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State Water Resources Control Board

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APPLICATION NO. _____
(Leave blank)

UNDERGROUND STORAGE SUPPLEMENT to APPLICATION TO APPROPRIATE WATER BY PERMIT

1. State amount of water to be diverted to underground storage from each point of diversion in item 5a of form APP.

   a. