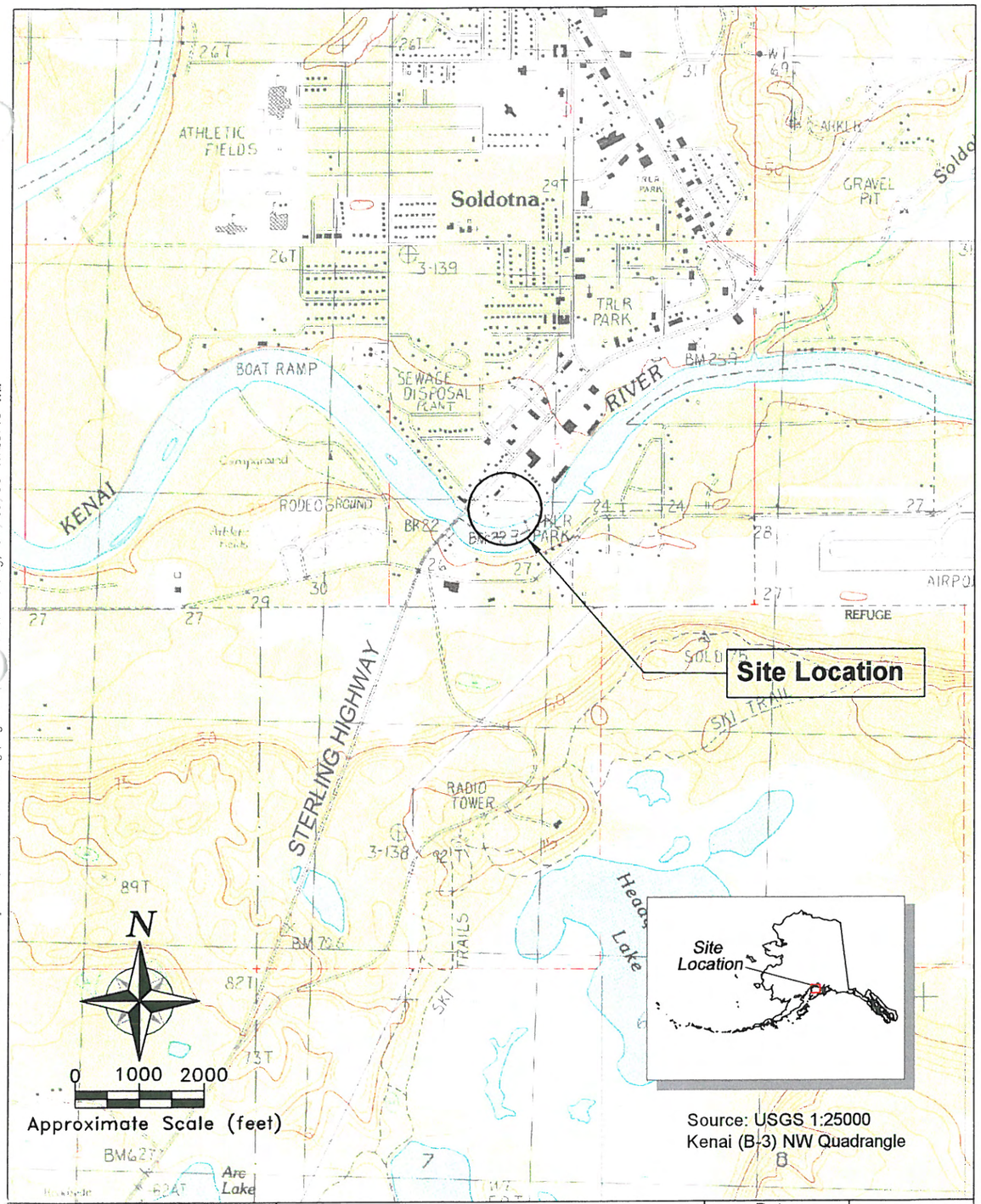


OASIS/BRISTOL JV	Site Location River Terrace RV Park Soldotna, Alaska Remedial Investigation/Feasibility Study Report	Date: April 2000	Figure 1
		Drawn By: JPR	Project No: 20019
ADEC Contract No: 18-2-12-12		Checked By: JSR	

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NOTES:
1. Sources:
   a) Kennard Environmental Consultants (1997) Site Assessment Report, River Terrace RV Park, Soldotna, Alaska;
   b) Aeromap U.S., Inc., (1995) Topographic Map;
   c) Ecology and Environment Groundwater Assessment Phase I Draft Report, River Terrace RV Park, Soldotna, Alaska (1997). OASIS adapted this figure from the E&E report, and E&E referenced the KEC report. E&E did not verify the precision or accuracy of information used by KEC to generate their figure. OASIS has used the figure as a base map and added information in an effort to compile and present information from a number of sources.
   d) KEC *Excavation Map of Removed Contaminated Soils* (scale: 2.775 inches = 20 feet) to illustrate final excavation outline and KEC excavation sample locations.
2. Map development required adjustments to the original KEC base map. Assumptions necessary for compiling a comprehensive map are outlined below:
   a) Southwest corner of "Old Dry Cleaners" building is accurately located.
   b) KEC grid dimensions are 20.0 feet by 20.0 feet, and grid origin (presumed to be A1) is correctly located relative to "Old Dry Cleaners" building.
   c) MW4 (destroyed in October 1997) is accurately located (relative to the KEC grid) at a point approximately 8 feet north of grid point AA8. The northwestern corner of "Residence" building is accurately located relative to MW4 (based on E&E survey coordinates, it was necessary to re-position this building [relative to grid] compared to KEC base map).
   d) OASIS and E&E well or sampling locations that have been surveyed are shown based on correct position of MW4 relative to grid (this assumption is necessary since survey coordinates are not available for any grid points).
3. Groundwater and surface water elevations are based on July 22, 1997 measurements unless indicated otherwise. The OASIS survey was tied into the benchmark referenced by the E&E survey (above mean sea level).

OLD DRY CLEANERS

RESIDENCE

SOIL STOCKPILE LOCATION

SOIL STOCKPILE LOCATION

STERLING HIGHWAY

BRIDGE

BRIDGE ABUTMENTS

BOREHOLE #1

LIGHT POLE

APPROXIMATE LOCATION OF BOAT RAMP

MW1B MW1A MW1C MW2 SB1 MW4 MW5 MW6 MW7

RVR-A RVR-B RVR-C

PT1 PT2 PT3 PT4 PT5

EXPLANATION:

- Borehole (by KEC, 1997) with depth-specific PCE concentration in mg/Kg.
- Excavation soil sample by KEC (Fall, 1997), with PCE concentration in mg/Kg (Sample depth in feet below grade).
- Borehole / Monitoring Well (E&E, 1997)
- Borehole (Geotechnical) installed by DOT&PF (May 1, 1963)
- Excavation perimeter, as measured by OASIS on October 17, 1997
- Excavation soil sample by OASIS (Fall, 1997),with PCE concentrations in mg/Kg (Sample depth in feet below grade).
- Measured water elevation in Kenai River (July 1967)
- Approximate location of sediment sample (E&E, 1997)
- Water elevation (in feet above msl) measured in excavation (10/17/97)
- Excavation contours (depth below grade, in feet)
- Topographic contours (in feet above msl)

ABBREVIATIONS:

S = Surface soil sample
E&E = Ecology and Environment, Inc.
KEC = Kennard Environmental Consultants
U = Contaminant was not detected at method reporting limit
UC = Sample could not be collected
ND = Constituent was not measured at levels above the reporting limit
PCE = Tetrachloroethylene
MW = Monitoring Well
SB = Soil Borehole

SURVEY DATA

SURVEY LOCATION	NORTHING	EASTING	ELEVATION	COMMENTS	SURVEY POINT No. (FOR REFERENCE TO MAPS)
SB1DEEP	5054.336	4973.990	71.47	E&E	3
MW2	5060.966	4960.084	71.35	E&E	5
MW1A	5026.464	5038.007	71.03	E&E	7
MW1C DEEP	5018.141	5031.679	71.32	E&E	8
MW4	4962.421	5040.008	58.47	E&E	10
MW4-Top PVC	4962.346	5040.016	58.50	ERES	23
MW5	4852.255	5065.102	47.54	E&E	15
MW7	4865.611	5044.003	47.36	E&E	16
MW6	4879.466	5023.587	47.42	E&E	17
River C	4895.002	4972.996	45.05	E&E	12
River B	4850.753	5031.280	45.10	E&E	13
River A	4819.376	5086.663	45.16	E&E	14
BLDG CDR	4932.951	5234.110	NS	E&E	22
BLDG CDR	4960.053	5233.024	NS	E&E	23
BLDG CDR	4962.239	5289.341	NS	E&E	24
Street Light	5002.551	5007.332	NS	E&E	26
Bridge Abutmt.	4979.332	4981.147	NS	E&E	28
Bridge Abutmt.	5003.015	4951.455	NS	E&E	29
Pit Perimeter, PT1	4980.561	5079.160	61.34	ERES	12
Pit Perimeter, PT2	4984.047	5070.030	60.84	ERES	13
Pit Perimeter, PT3	4952.078	5081.245	60.17	ERES	14
Pit Perimeter, PT4	4948.812	5098.160	60.37	ERES	15
Pit Perimeter, PT5	4951.553	5516.313	60.50	ERES	16
Water in Pit	4960.747	5115.477	41.19	ERES	18
P4 - 10	4954.737	5097.171	49.99	ERES; soil sample	22

0 15 30 45 60 FEET

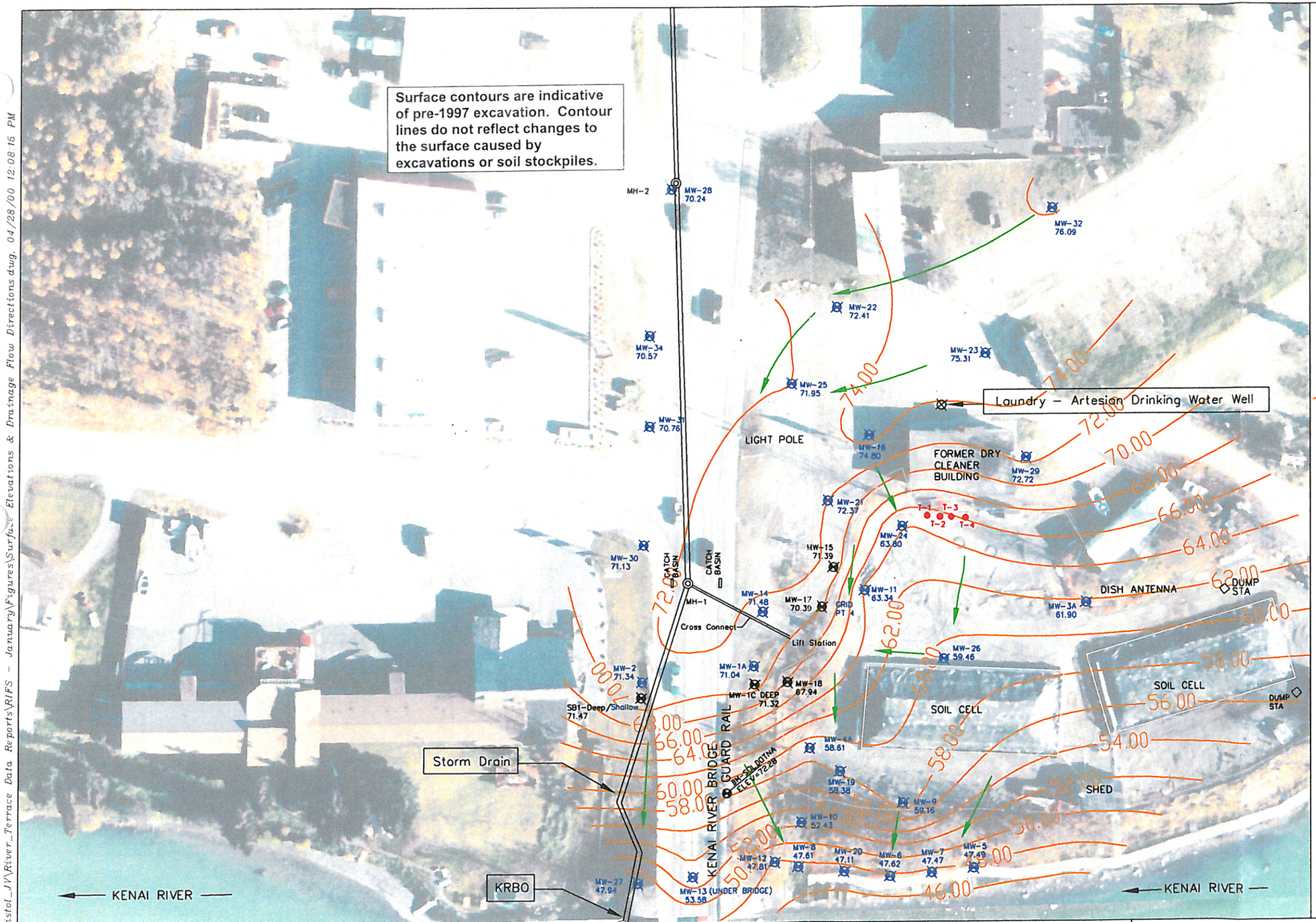
FIGURE 2

1997 Soil Sample PCE Results RIVER TERRACE RV PARK SITE

River Terrace RV Park, Soldotna, Alaska
Remedial Investigation/Feasibility Study Report

OASIS/BRISTOL JV

DATE: March 2000
CHECKED BY: BDA
DRAWN: SJM
PROJECT: 77-013-01
FILE NAME: PLANVIEW.CDR



EXPLANATION

- MW-32 76.09 — Upper Aquifer Monitoring Well with Surface Elevation (feet)
- MW-15 — Semi-Confined Water-Bearing Zone Monitoring Well
- Confined Aquifer Well
- Surface Drainage Flow
- 50.00 — Ground Surface Elevation Contours (feet)
- KRBO — Kenai River Bridge Outfall
- MH-1 — Manhole
- T-1 — Test Pit Location

Note: MW-28 was Temporary Monitoring Well

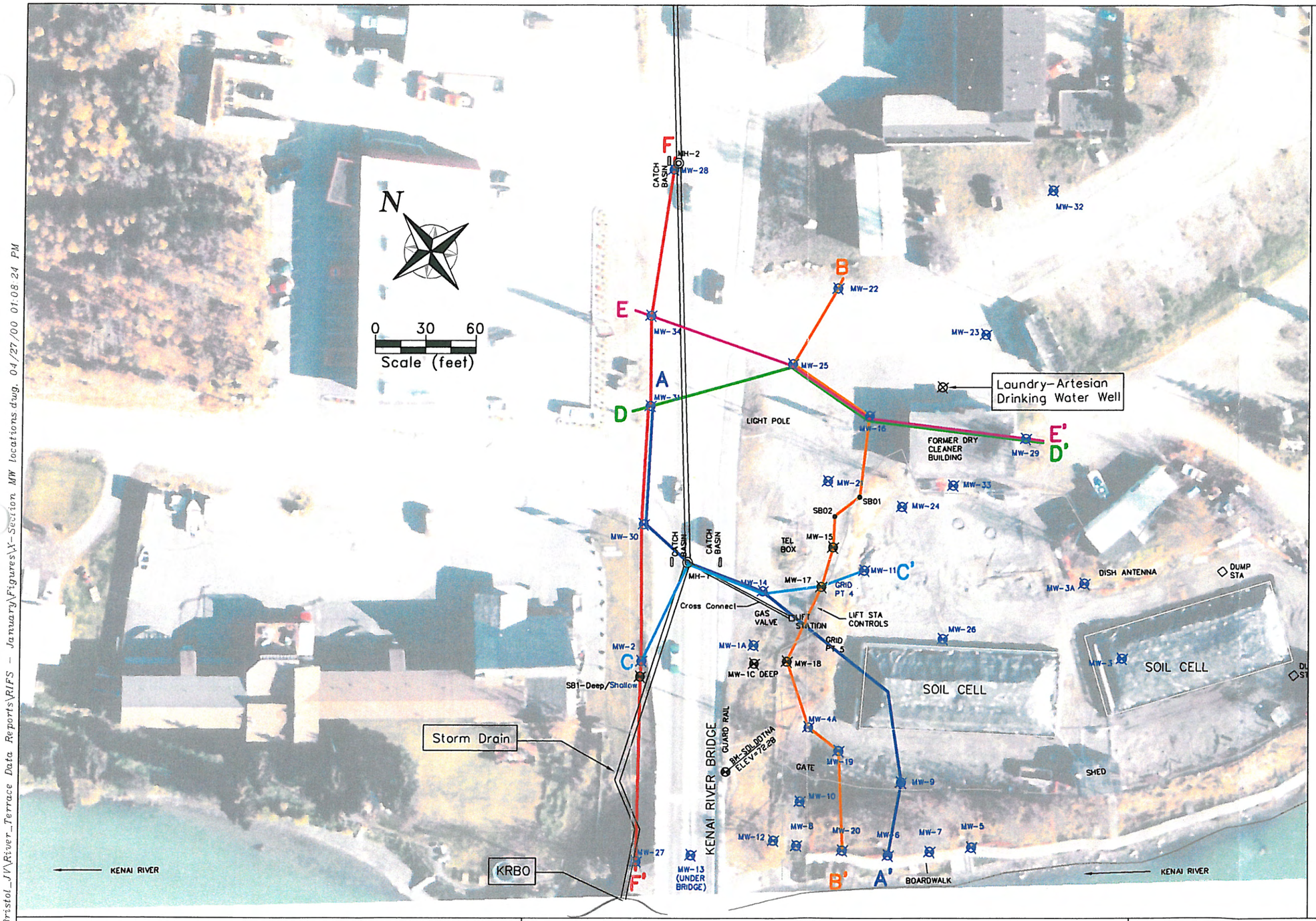
N

0 30 60
Scale (feet)

Source Modified From:
Aeromap U.S. Inc., 1998
Eagle River Engineering Services, 1999

