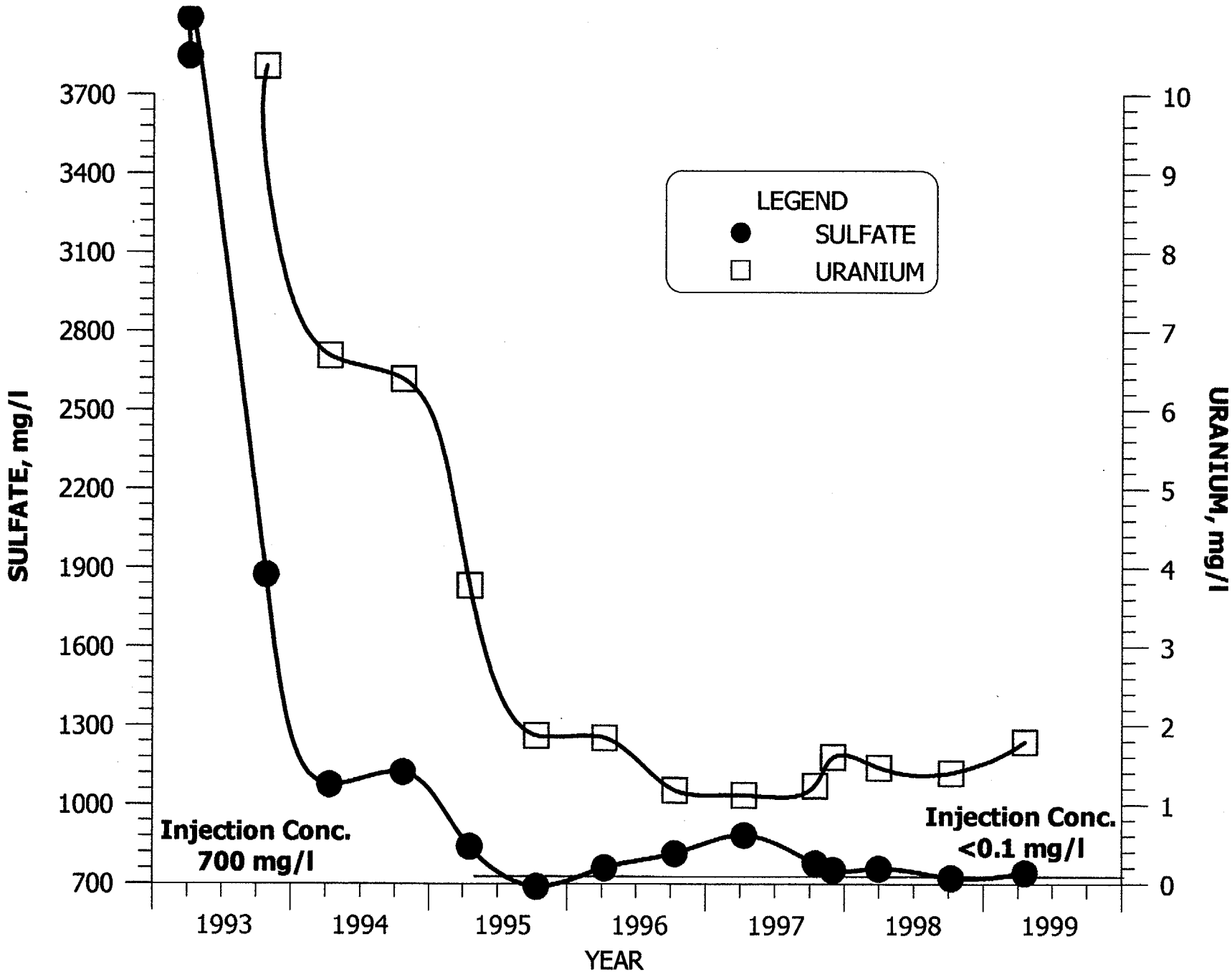