OASIS/BRISTOL JV	Surface Elevations and Surface Drainage Flow Directions River Terrace RV Park, Soldotna, Alaska Remedial Investigation/Feasibility Study Report	Date: April 2000	Figure 3
ADEC Contract No: 18-2-12-12		Drawn By: JPR / Checked By: JSR	Project No: 20019

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EXPLANATION

- MW-6 — Upper Aquifer Monitoring Well
- SB01 — Soil Boring
- MW-15 — Semi-Confined Water-Bearing Zone Monitoring Well
- Confined Aquifer Well
- KRBO — Kenai River Bridge Outfall
- MH-1 — Manhole

LINES OF SECTION

A——A'

B——B'

C——C'

D——D'

E——E'

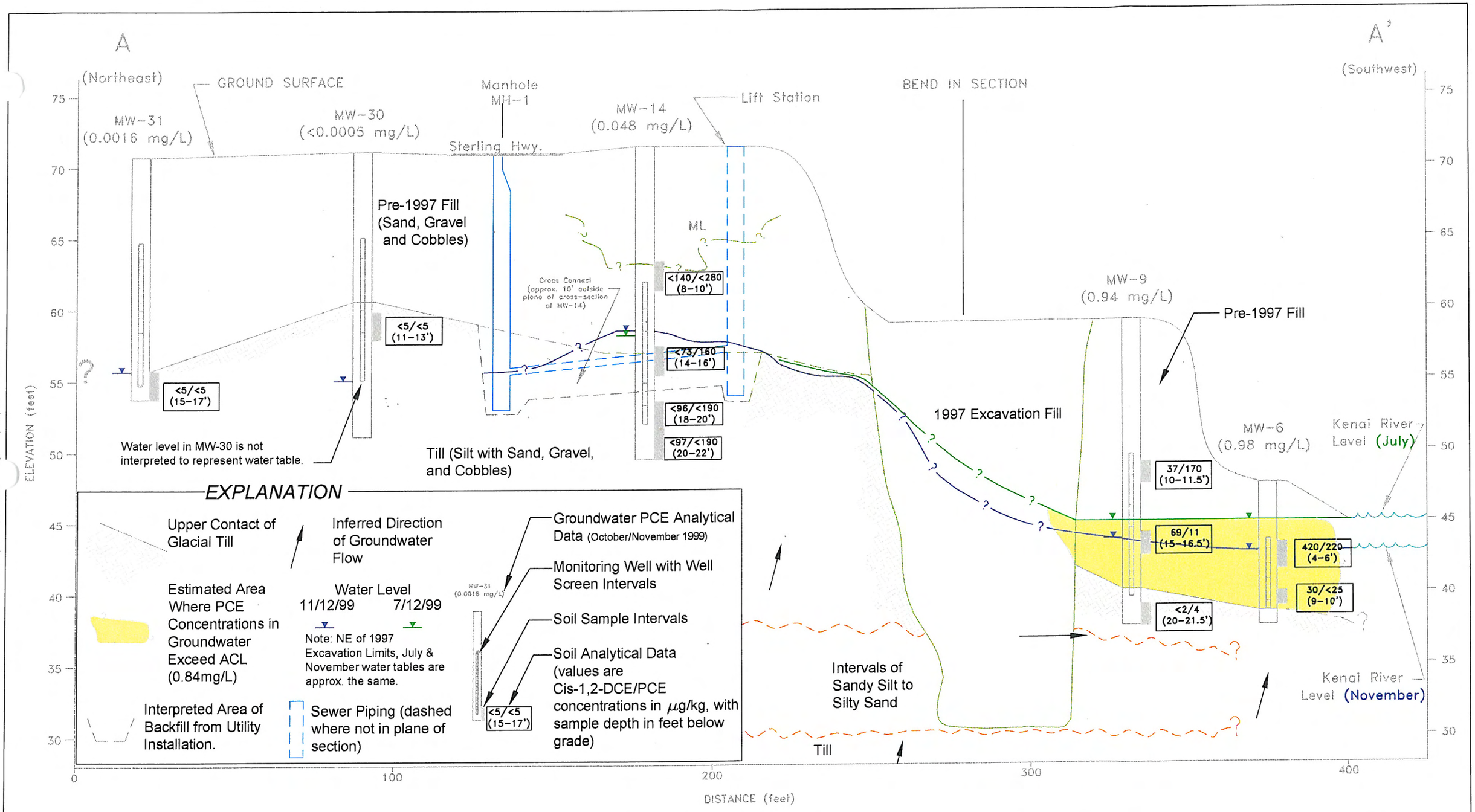
F——F'

Note: MW-28 was Temporary Monitoring Well

Source Modified From:
Aeromap U.S. Inc., 1998
Eagle River Engineering Services, 1999

OASIS/BRISTOL JV	Cross-Section Locations River Terrace RV Park, Soldotna, Alaska Remedial Investigation/Feasiblity Study Report	Date: April 2000	Figure 4
ADEC Contract No: 18-2-12-12		Drawn By: ELS / Checked By: JSR	Project No: 20019

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OASIS/BRISTOL JV	Cross Section A-A' River Terrace RV Park, Soldotna, Alaska Remedial Investigation/Feasibility Study Report	Date: April 2000	Figure 5
		Drawn By: ELS / Checked By: JSR	Project No: 20019
ADEC Contract No: 18-2-12-12			

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B (Northeast)

B' (Southwest)

MW-22 (0.018 mg/L)

MW-25 (0.3 mg/L)

MW-16 (2.5 mg/L)

SB01

SB02

MW-15 (<0.0005 mg/L)

MW-17 (<0.0005 mg/L)

MW-18 (<0.0005 mg/L)

MW-4A (1.6 mg/L)

MW-19 (0.054 mg/L)

MW-20 (0.7 mg/L)

Pre-1997 Fill Sand, Gravel, and Silt

Water Table

1997 Excavation Fill

Pre-1997 Fill

Alluvial Sand, Gravel, and Silt

Glaciofluvial Sand/Semi-Confined Water-Bearing Zone (tapped by MW-15, MW-17 and MW-18)

Kenai River Level (November)

<5/<5 (20-22')

6/190 (20-22')

<5/8 (10-12')

6/10 (15-17')

170/360 (20-22')

<5/<5 (25-27')

<5/39 (15-17')

9/39 (20-22')

<5/<5 (25-27')

7/55 (12-14')

<5/<5 (22-24')

<5/<5 (30-32')

<5/<5 (34-36')

<5/<5 (15-17')

<5/<5 (20-22')

<5/<5 (27-29')

<5/<5 (34-36')

<5/<5 (14-15')

<5/<5 (16-18')

<5/<5 (24-26')

<5/<5 (30-32')

<5/<5 (34-36')

5/25 (10-11.5')

<2/12 (15-16.5')

25/2000 (8-10')

500/890 (12-14')

620/190 (5-7')

15/6 (10-12')

?

?

EXPLANATION

- Upper Contact of Glacial Till
- SB01 — Soil Boring
- Estimated Area where PCE Concentrations in Groundwater Exceed ACL (0.84 mg/L)
- Water Level 11/12/99
- Semi-Confined Water-Bearing Zone Water Level 11/12/99
- Groundwater PCE Analytical Data (October/November 1999)
- Monitoring Well with Well Screen Intervals
- Soil Sample Intervals
- Soil Analytical Data (values are Cis-1,2-DCE/PCE concentrations in μg/kg, with sample depth in feet below grade)

MW-31 (0.0018 mg/L)

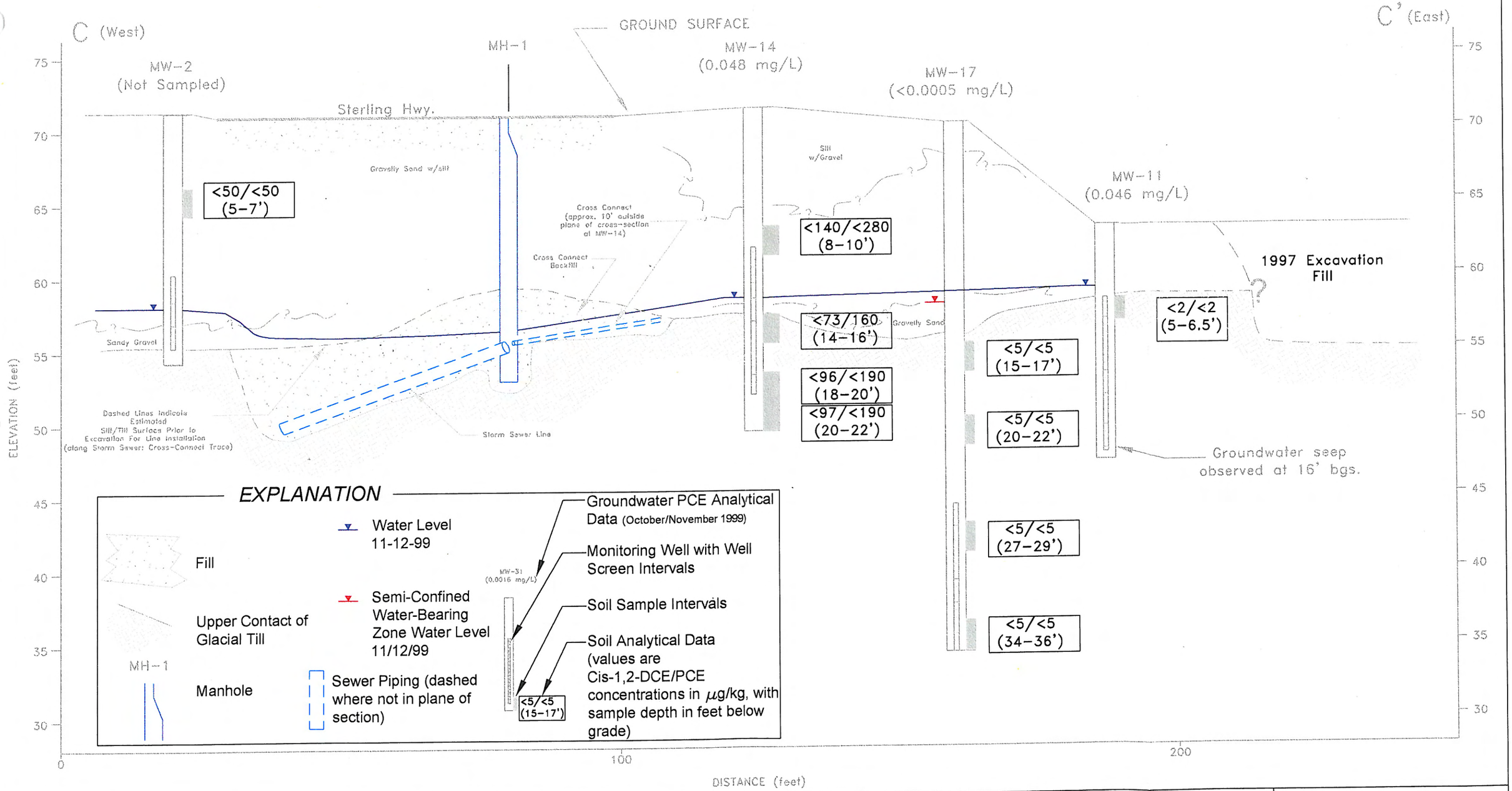
<5/<5 (15-17')

ELEVATION (feet)

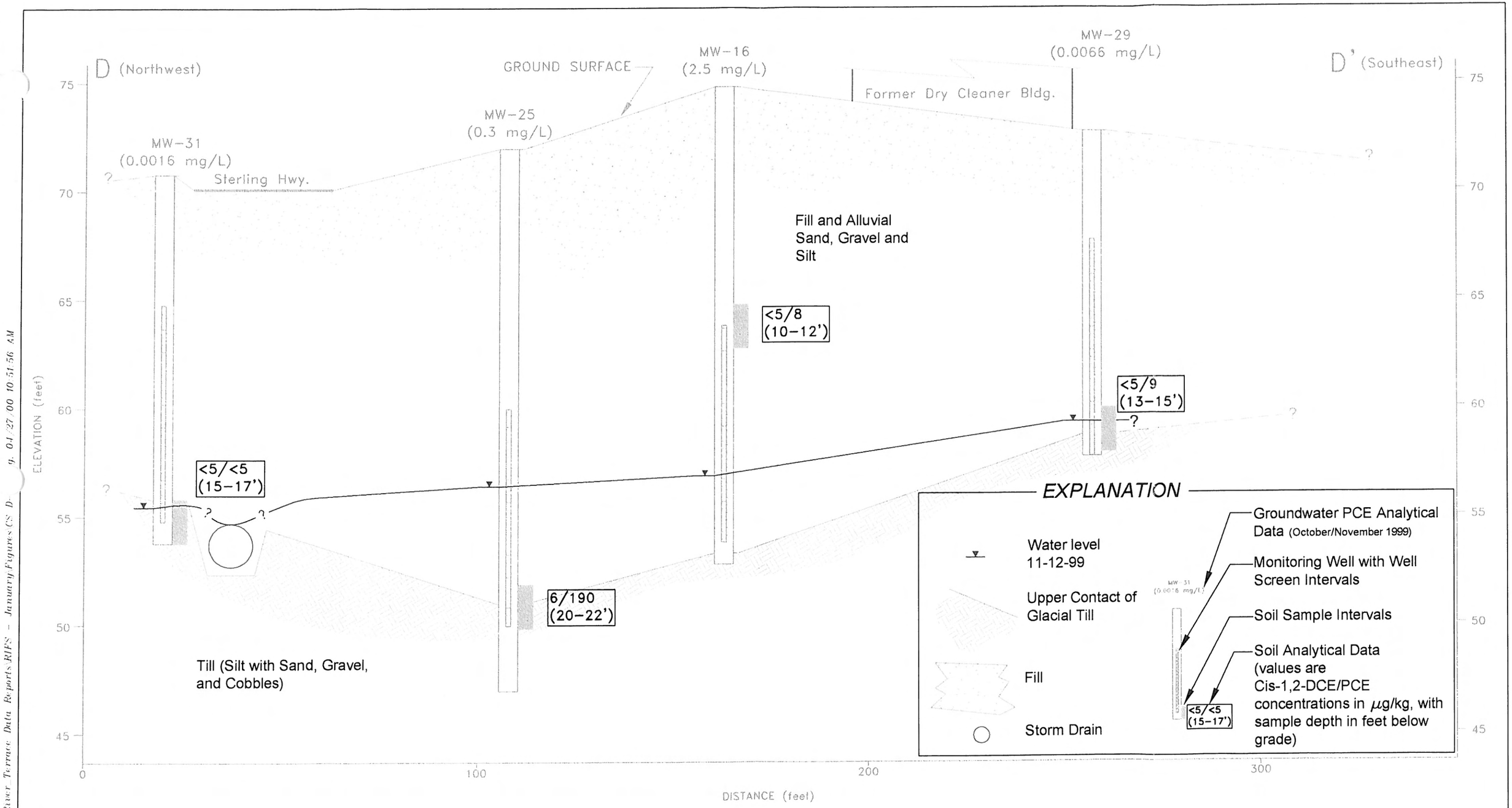
DISTANCE (feet)

OASIS/BRISTOL JV	Cross Section B-B' River Terrace RV Park, Soldotna, Alaska Remedial Investigation/Feasibility Study Report	Date: April 2000	Figure 6
ADEC Contract No: 18-2-12-12		Drawn By: CJL / Checked By: JSR	Project No: 20019

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OASIS/BRISTOL JV	Cross Section C-C' River Terrace RV Park, Soldotna, Alaska Remedial Investigation/Feasibility Study Report	Date: April 2000	Figure 7
ADEC Contract No: 18-2-12-12		Drawn By: JPR / Checked By: JSR	Project No: 20019



OASIS/BRISTOL JV ADEC Contract No: 18-2-12-12	Cross Section D-D' River Terrace RV Park, Soldotna, Alaska Remedial Investigation/Feasibility Study Report	Date: April 2000 Drawn By: JPR / Checked By: JSR	Figure 8 Project No: 20019

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E (Northwest)

E' (Southeast)

GROUND SURFACE

Installed 1/13/00

MW-34
(<0.001 mg/L)

MW-25
(0.5 mg/L)
(Duplicate 0.46 mg/L)

MW-16
(2.4 mg/L)
(Duplicate 2.7 mg/L)

MW-29
(0.012 mg/L)

Former Dry Cleaner Bldg.

Sterling Hwy.

Fill and Alluvial Sand, Gravel and Silt

<5/8
(10-12')

<5/9
(13-15')

<0.81/<0.81
(10-12')

<0.69/<0.69
(14-16')

<1.9/<1.9
(19.5-21.5')

6/190
(20-22')

Approximate location of the former Dry Cleaner Building foundation. This is based on the assumption that the basement is at an elevation 63 feet above sea level and has 4 foot stem walls.

Till (Silt with Sand, Gravel, and Cobbles)

ELEVATION (feet)

DISTANCE (feet)

EXPLANATION

- Water level
  12/13/99 (MW-16,25,29)
  1/13/00 (MW-34)
- Upper Contact of Glacial Till
- Fill
- Storm Drain
- Groundwater PCE Analytical Data (December 1999/January 2000)
- Monitoring Well with Well Screen Intervals
- Soil Sample Intervals
- Soil Analytical Data (values are Cis-1,2-DCE/PCE concentrations in µg/kg, with sample depth in feet below grade)

MW-31
(0.0016 mg/L)

<5/<5
(15-17')

OASIS/BRISTOL JV	Cross Section E-E' River Terrace RV Park, Soldotna, Alaska Remedial Investigation/Feasibility Study Report	Date: April 2000	Figure 9
ADEC Contract No: 18-2-12-12		Drawn By: els / Checked By: JSR	Project No: 20019

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F (Northeast)

F' (Southwest)

GROUND SURFACE

Manhole MH-2

Manhole MH-1

MW-28 (<.0005 mg/L)

MW-34 (<0.001 mg/L)

MW-31 (0.0016 mg/L)

MW-30 (<0.0005 mg/L)

MW-2 (Not Sampled)

MW-SB-1 SHALLOW (Not Sampled)
MW-SB-1 DEEP (Not Sampled)

MW-27 (0.0011 mg/L)

<5/<5 (12-14')

<.7/<.7 (10-12')

<.7/<.7 (14-16')

<1.9/<1.9 (19.5-21.5')

<5/<5 (15-17')

<5/<5 (11-13')

<50/<50 (5-7')

<50/<50 (30-32')

(DEEP)

Till (Silt with Sand, Gravel, and Cobbles)

Water level in MW-30 is not interpreted to represent water table.

ELEVATION (feet)

DISTANCE (feet)

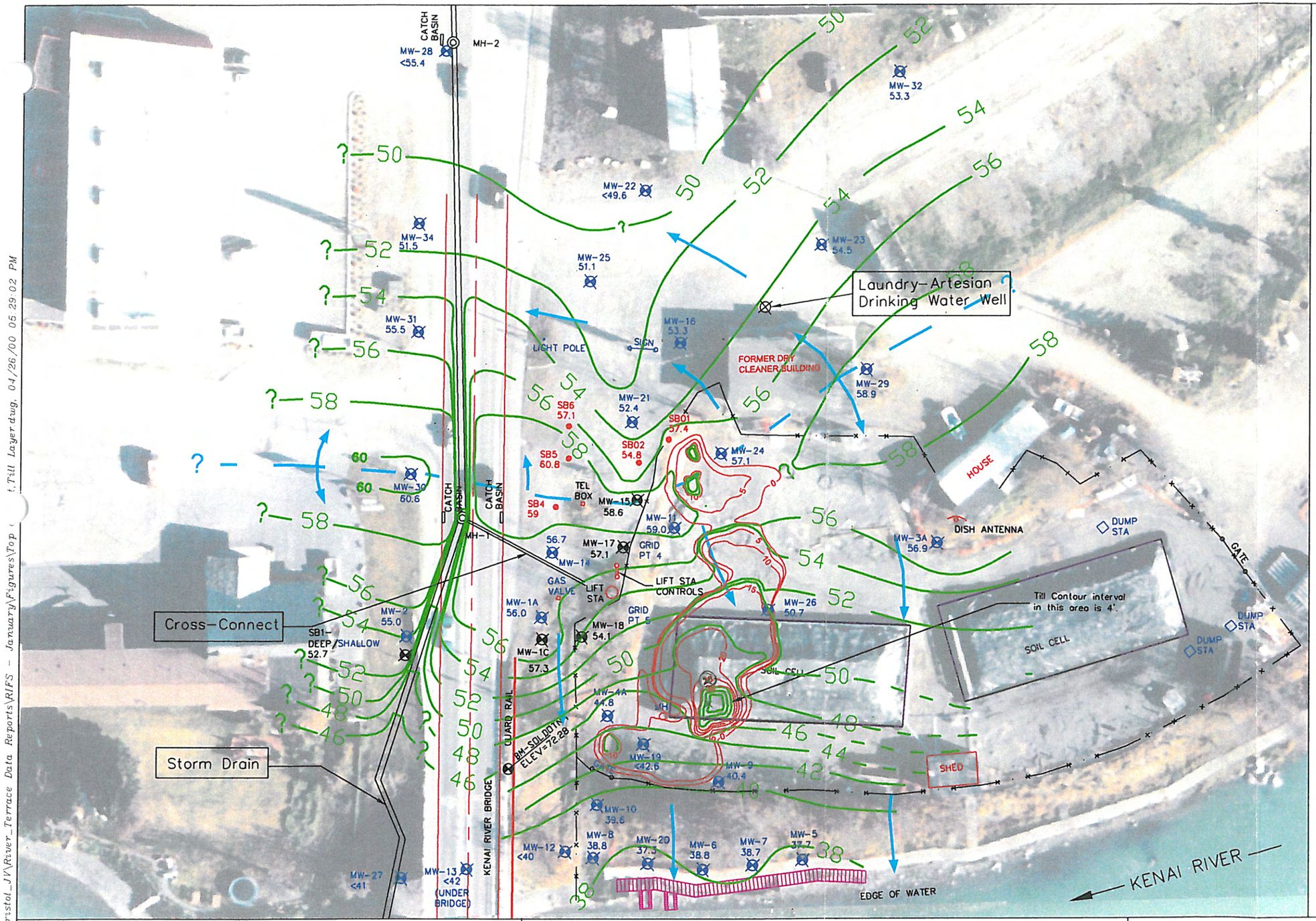
EXPLANATION

- Upper Contact of Glacial Till
- Fill
- Storm Drain (Dashed where not in plane of section)
- Water Level 11/12/99
- Water Level 1/13/00
- Semi-Confined Water-Bearing Zone Water Level 11/12/99
- Groundwater PCE Analytical Data (October/November 1999)
- Monitoring Well with Well Screen Intervals
- Soil Sample Intervals
- Soil Analytical Data (values are Cis-1,2-DCE/PCE concentrations in μg/kg, with sample depth in feet below grade)

Note: MW-34 was sampled in January 2000

OASIS/BRISTOL JV ADEC Contract No: 18-2-12-12	Cross Section F-F' River Terrace RV Park, Soldotna, Alaska Remedial Investigation/Feasibility Study Report	Date: April 2000 Drawn By: JPR / Checked By: JSR	Figure 10 Project No: 20019

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EXPLANATION

MW-25 51.1 — Upper Aquifer Monitoring Well with Silt/Till Elevation (feet)

MW-15 58.6 — Semi-Confined Water-Bearing Zone Monitoring Well with Silt/Till Elevation (feet)

Confined Aquifer Well

54 — Confining Layer Contour (contour interval 2 feet)

Inferred Groundwater Flow Direction

20 — Excavation Contour (contour interval 5 feet)

SB02 54.8 — Soil Boring with Silt/Till Elevation (feet)

MH-1 — Manhole

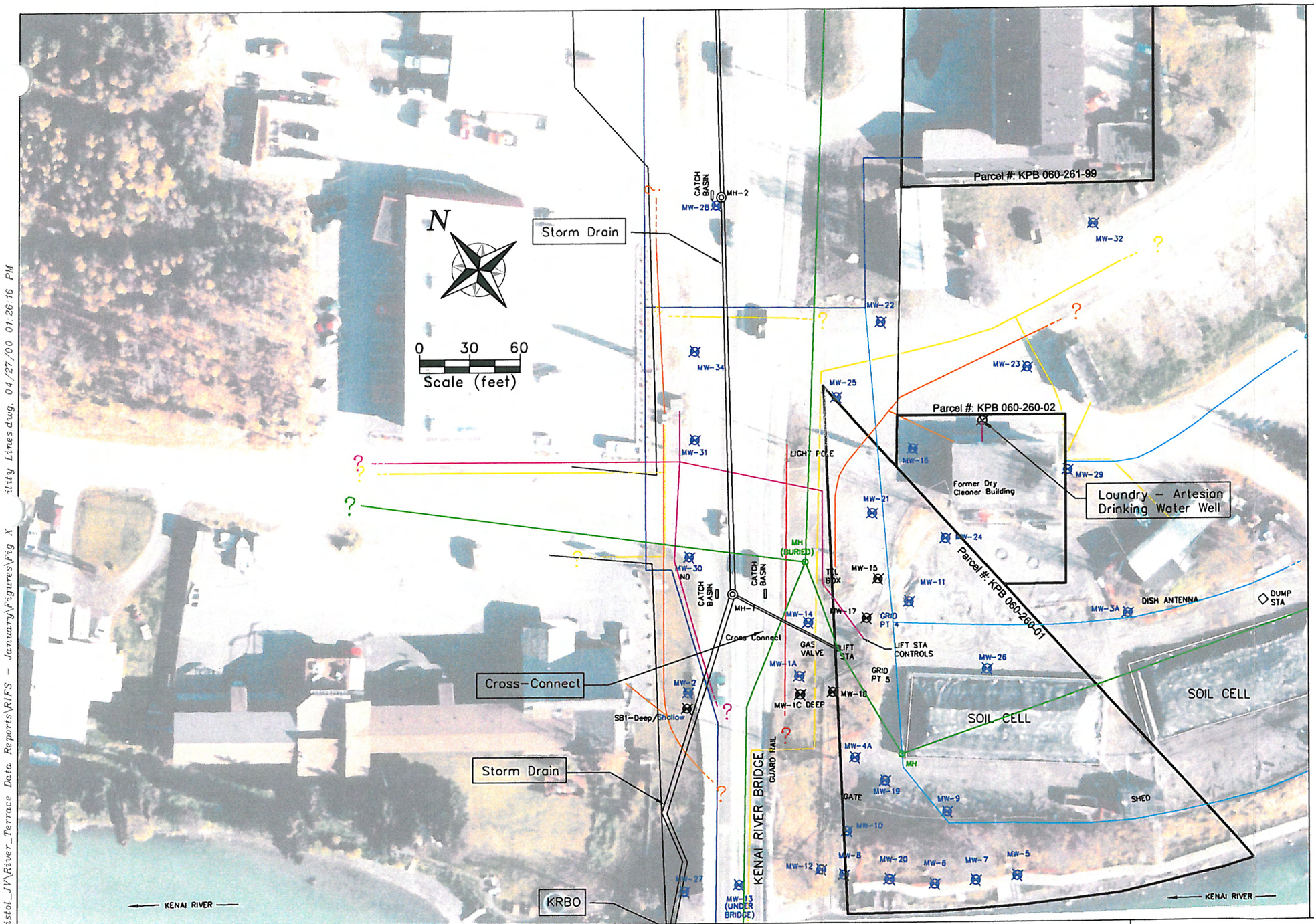
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0 25 50
Scale (feet)

Source Modified From:
Aeromap U.S. Inc., 1998
Eagle River Engineering Services, 1999

OASIS/BRISTOL JV	Upper Contact of Silt/Till Layer River Terrace RV Park, Soldotna, Alaska Remedial Investigation/Feasibility Study Report	Date: April 2000	Figure 11
ADEC Contract No: 18-2-12-12		Drawn By: JPR / Checked By: JSR	Project No: 20019

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EXPLANATION

- MW-6 — Upper Aquifer Monitoring Well
- MW-15 — Semi-Confined Water-Bearing Zone Monitoring Well
- Confined Aquifer Well
- Approximate Utility Locations Based on Utility Locates Marked for Site Drilling Operations
- Right-of-Ways
- Parcel Boundaries
- Telephone/Cable
- City Water
- Enstar
- Hinkle's Water
- Sewer
- Electric (lightpoles)
- HEA (Homer Electric)
- Artesian Well
- KRBO — Kenai River Bridge Outfall
- MH-1 — Manhole

Note:
MW-28 was Temporary Monitoring Well

Source Modified From: Aeromap U.S. Inc., 1998
Eagle River Engineering Services, 1999

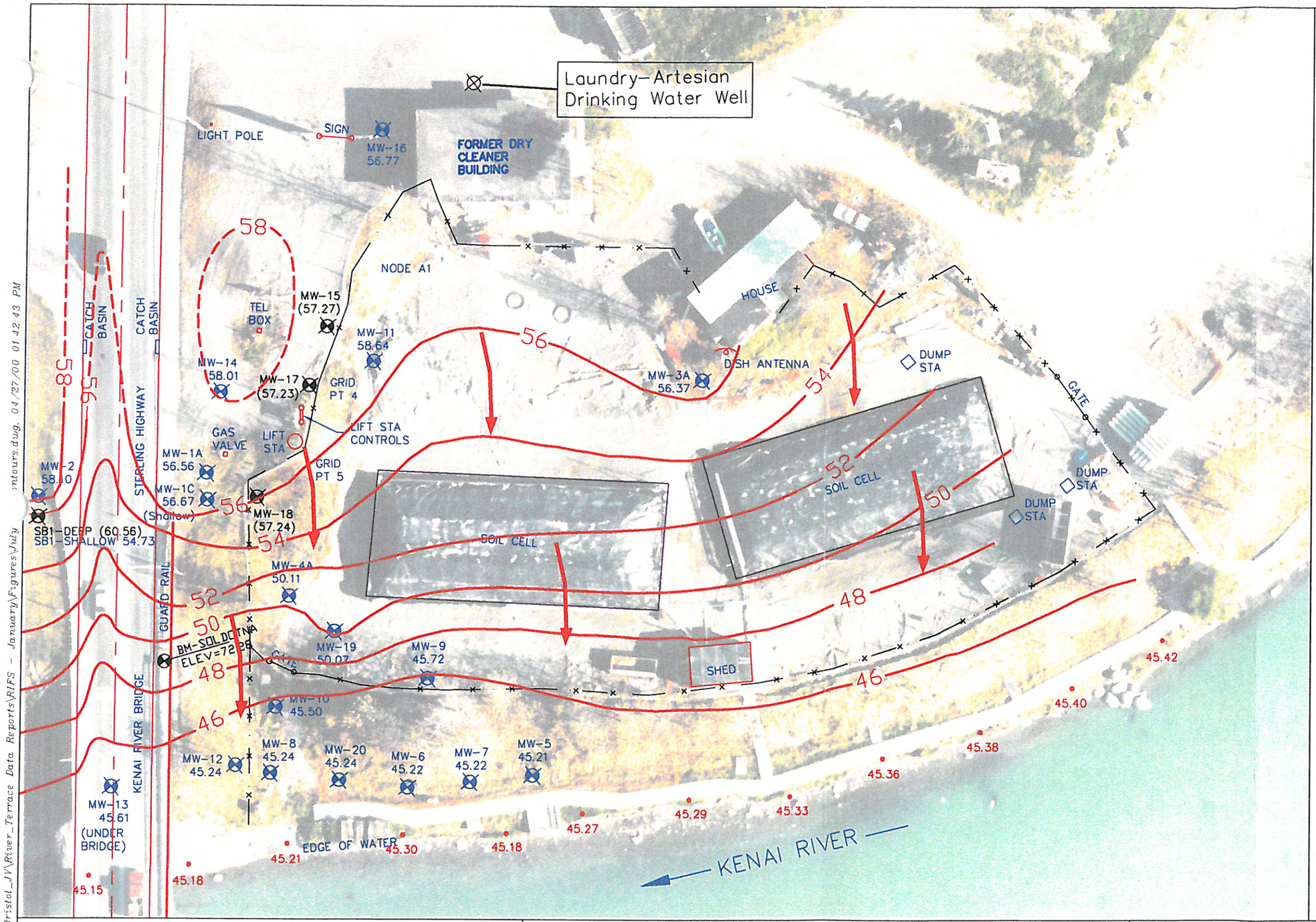
OASIS/BRISTOL JV

ADEC Contract No: 18-2-12-12

Right-of-Way and Approximate Utility Locations
River Terrace RV Park, Soldotna, Alaska
Remedial Investigation/Feasibility Study Report

Date: April 2000		Figure 12
Drawn By: ELS	Checked By: JSR	Project No: 20019

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EXPLANATION

MW–6 45.22 — Upper Aquifer Monitoring Well with Water Table Elevation (feet), July 1999

MW–17 (57.23) — Semi-Confined Water-Bearing Zone Monitoring Well with Groundwater Elevation (feet), July 1999 (not used for contouring)

Confined Aquifer Well

45.36 — Water Elevation (feet), July 1999

48 — Water Table Contours (contour interval 2 feet)

Inferred Groundwater Flow Direction

N

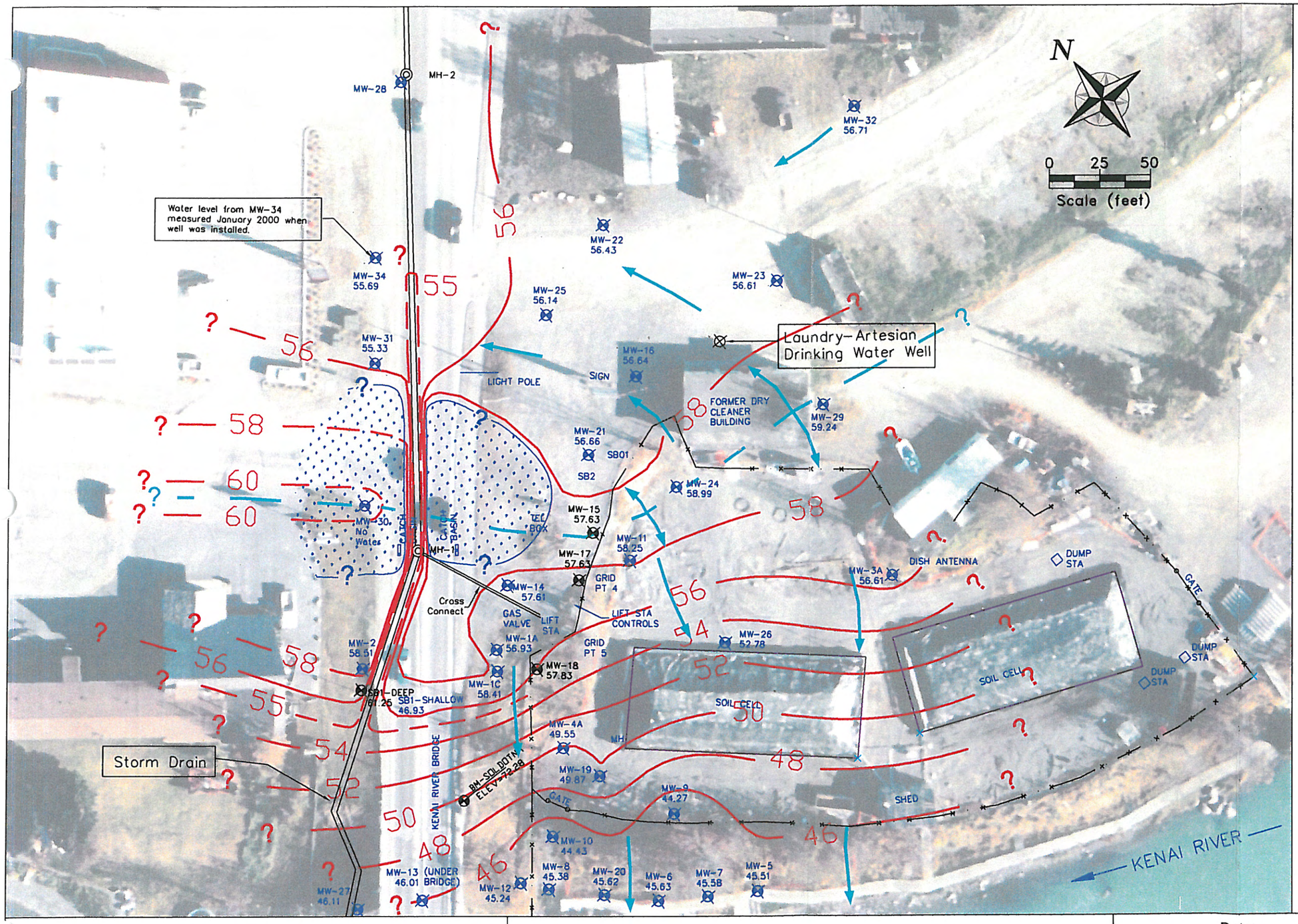
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Scale (feet)

Source Modified From:
Aeromap U.S. Inc. 1998
Eagle River Engineering Services, 1999
Dowl Engineers, 1995

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OASIS/BRISTOL JV	Water Table Contours, July 1999 River Terrace RV Park Soldotna, Alaska Remedial Investigation/Feasibility Study Report	Date: April 2000	Figure 13
ADEC Contract No: 18-2-12-12		Drawn By: els / Checked By: JAM	Project No: 20019



EXPLANATION

MW-22 56.43 — Upper Aquifer Monitoring Well with Groundwater Elevation (feet), December 1999

MW-15 57.63 — Semi-Confined Water-Bearing Zone Monitoring Well with Groundwater Elevation (feet), December 1999 (not used for contouring)

Confined Aquifer Well

Inferred Groundwater Flow Direction

Interpreted Groundwater Divide

Water Table Contours (contour interval 2 feet) Dashed Where Inferred

50 — Note: 55-Foot Contour Shows Inferred Groundwater Level in Storm Drain Backfill.