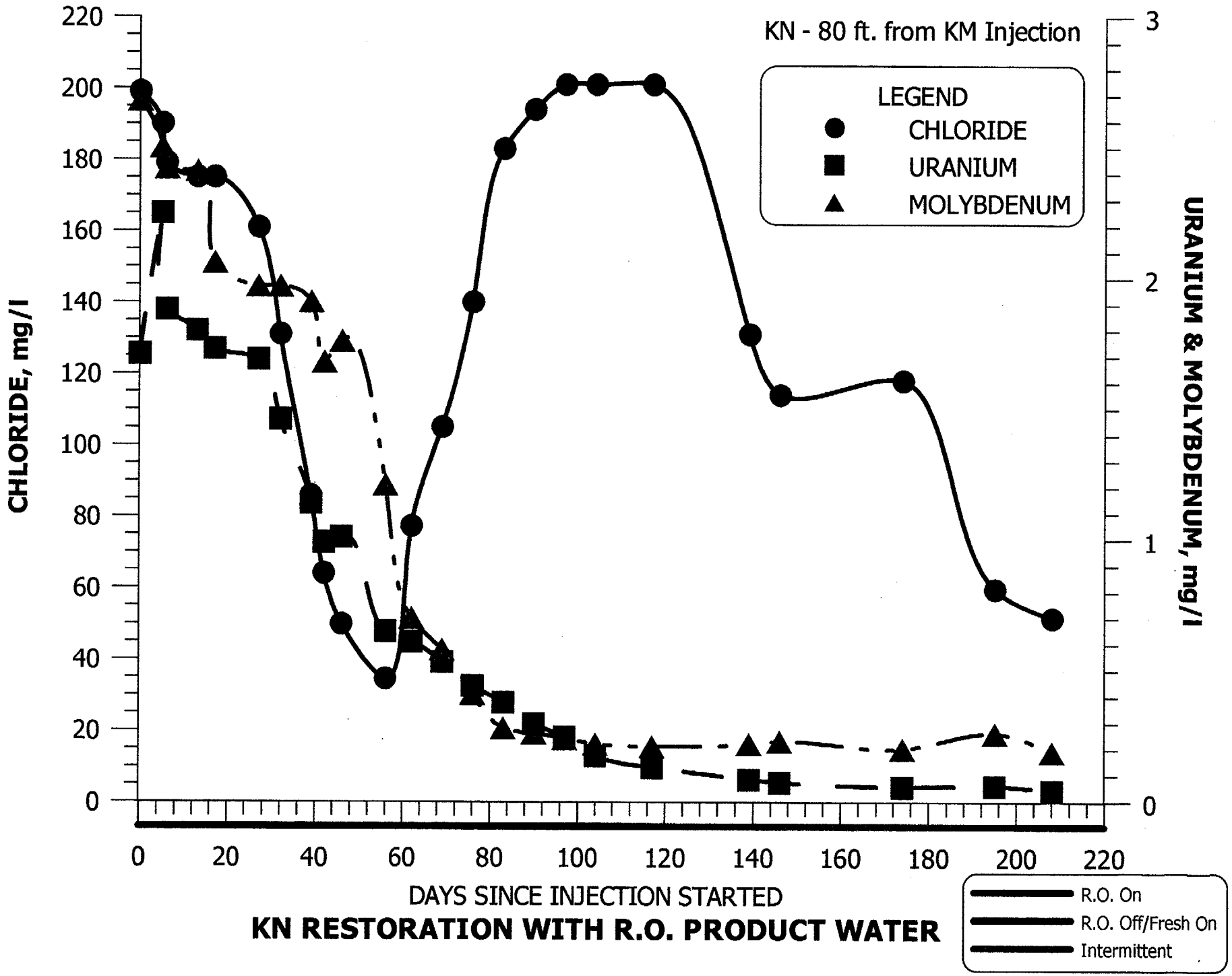
CG