Interpreted Zone Where Top of Till is Above Groundwater Table (no significant thickness of water)

Fence

MH-2 — Manhole

Source Modified From:
Aeromap U.S. Inc., 1998
Eagle River Engineering Services, 1999

OASIS/BRISTOL JV	Water Table Contours, December 13, 1999 River Terrace RV Park, Soldotna, Alaska Remedial Investigation/Feasibility Report	Date: April 2000	Figure 14
ADEC Contract No: 18-2-12-12		Drawn By: JPR / Checked By: JSR	Project No: 20019

Figure 15:
Monitoring Well Groundwater Elevations (11/9/99 through 12/14/99)
River Terrace RV Park, Soldotna, Alaska

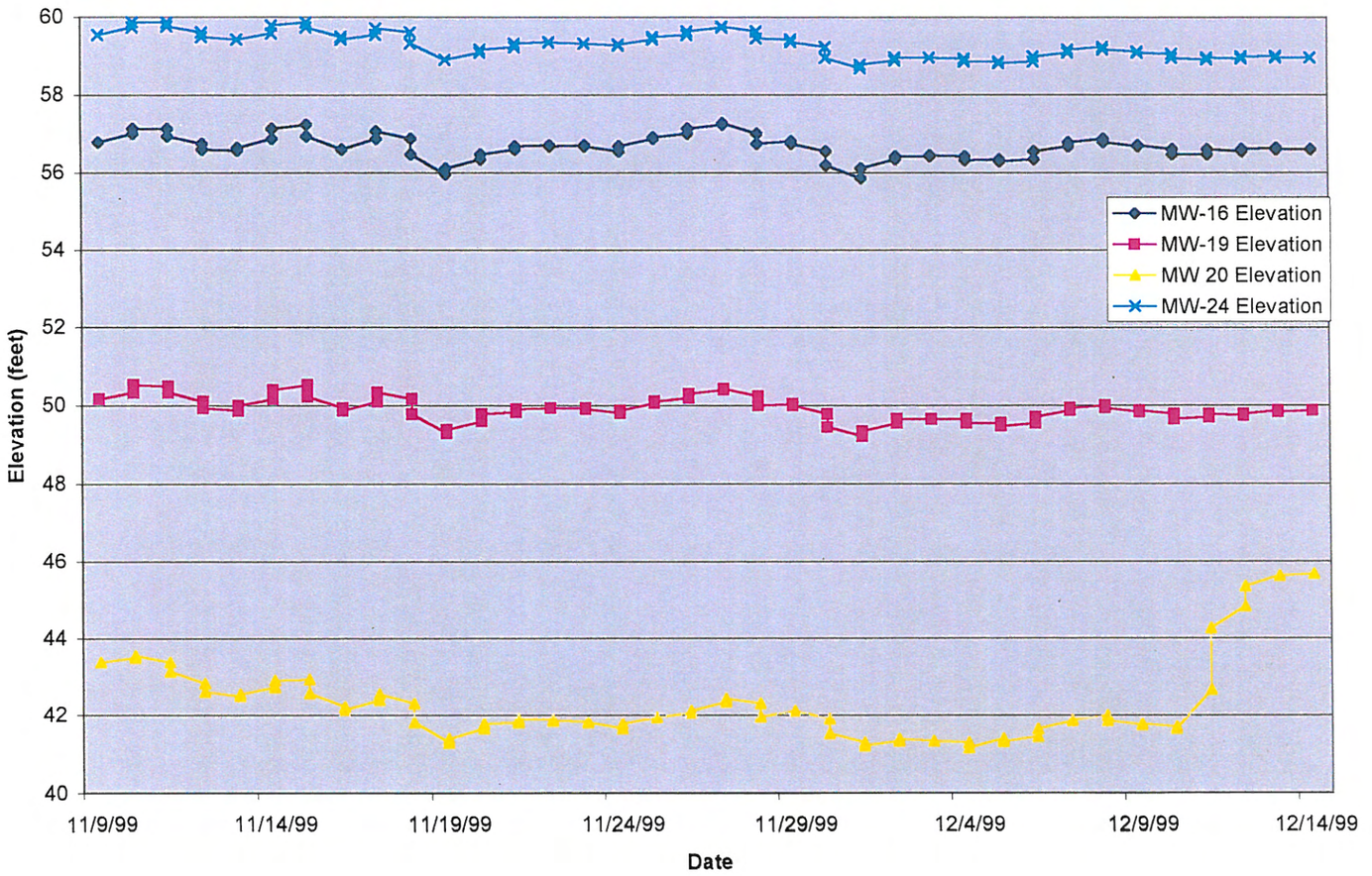
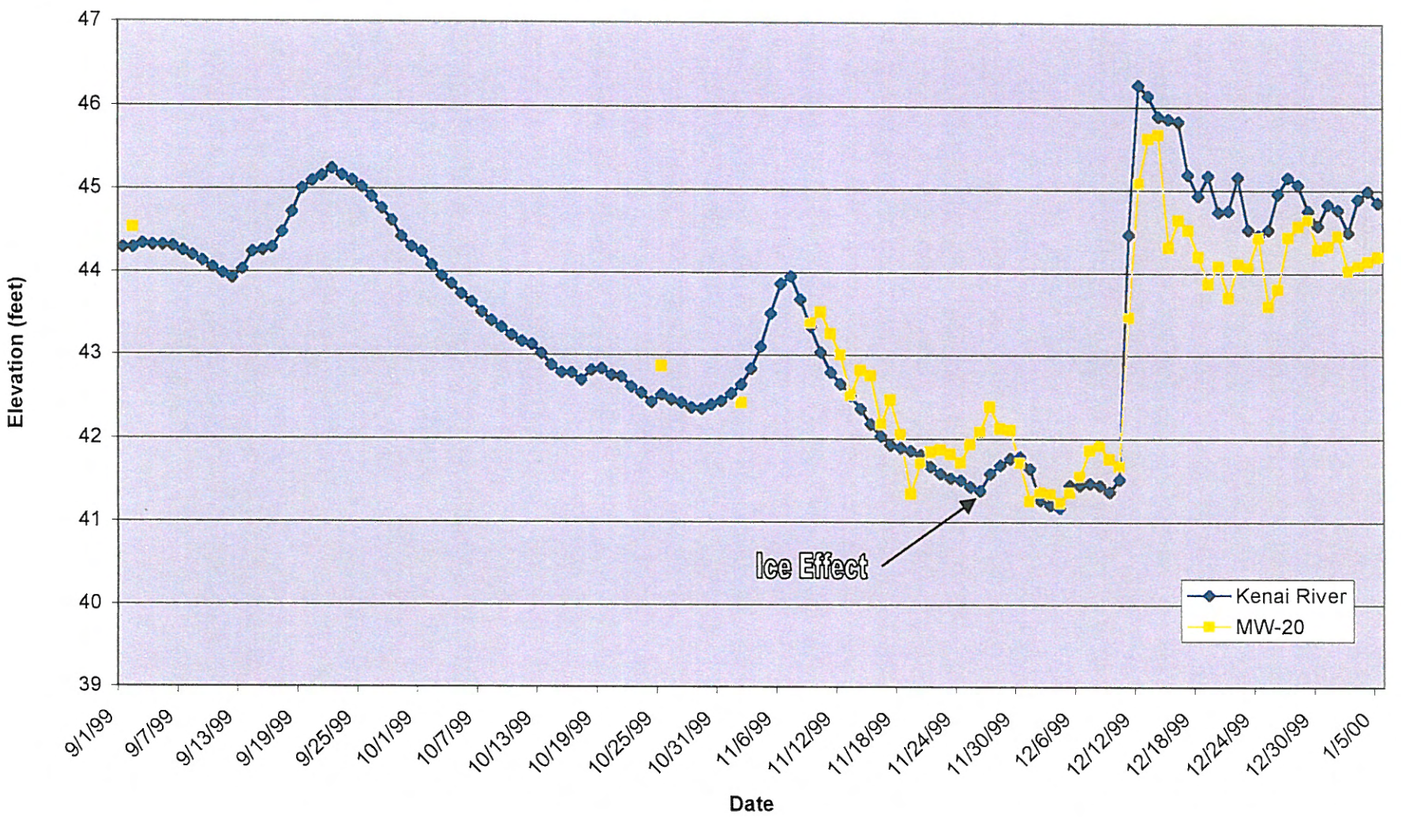
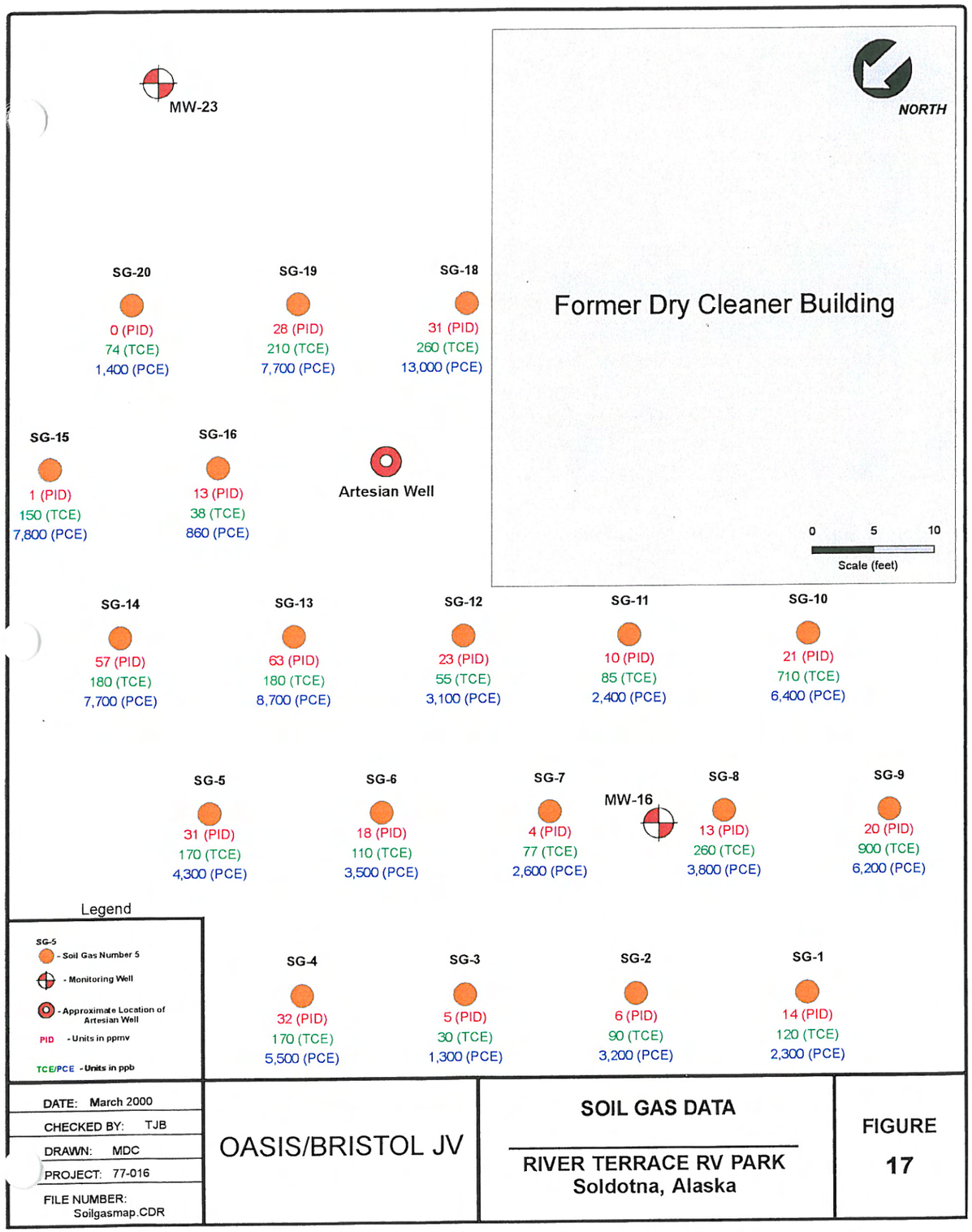
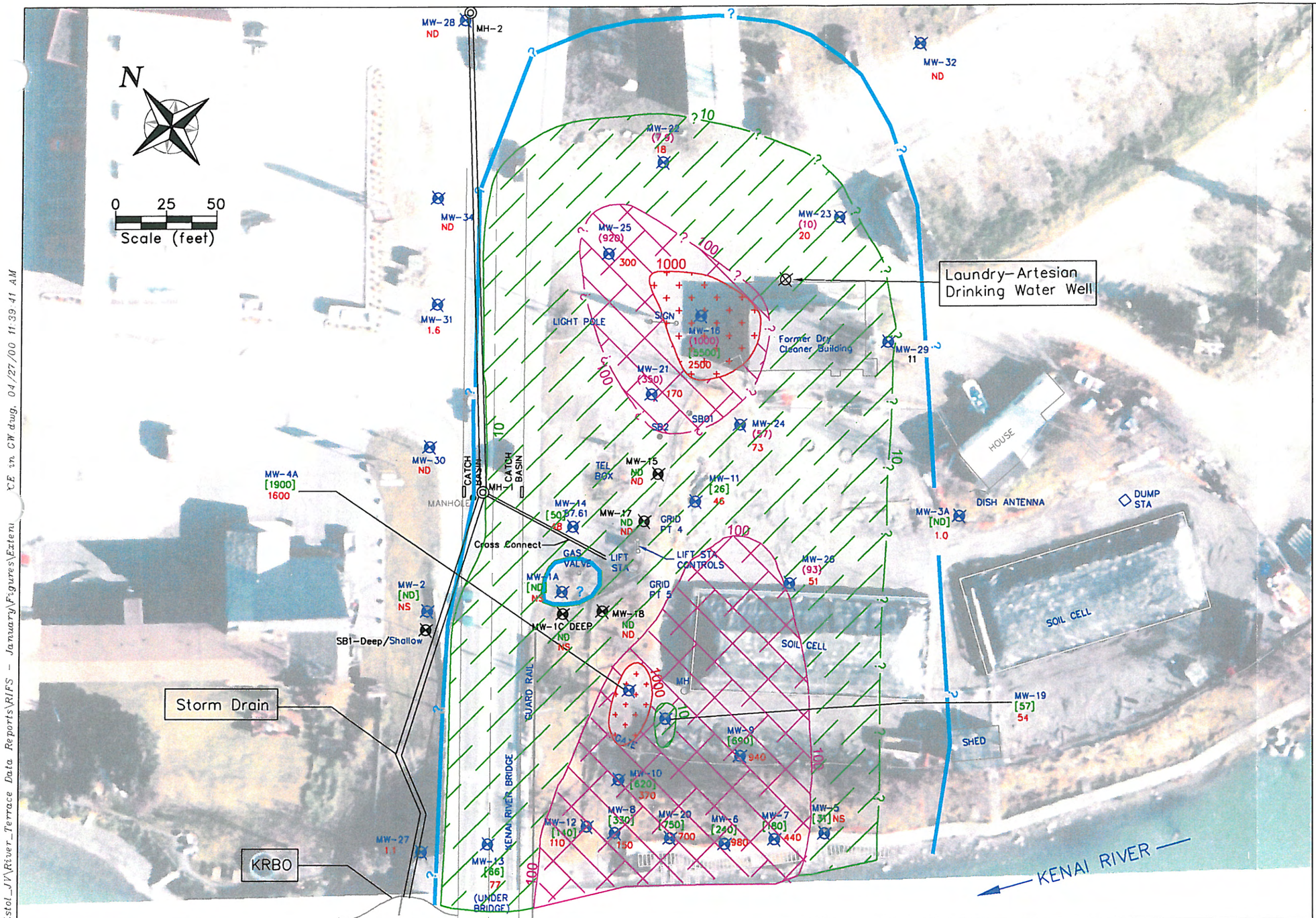


Figure 16:
Kenai River -Vs.- MW-20, Hydrograph (9/1/99 through 1/5/00)
River Terrace RV Park, Soldotna, Alaska



Kenai River water level measurements were collected at the Soldotna, Alaska Sterling Highway Bridge located opposite the River Terrace site.


MW-23
NORTH
Former Dry Cleaner Building
0 5 10
Scale (feet)
SG-20
0 (PID)
74 (TCE)
1,400 (PCE)
SG-19
28 (PID)
210 (TCE)
7,700 (PCE)
SG-18
31 (PID)
260 (TCE)
13,000 (PCE)
SG-15
1 (PID)
150 (TCE)
7,800 (PCE)
SG-16
13 (PID)
38 (TCE)
860 (PCE)
Artesian Well
SG-14
57 (PID)
180 (TCE)
7,700 (PCE)
SG-13
63 (PID)
180 (TCE)
8,700 (PCE)
SG-12
23 (PID)
55 (TCE)
3,100 (PCE)
SG-11
10 (PID)
85 (TCE)
2,400 (PCE)
SG-10
21 (PID)
710 (TCE)
6,400 (PCE)
SG-5
31 (PID)
170 (TCE)
4,300 (PCE)
SG-6
18 (PID)
110 (TCE)
3,500 (PCE)
SG-7
4 (PID)
77 (TCE)
2,600 (PCE)
MW-16
SG-8
13 (PID)
260 (TCE)
3,800 (PCE)
SG-9
20 (PID)
900 (TCE)
6,200 (PCE)
Legend
SG-5 - Soil Gas Number 5
- Monitoring Well
- Approximate Location of Artesian Well
PID - Units in ppmv
TCE/PCE - Units in ppb
SG-4
32 (PID)
170 (TCE)
5,500 (PCE)
SG-3
5 (PID)
30 (TCE)
1,300 (PCE)
SG-2
6 (PID)
90 (TCE)
3,200 (PCE)
SG-1
14 (PID)
120 (TCE)
2,300 (PCE)
DATE: March 2000
CHECKED BY: TJB
DRAWN: MDC
PROJECT: 77-016
FILE NUMBER: Soilgasmap.CDR
OASIS/BRISTOL JV
SOIL GAS DATA
RIVER TERRACE RV PARK
Soldotna, Alaska
FIGURE
17



EXPLANATION

- MW-6 — Upper Aquifer Monitoring Well
- MW-15 — Semi-Confined Water-Bearing Zone Monitoring Well
- Confined Aquifer Well
- ND — Not Detected (Detection Limit = 5 μg/L)
- NS — Not Sampled Oct., 1999
- [240] — PCE Concentration in μg/L July, 1999
- (240) — PCE Concentration in μg/L Sept., 1999 (Note: Only 7 wells sampled in September.)
- 980 — PCE Concentration in μg/L Oct./Nov. 1999
- Inferred Limit of PCE Concentration > 5 μg/L
- MH-1 — Manhole

INFERRED AREA OF PCE CONCENTRATION EXCEEDING

(10 ug/L) (100 ug/L) (1000 ug/L)

Note: MW-28 was Temporary Monitoring Well. Sample was collected using a hydropunch.

Source Modified From: Aeromap U.S. Inc., 1998
Eagle River Engineering Services, 1999

OASIS/BRISTOL JV

ADEC Contract No: 18-2-12-12

Approximate Extent and Concentrations of Dissolved PCE in Groundwater
July - November, 1999
River Terrace RV Park, Soldotna, Alaska
Remedial Investigation/Feasibility Study Report

Date: April 2000		Figure 18
Drawn By: JPR	Checked By: JSR	Project No: 20019

I:\Jobs\OASIS_JV\Bristol_JV\River_Terrace Data Reports\RIFS - January\Figures\Extent CE in GW dwg, 04/27/00 11:39:41 AM

I:\Jobs\OASIS\Bristol_JV\River_Terrace Data Reports\RIFS - January\Figures\Extent of PCE in GW July Jan. (Fig 19).dwg, 04/27/00 04:52:01 PM

MW-22	ug/L
9/2/99	7.9
10/26/99	18
12/14/99	6.4

MW-34	ug/L
1/14/00	<1
1/14/00	<1

MW-25	ug/L
9/3/99	920
10/27/99	300 J,H
10/27/99	290 J,H
12/14/99	500
12/14/99	460

MW-31	ug/L
11/8/99	1.6
12/14/99	2

MW-21	ug/L
9/3/99	350
9/3/99	330
10/27/99	170 J,H
12/13/99	140

MW-30	ug/L
11/8/99	<0.5
12/14/99	<1

MW-14	ug/L
7/7/99	50
10/28/99	48
12/14/99	29

MW-1A	ug/L
7/8/99	<0.5

MW-1C	ug/L
7/8/99	<0.5

MW-2	ug/L
7/8/99	<0.5

MW-4A	ug/L
7/9/99	1900
10/28/99	1600 J,H
12/14/99	1200

MW-10	ug/L
7/9/99	620
10/26/99	370
12/15/99	970

MW-12	ug/L
7/10/99	140
10/26/99	110
12/15/99	98

MW-13	ug/L
7/8/99	66
10/26/99	77
12/15/99	90

MW-27	ug/L
11/8/99	1.1
12/14/99	<1

MW-8	ug/L
7/10/99	330
10/27/99	150 J,H
12/15/99	250

MW-28	ug/L
11/2/99	<0.5

MW-32	ug/L
11/8/99	<0.5
12/13/99	<1

MW-23	ug/L
9/2/99	10
10/27/99	20
12/14/99	12

Laundry Well	ug/L
10/27/99	<0.5

MW-16	ug/L
7/7/99	1000
9/2/99	5500
10/27/99	2500
10/27/99	2200
12/14/99	2400
12/14/99	2700

MW-29	ug/L
11/8/99	6.6
11/8/99	11
12/14/99	12

MW-24	ug/L
9/3/99	57
10/26/99	73
12/14/99	79

MW-15	ug/L
7/7/99	<0.5
10/26/99	<0.5

MW-11	ug/L
7/7/99	26
10/26/99	46
12/14/99	34

MW-3A	ug/L
7/7/99	<0.5
10/26/99	1
12/14/99	1.3

MW-17	ug/L
7/10/99	<0.5
10/27/99	<0.5

MW-26	ug/L
9/3/99	93
10/27/99	51
12/14/99	200

MW-18	ug/L
7/10/99	<0.5
10/26/99	<0.5

MW-19	ug/L
7/9/99	57
10/26/99	54
12/14/99	120

MW-9	ug/L
7/8/99	690
10/27/99	940 J,H
12/14/99	1800

MW-6	ug/L
7/8/99	180
7/8/99	190
7/8/99	240
10/26/99	980
12/15/99	560

MW-7	ug/L
7/8/99	140
7/8/99	130
7/8/99	180
10/26/99	440
12/15/99	260

MW-20	ug/L
7/8/99	700
7/8/99	630
7/8/99	750
10/27/99	700 J,H
12/14/99	660
12/14/99	670

MW-5	ug/L
7/10/99	31
12/15/99	28

MH-2
MH-1
CATCH BASIN
MANHOLE
Cross Connect
Lift Sta
GRID PT 4
GRID PT 5
FORMER DRY CLEANING BUILDING
HOUSE
DUMP STA
SOIL CELL
SHED
GATE
Storm Drain
KRBO
KENAI RIVER BRIDGE
(UNDER BRIDGE)
SB01
SB2
KENAI RIVER
1000
100
10
?

EXPLANATION

MW-6 — Upper Aquifer Monitoring Well

MW-15 — Semi-Confined Water Bearing Zone Monitoring Well

Inferred Limit of PCE Concentration > 5 μg/L

MH-1 — Manhole

Laundry Well (Confined Aquifer)

PCE Concentrations

MW-24	μg/L
9/3/99	57

N

0 25 50
Approximate Scale

INFERRED AREA OF PCE CONCENTRATION EXCEEDING

(10 ug/L) (100 ug/L) (1000 ug/L)

Note: MW-28 was Temporary Monitoring Well. Sample was collected using a hydropunch.

Source Modified From: Aeromap U.S. Inc., 1998
Eagle River Engineering Services, 1999

OASIS/BRISTOL JV

ADEC Contract No: 18-2-12-12

Approximate Extent and Concentrations of Dissolved PCE in Groundwater
July 1999 - January 2000
River Terrace RV Park, Soldotna, Alaska
Remedial Investigation/Feasibility Study Report

Date: April 2000

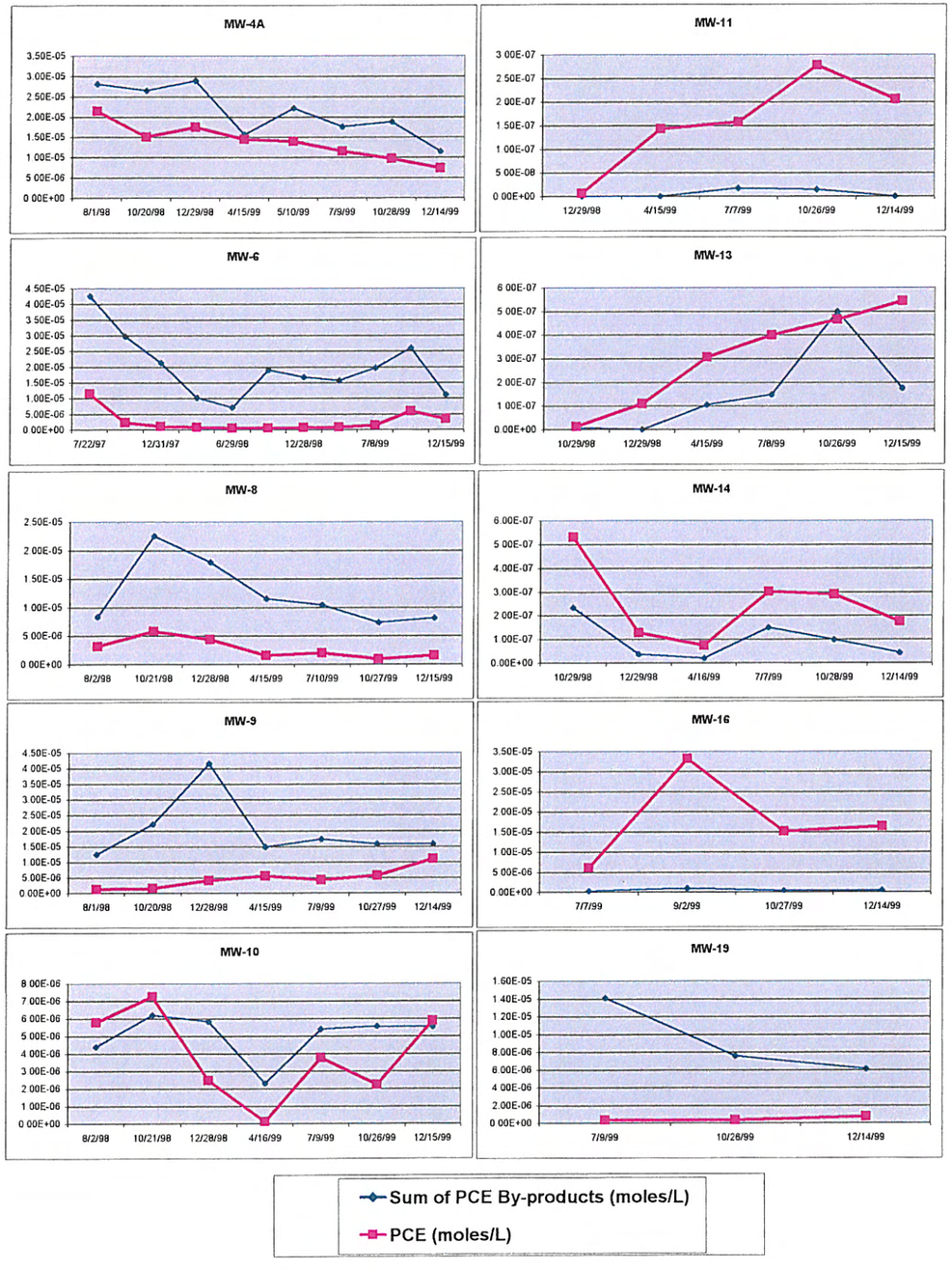
Figure 19

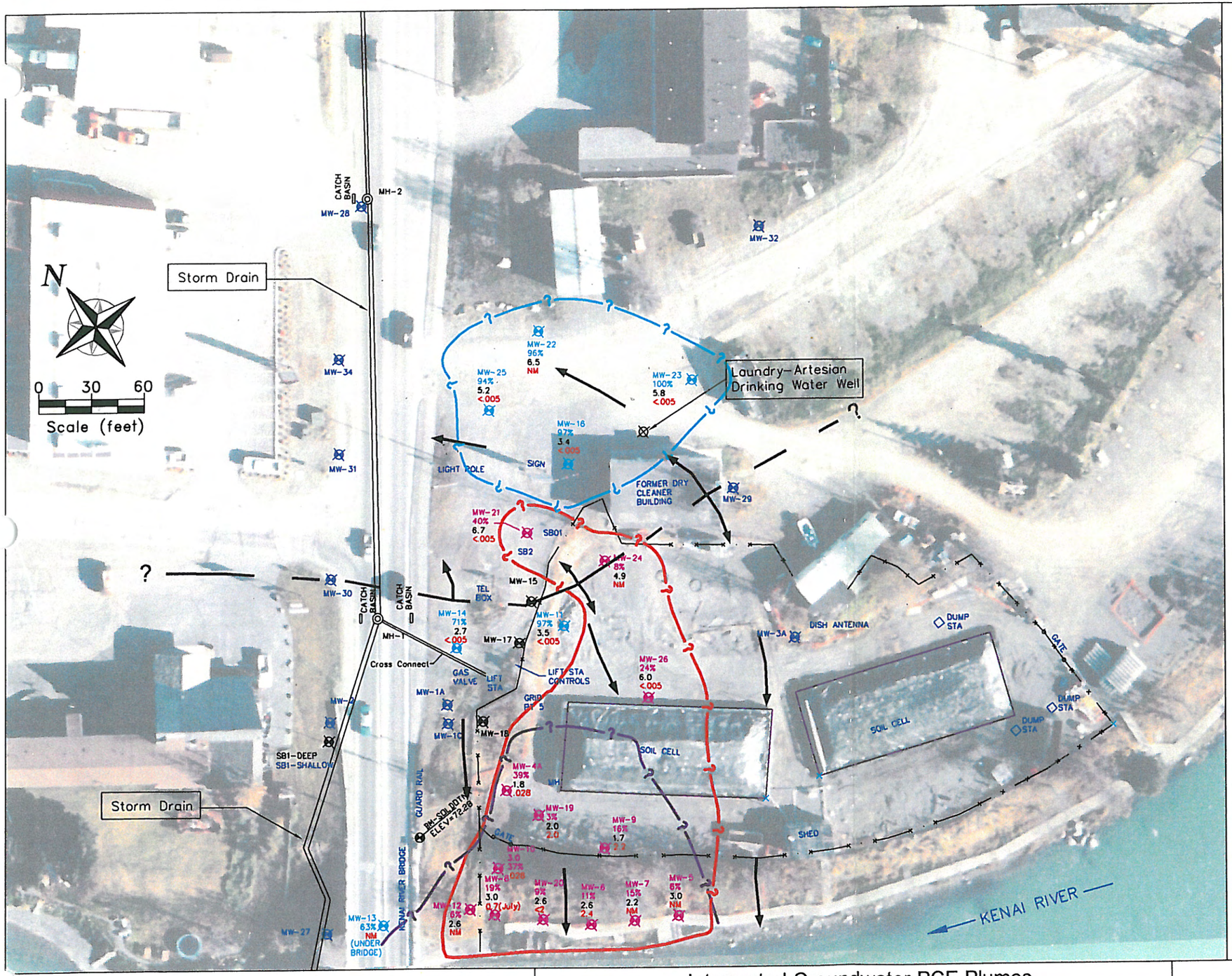
Drawn By: JPR

Checked By: JSR

Project No: 20019

FIGURE 20: PCE and By-Product Trend Charts for Selected Monitoring Wells (moles/L)
River Terrace RV Park, Soldotna, Alaska





EXPLANATION

MW-3A — Upper Aquifer Monitoring Well

MW-18 — Semi-Confined Water-Bearing Zone Monitoring Well

Confined Aquifer Well

MH-1 — Manhole

Inferred Groundwater Flow Direction

Inferred Area of PCE Concentration >60 % of Total Halocarbons
(FOR SAMPLES WITH TOTAL HALOCARBONS >5 µg/L)

MW-23 — Monitoring Well With PCE Concentration >60% of Total Halocarbons

100% — PCE Concentration in %
5.8 — Avg. Dissolved O_2 in mg/L (black)
<.005 — Avg. Methane Concentration in mg/L (red)
NM — Not Measured (red)

Inferred Area of PCE Concentration <40 % of Total Halocarbons
(FOR SAMPLES WITH TOTAL HALOCARBONS >5 µg/L)

MW-9 — Monitoring Well With PCE Concentration <40% of Total Halocarbons

25% — PCE Concentration in %
1.7 — Avg. Dissolved O_2 in mg/L (black)
2.2 — Avg. Methane Concentration in mg/L (red)
NM — Not Measured (red)

Inferred Area of Anaerobic Groundwater Conditions

Note: MW-8, 10, 12, 14, and 20 had DO readings <2 mg/L in July and >4 mg/L in October. The remaining wells had less discrepancy between July and October readings.