KM RESTORATION WITH FRESH WATER.



KN RESTORATION WITH R.O. PRODUCT WATER

HOMESTAKE RESTORATION RATES
Actual/(proj.) GPM
Scenario #1

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2000-2010 (bil. gal.)
TAILINGS																				
Dewatering		10	29.6	40.7	0	0.2	(60)	(55)	(50)	(45)	(35)	(20)	(0)							0.15
TOE DRAINS																				
Collection		34.9	28.5	23	20	17/-2	(10/ -15)	(10/ -25)	(10/ -25)	(0/ -30)	(0/ -30)	(0/ -30)	(0/ -20)							0.016/ -0.092
TOTAL TAILS AND TOE																				
Combined		44.9	58.1	63.7	20	17/-2	(70/ -15)	(65/ -25)	(60/ -25)	(45/ -30)	(35/ -30)	(20/ -30)	(0/ -20)							0.16/ -0.092
ALLUVIAL																				
Collection		209	228	180	142	209	(310)	(310)	(310)	(310)	(310)	(310)	(310)	(310)	(310)	(310)	(310)			1.79
Coll. For Reinj.		0	54	96	77	83	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(0)	(0)			0.71
Upg. Coll.		45	45	36	90	104	(100)	(75)	(75)	(75)	(75)	(75)	(75)	(75)	(75)	(0)	(0)			0.32
R.O. Inj.		0	0	0	0	53	(240)	(240)	(240)	(240)	(240)	(240)	(240)	(240)	(240)	(240)	(240)			-1.39
Fresh-Water Inj		422	435	466	505	603	(550)	(500)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)			-2.44
UPPER CHINLE																				
Fresh-Water Inj.		27	17	56	54	59	(55)	(55)	(55)	(55)	(55)	(55)	(55)	(55)						0.23
MIDDLE CHINLE																				
Fresh-Water Inj.		0	0	20	30	32	(30)	(30)	(30)	(30)	(30)	(30)	(30)	(30)						0.13
TOTAL TO EVAP																				
Evaporation		254	286	244	162	187	(130)	(125)	(120)	(105)	(95)	(80)	(60)	(60)	(60)	(60)	(60)			0.50

Legend

- TAILINGS
- TOE DRAINS
- TOTAL TAILS AND TOE
- ALLUVIAL
- UPPER CHINLE
- MIDDLE CHINLE
- TOTAL TO EVAP.
- ( ) PROJECTED

WILL NEED 2 YEARS TO EVAPORATE WATER BEYOND 2010

TAILINGS DEWATERING, ALLUVIAL AND CHINLE OPERATIONAL SCHEDULE.

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HOMESTAKE RESTORATION RATES
Actual/(proj.) GPM
Scenario #2

Legend

- TAILINGS
- TOE DRAINS
- TOTAL TAILS AND TOE
- ALLUVIAL
- UPPER CHINLE
- MIDDLE CHINLE
- TOTAL TO EVAP.
- ( ) PROJECTED

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2000-2008 (bil. gal.)
TAILINGS																				
Dewatering		10	29.6	40.7	0	0.2	(60)	(55)	(50)	(45)	(35)	(20)	(0)							0.15
TOE DRAINS																				
Collection		34.9	28.5	23	20	17/-2	(10/ -15)	(10/ -25)	(10/ -25)	(0/ -30)	(0/ -30)	(0/ -30)	(0/ -20)							0.016/ -0.092
TOTAL TAILS AND TOE																				
Combined		44.9	58.1	63.7	20	17/-2	(70/ -15)	(65/ -25)	(60/ -25)	(45/ -30)	(35/ -30)	(20/ -30)	(0/ -20)							0.16/ -0.092
ALLUVIAL																				
Collection		209	228	180	142	209	(310)	(310)	(310)	(560)	(560)	(560)	(560)	(560)	(560)	(0)	(0)			2.25
Coll. For Reinj.		0	54	96	77	83	(150)	(150)	(100)	(50)	(0)	(0)	(0)	(0)	(0)	(0)	(0)			0.24
Upg. Coll.		45	45	36	90	104	(100)	(75)	(75)	(75)	(75)	(75)	(0)	(0)	(0)	(0)	(0)			0.25
R.O. Inj.		0	0	0	0	53	(240)	(295)	(295)	(459)	(459)	(459)	(459)	(459)	(459)	(0)	(0)			-1.88
Fresh-Water Inj		422	435	466	505	603	(550)	(500)	(400)	(300)	(300)	(300)	(300)	(300)	(300)	(0)	(0)			-1.71
UPPER CHINLE																				
Fresh-Water Inj.		27	17	56	54	59	(55)	(55)	(55)	(55)	(55)	(55)	(55)	(55)						0.23
MIDDLE CHINLE																				
Fresh-Water Inj.		0	0	20	30	32	(30)	(30)	(30)	(30)	(30)	(30)	(30)	(30)						0.13
TOTAL TO EVAP																				
Evaporation		254	286	244	162	187	(130)	(80)	(75)	(145)	(136)	(121)	(101)	(101)	(101)	(-)	(-)			0.52

WILL NEED 2 YEARS TO EVAPORATE WATER BEYOND 2008

TAILINGS DEWATERING, ALLUVIAL AND CHINLE OPERATIONAL SCHEDULE.

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