Source Modified From:
Aeromap U.S. Inc., 1998
Eagle River Engineering Services, 1999

OASIS/BRISTOL JV

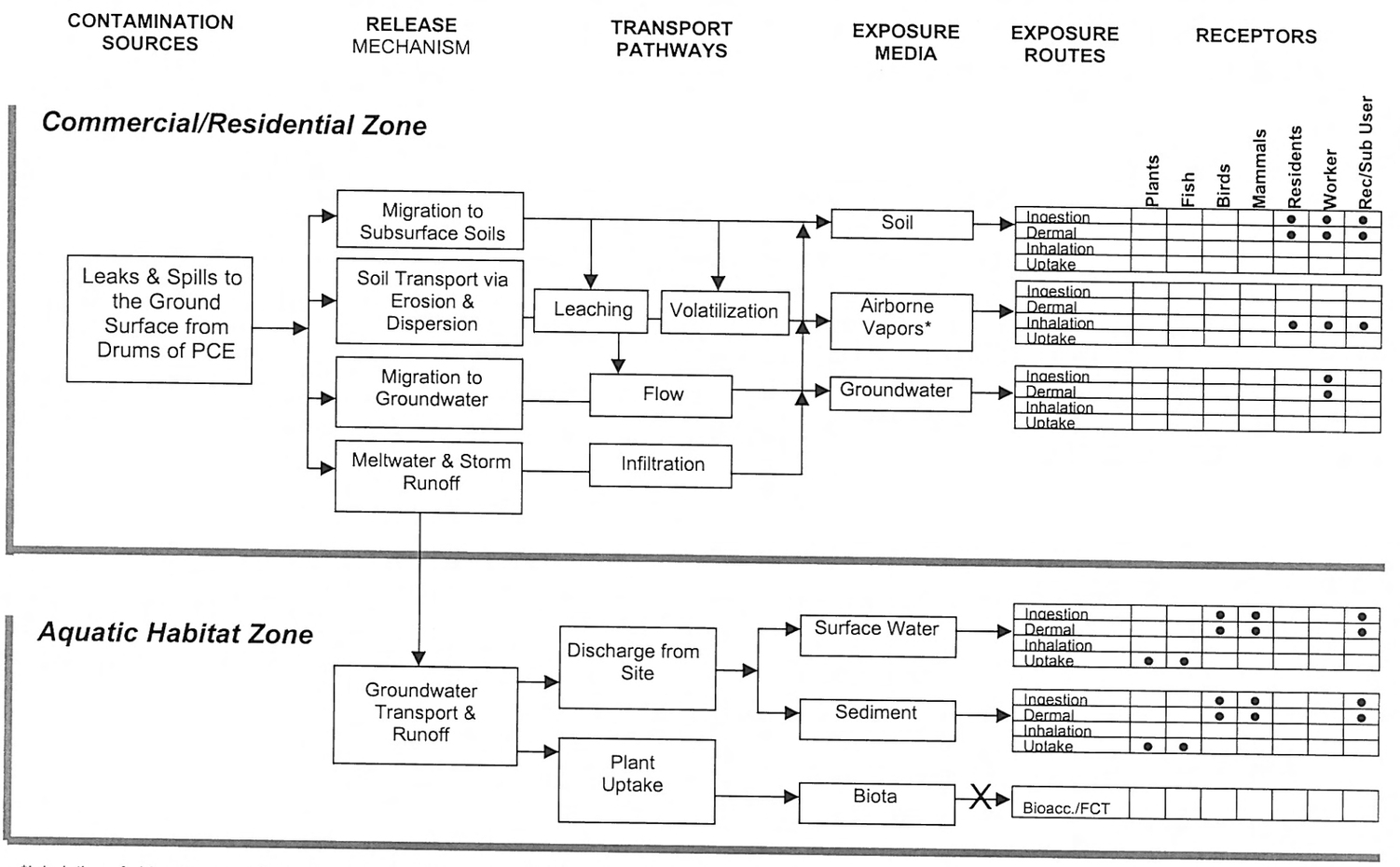
ADEC Contract No: 18-2-12-12

Interpreted Groundwater PCE Plumes
River Terrace RV Park
Soldotna, Alaska
Remedial Investigation/Feasibility Report

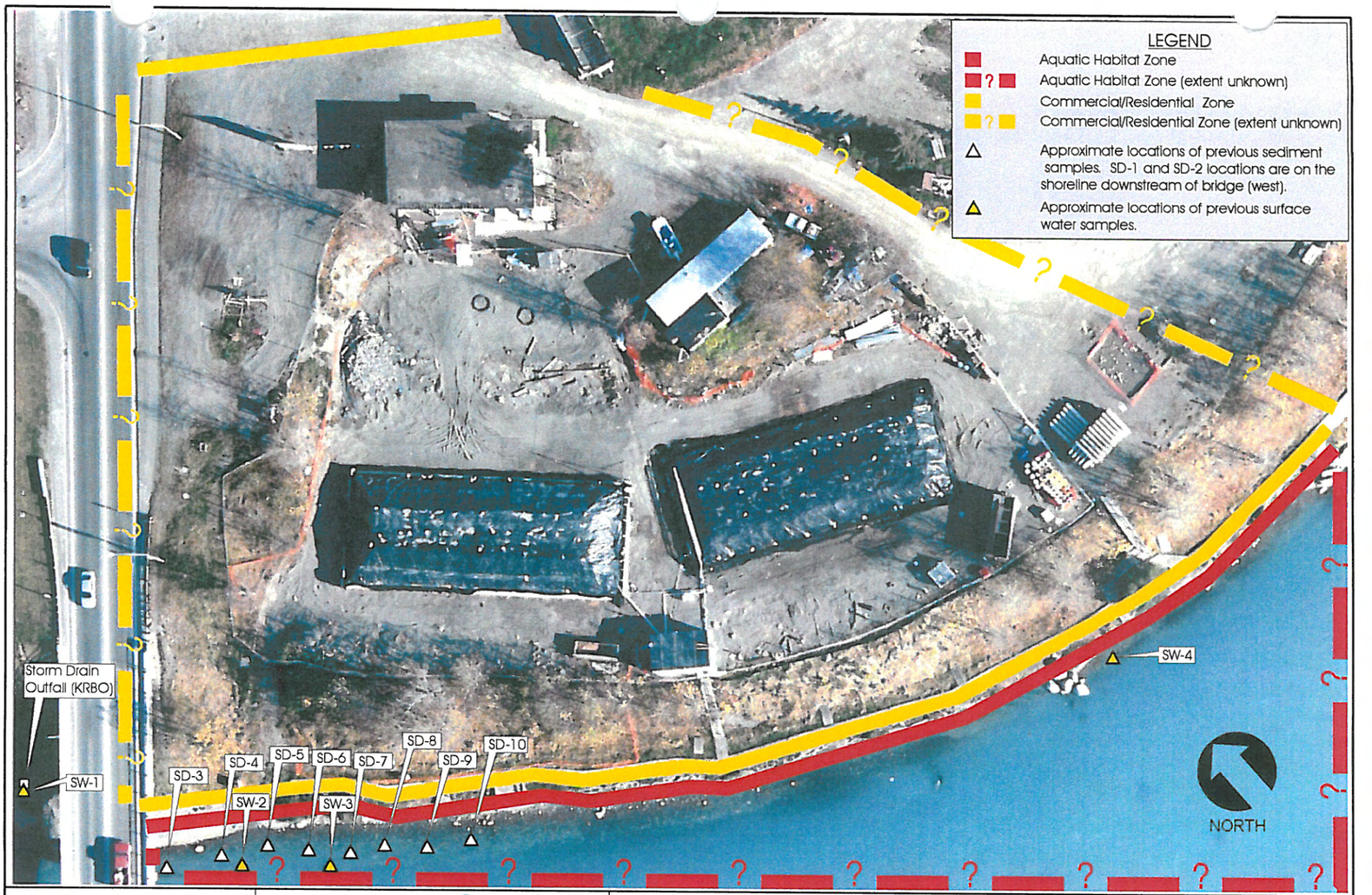
Date: April 2000		Figure 21
Drawn By: JPR	Checked By: JSR	Project No: 20019

FIGURE 22

River Terrace Conceptual Site Model

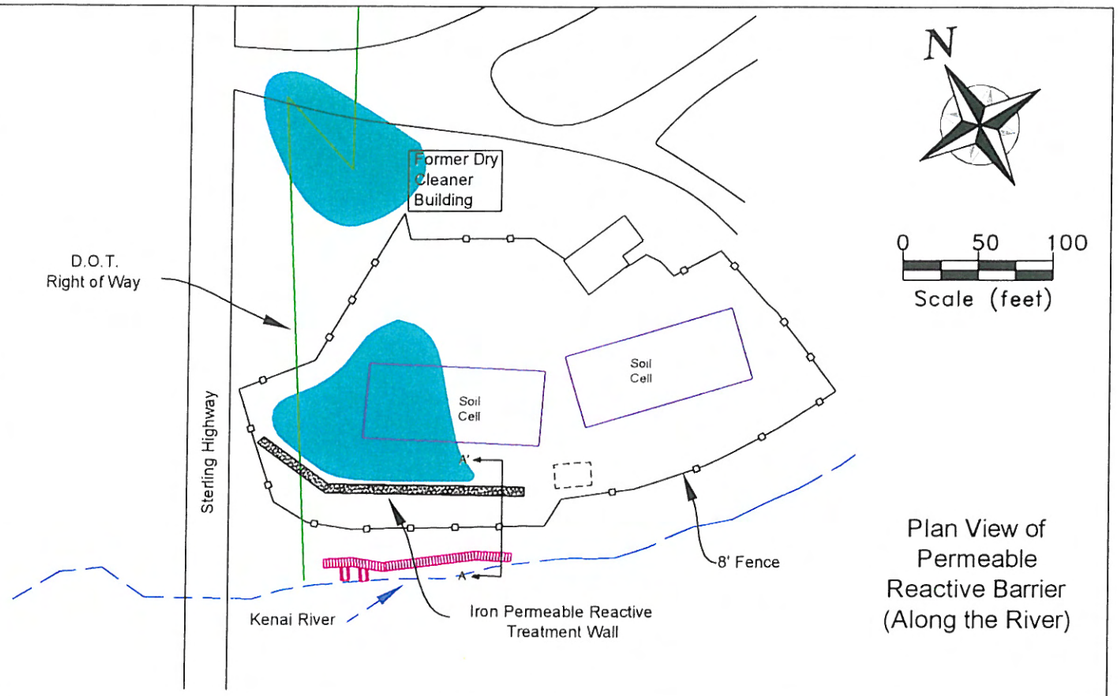


*Inhalation of airborne vapors from soil- and groundwater-borne COCs was evaluated for indoor ad outdoor scenarios.
X = All site COCs have log K_{ow} values <3.5; therefore, bioaccumulation and food chain transfer pathways are not complete.
Rec/Sub User = Site Recreational & Subsistence Users
Bioacc./FCT = Bioaccumulation and Food Chain Transfer



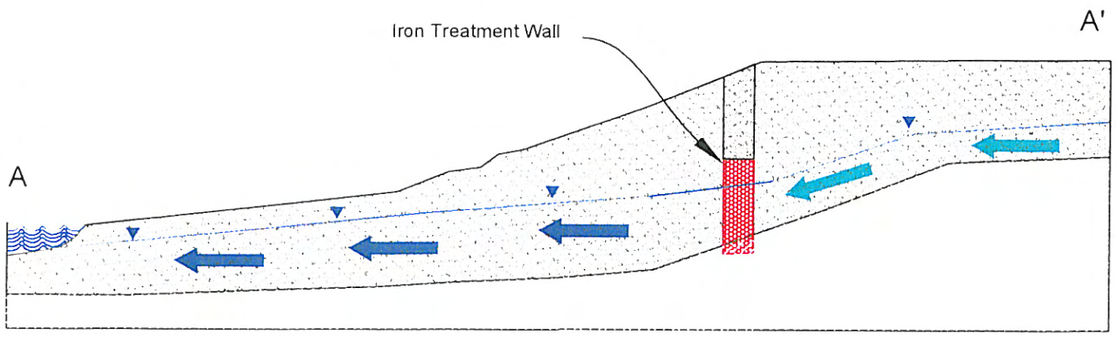
DATE: MARCH 2000 CHECKED BY: EH DRAWN: KDH PROJECT: 77-013-00	oasis ENVIRONMENTAL 807 'G' Street, Suite 250 Anchorage, AK. 99501 (907) 258-4880 Fax (907) 258-4033	RIVER TERRACE CONCEPTUAL SITE ZONES RIVER TERRACE RV PARK RI/FS SOLDOTNA, ALASKA	FIGURE 23

Alternative RT-C:Lower Plume



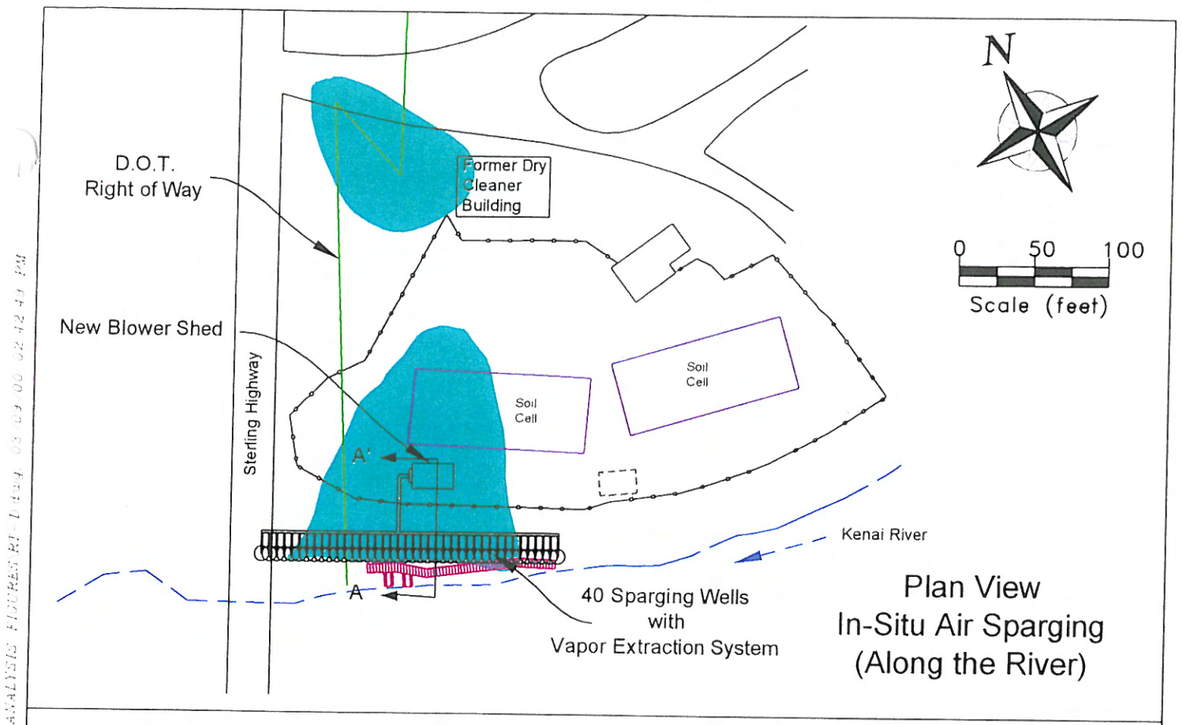
Plan View of Permeable Reactive Barrier (Along the River)

Cross-section of Permeable Reactive Barrier (Along the River)



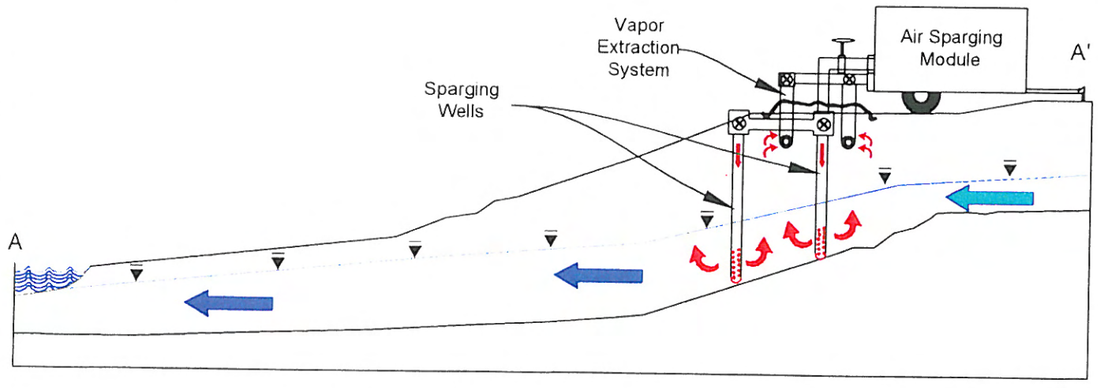
OASIS/BRISTOL JV	Conceptual Drawing River Terrace RV Park Feasibility Study Soldotna, Alaska	Date: Jan 2000	Figure 24
		Drawn By: JAS	Project No: 20019
ADEC Contract No: 18-2-12-12		Checked By: ASN	

Aternative RT-D:Lower Plume



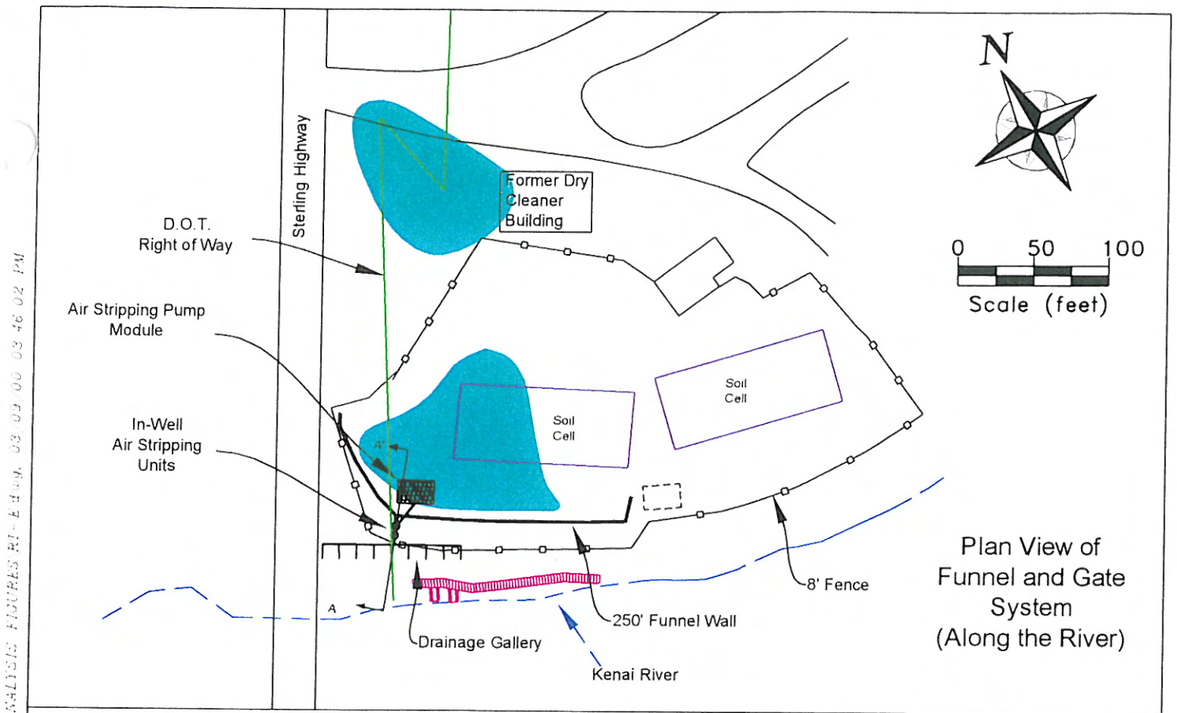
Plan View
In-Situ Air Sparging
(Along the River)

Cross-Section
In-Situ Air Sparging
(Along the River)



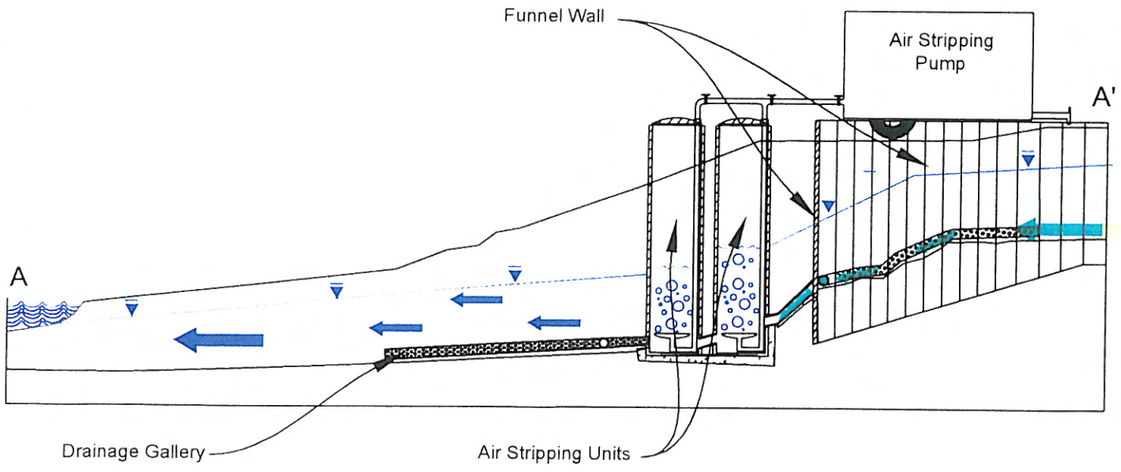
OASIS/BRISTOL JV	Conceptual Drawing River Terrace RV Park Feasibility Study Soldotna, Alaska	Date: Jan 2000	Figure 25
ADEC Contract No: 18-2-12-12		Drawn By: JAS Checked By: ASN	Project No: 20019

Alternative RT-E:Lower Plume



Plan View of Funnel and Gate System (Along the River)

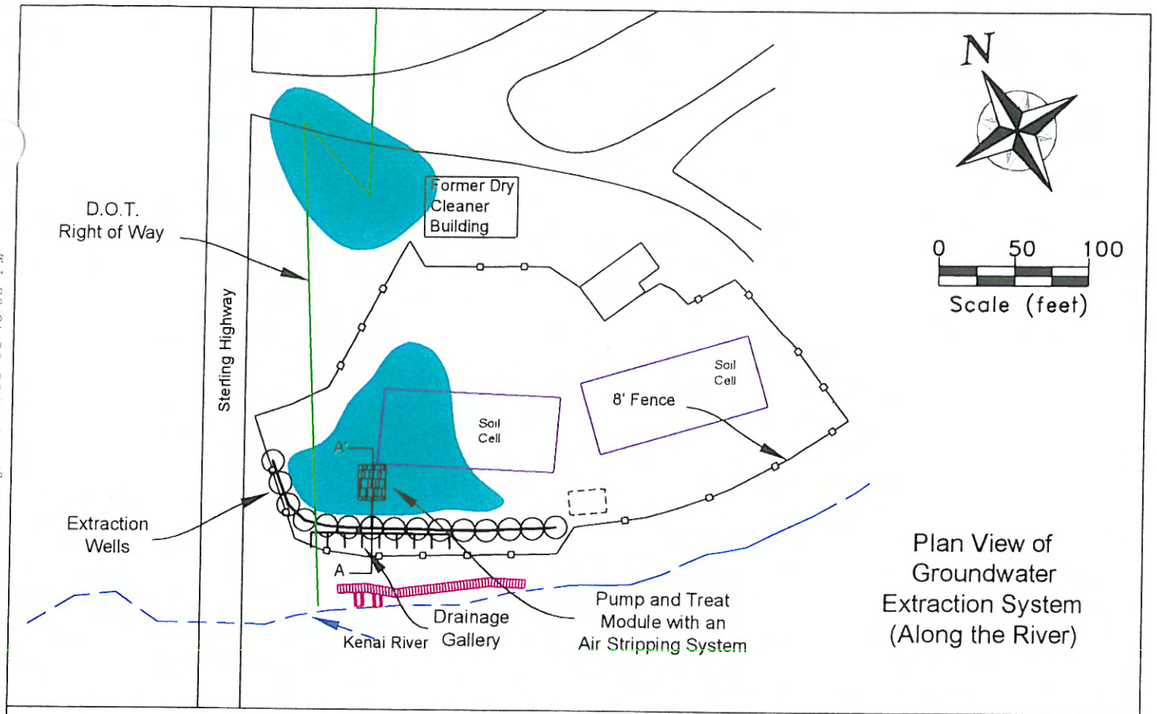
Cross-section of Funnel and Gate System (Along the River)



OASIS/BRISTOL JV	Conceptual Drawing River Terrace RV Park Feasibility Study Soldotna, Alaska	Date: Jan 2000	Figure 26
		Drawn By: JAS	Project No: 20019
ADEC Contract No: 18-2-12-12		Checked By: ASN	

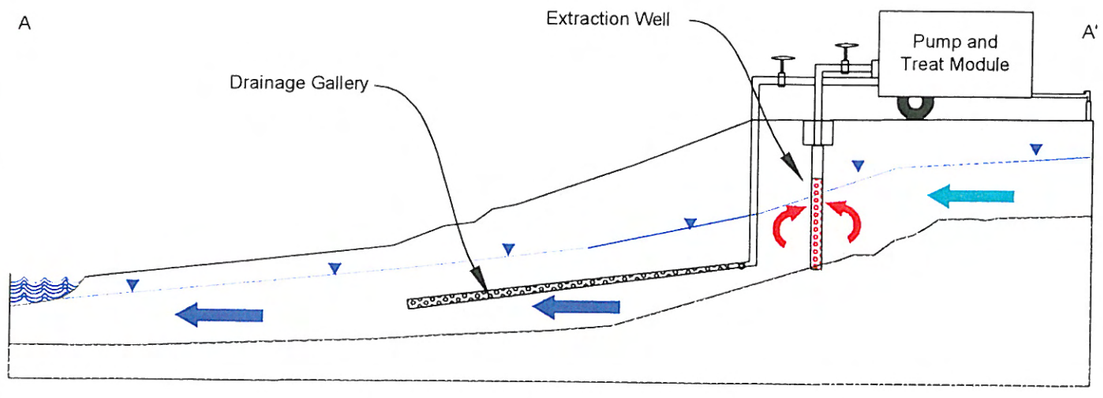
OASIS Bristol JV River Terrace Data Reports RIFS - January Figures.dwg, 03/09/00 03:46:02 PM

Alternative RT-F:Lower Plume



Plan View of
Groundwater
Extraction System
(Along the River)

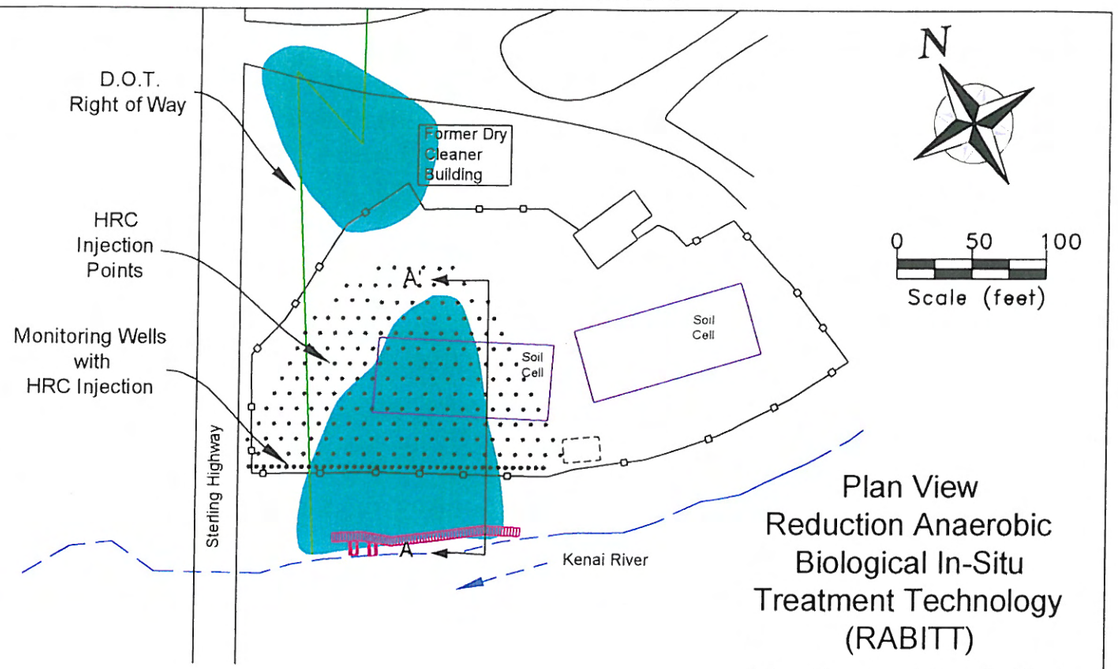
Cross-section of
Groundwater Extraction System
(Along the River)



OASIS/BRISTOL JV	Conceptual Drawing River Terrace RV Park Feasibility Study Soldotna, Alaska	Date: Jan 2000	Figure 27
		Drawn By: JAS	Project No: 20019
ADEC Contract No: 18-2-12-12		Checked By: ASN	

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Alternative RT-G:Lower Plume

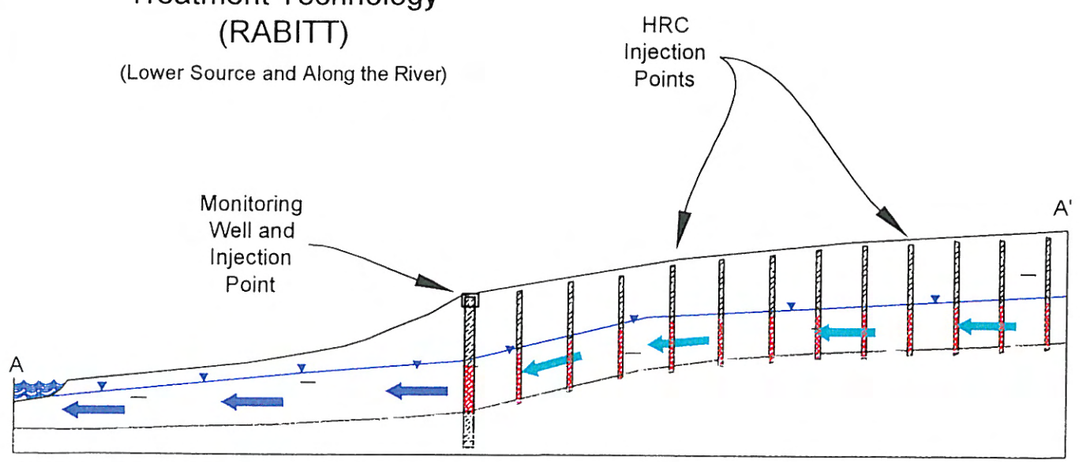


Plan View
Reduction Anaerobic
Biological In-Situ
Treatment Technology
(RABITT)

(Lower Source and Along the River)

Cross-Section
Reduction Anaerobic
Biological In-Situ
Treatment Technology
(RABITT)

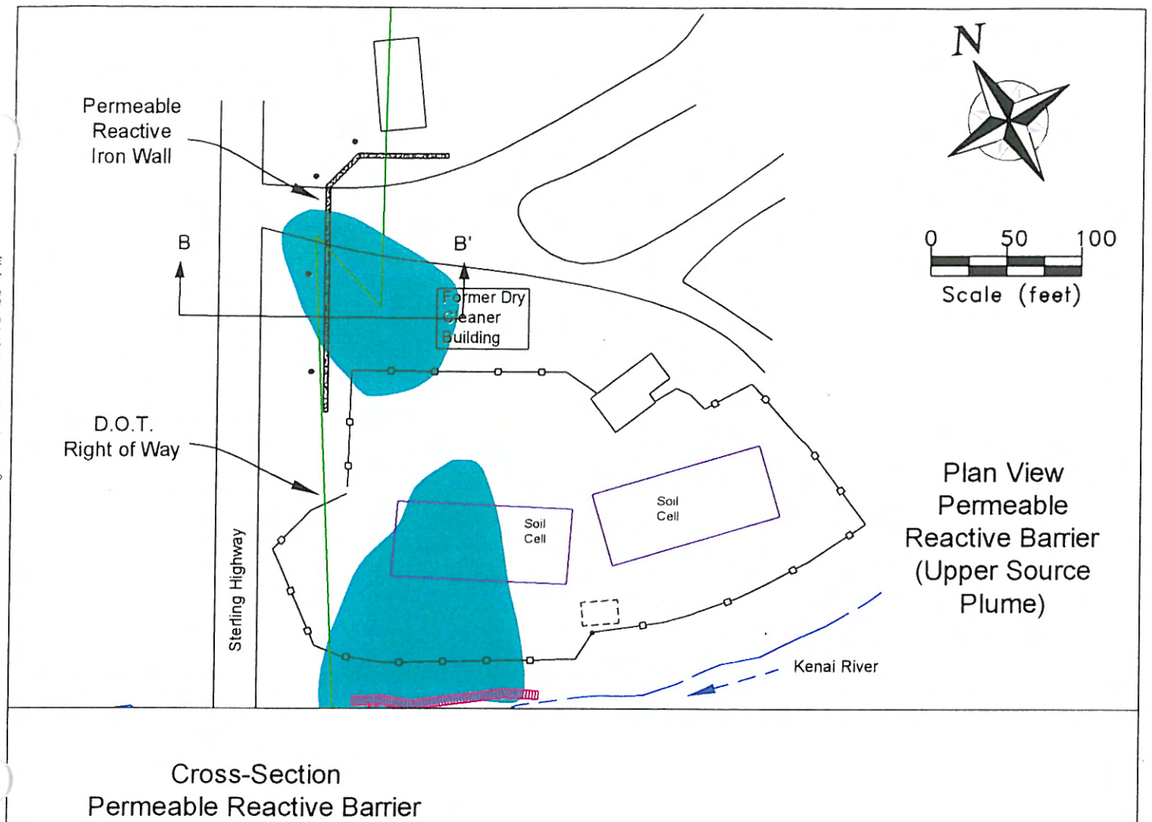
(Lower Source and Along the River)



OASIS/BRISTOL JV	Conceptual Drawing River Terrace RV Park Feasibility Study Soldotna, Alaska	Date: Jan 2000	Figure 28
		Drawn By: JAS	Project No: 20019
ADEC Contract No: 18-2-12-12		Checked By: ASN	

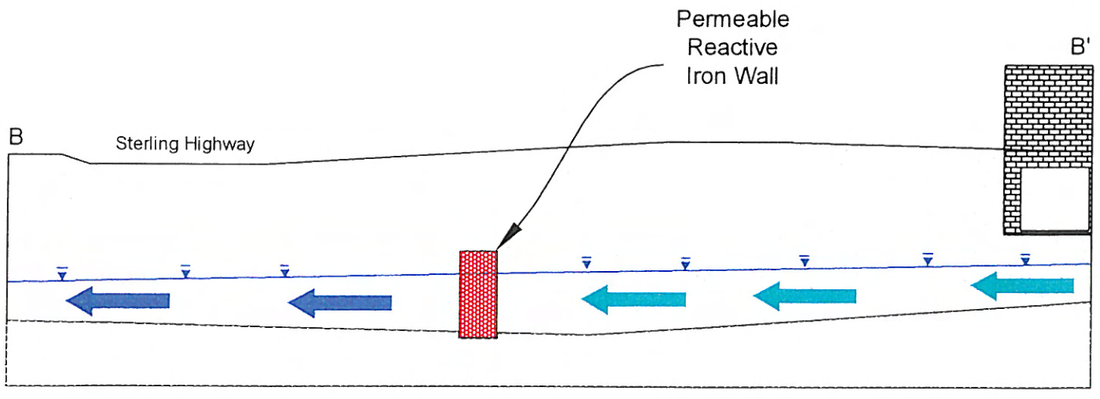
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Alternative UT-C:Upper Plume



Plan View
Permeable
Reactive Barrier
(Upper Source
Plume)

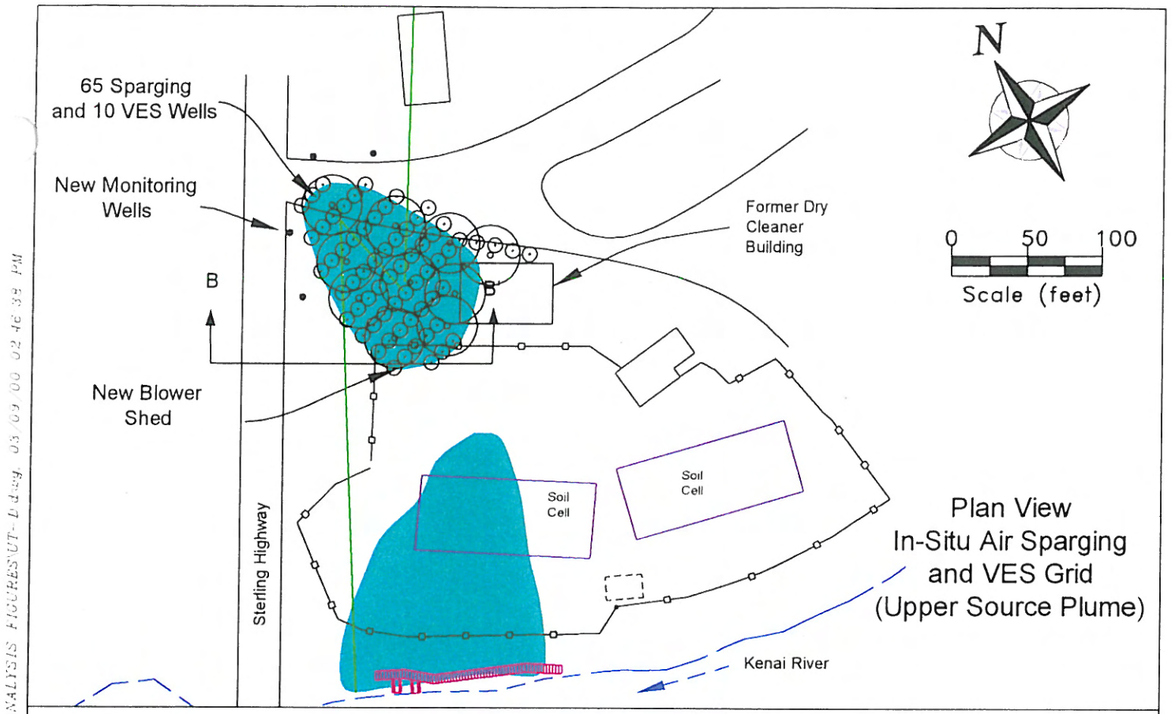
Cross-Section
Permeable Reactive Barrier
(Upper Source Plume)



OASIS/BRISTOL JV	Conceptual Drawing River Terrace RV Park Feasibility Study Soldotna, Alaska	Date: Jan 2000	Figure 29
		Drawn By: JAS	Project No: 20019
ADEC Contract No: 18-2-12-12		Checked By: ASN	

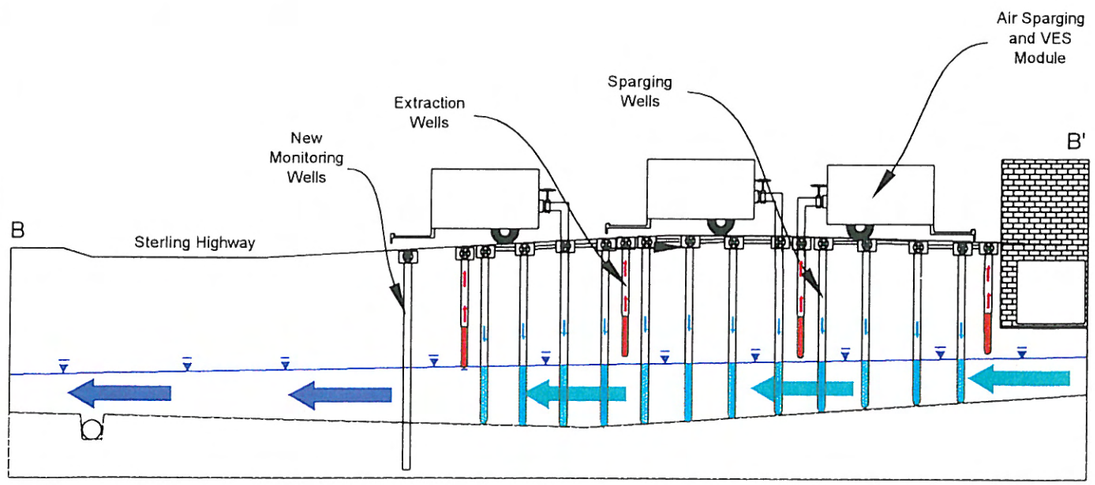
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Alternative UT-D: Upper Plume



Plan View
In-Situ Air Sparging
and VES Grid
(Upper Source Plume)

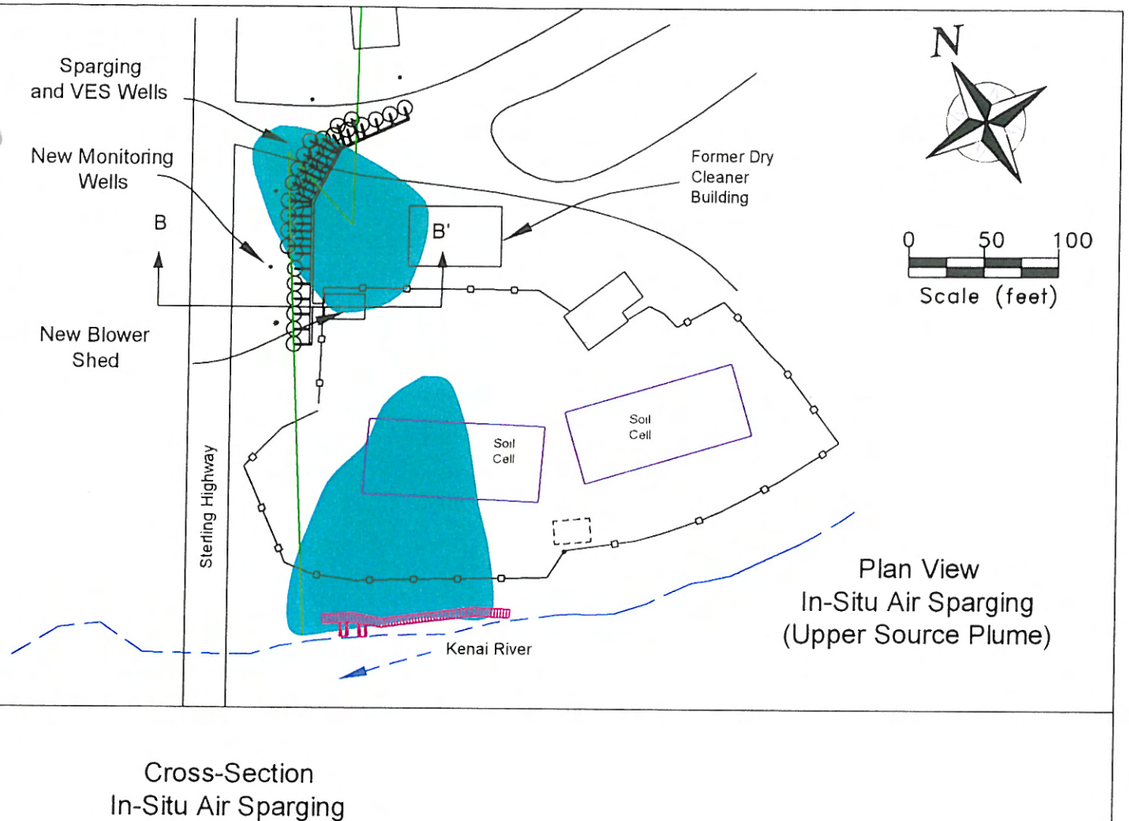
Cross-Section
In-Situ Air Sparging
and VES Grid
(Upper Source Plume)



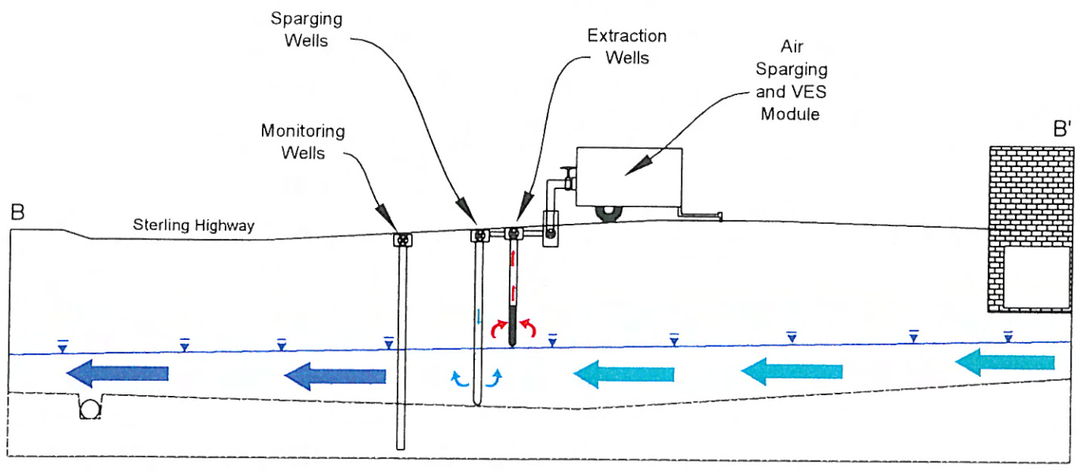
OASIS/BRISTOL JV	Conceptual Drawing River Terrace RV Park Feasibility Study Soldotna, Alaska	Date: Jan 2000	Figure 30
		Drawn By: JAS	Project No: 20019
ADEC Contract No: 18-2-12-12		Checked By: ASN	

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Alternative UT-E:Upper Plume



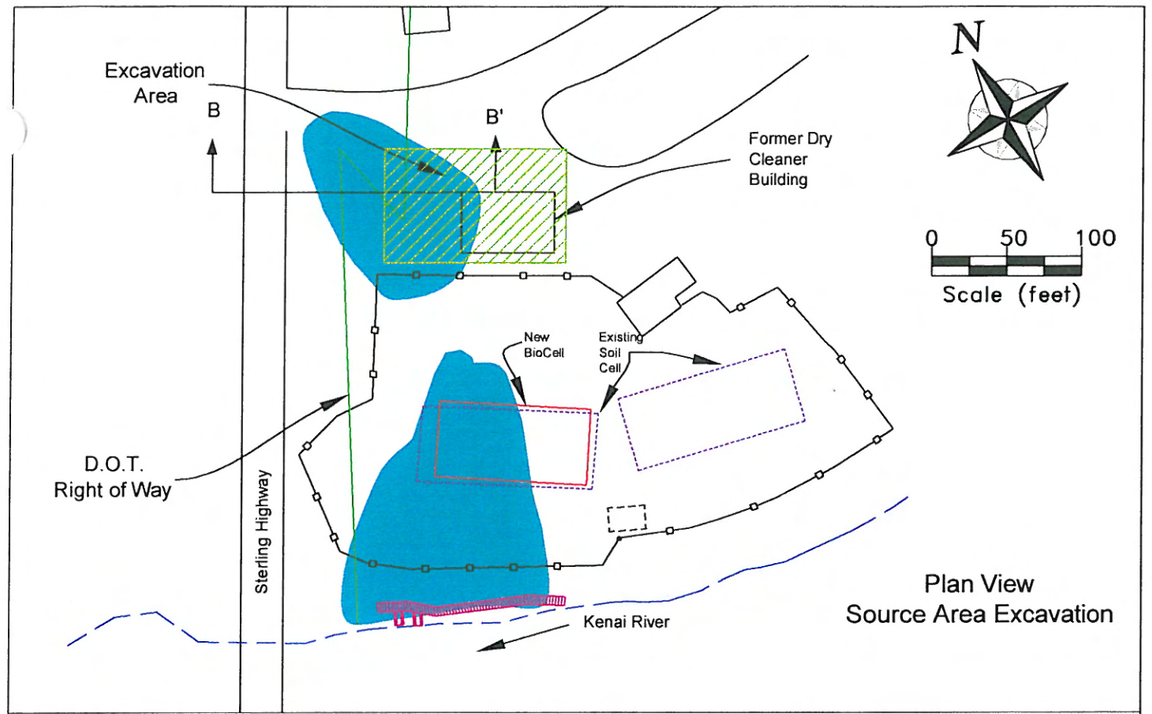
Cross-Section
In-Situ Air Sparging
(Upper Source Plume)



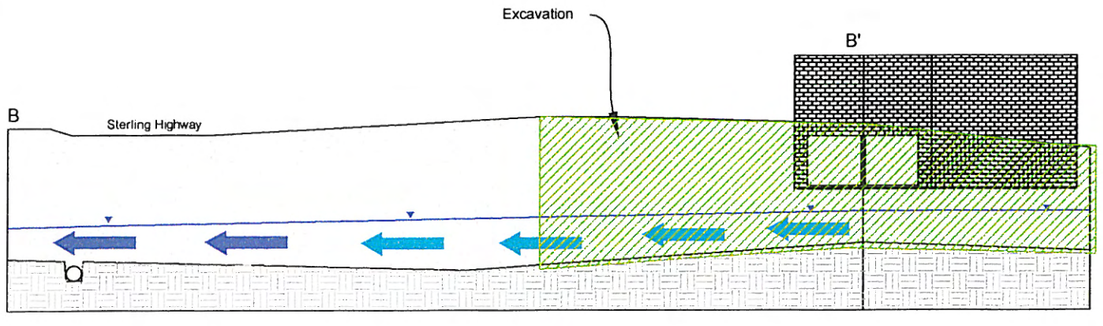
OASIS/BRISTOL JV	Conceptual Drawing River Terrace RV Park Feasibility Study Soldotna, Alaska	Date: Jan 2000	Figure 31
		Drawn By: JAS	Project No: 20019
ADEC Contract No: 18-2-12-12		Checked By: ASN	

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Alternative UT-F: Upper Plume

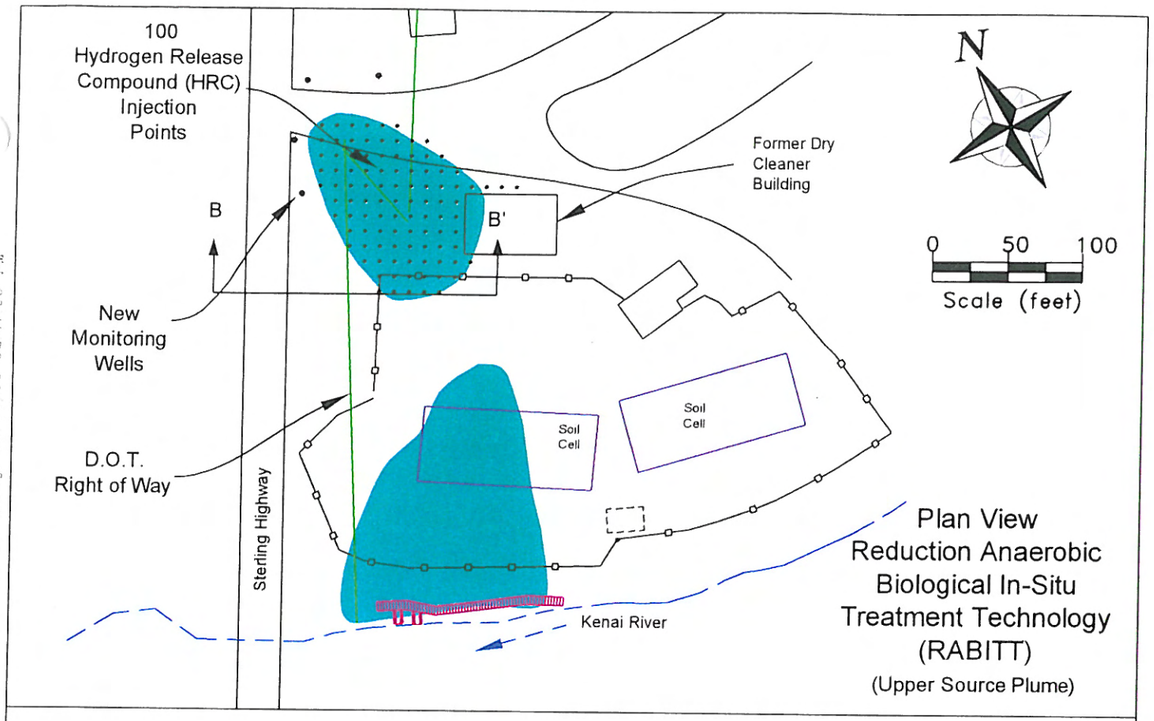


Cross-Section
Source Area Excavation



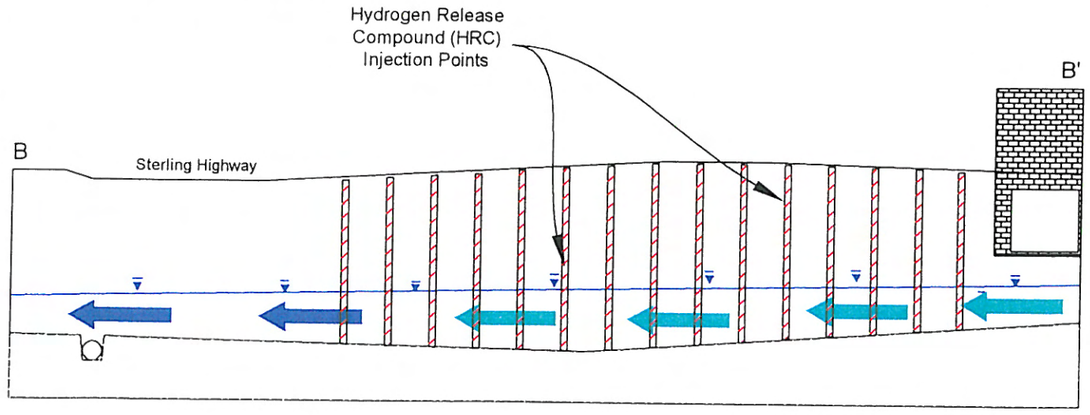
OASIS/BRISTOL JV	Conceptual Drawing River Terrace RV Park Feasibility Study Soldotna, Alaska	Date: Jan 2000	Figure 32
		Drawn By: JAS	Project No: 20019
ADEC Contract No: 18-2-12-12		Checked By: ASN	

Alternative UT-G:Upper Plume



Plan View
Reduction Anaerobic
Biological In-Situ
Treatment Technology
(RABITT)
(Upper Source Plume)

Cross-Section
Reduction Anaerobic
Biological In-Situ Treatment
Technology
(RABITT)
(Upper Source Plume)



OASIS/BRISTOL JV	Conceptual Drawing River Terrace RV Park Feasibility Study Soldotna, Alaska	Date: Jan 2000	Figure 33
		Drawn By: JAS	Project No: 20019
ADEC Contract No: 18-2-12-12		Checked By: ASN	

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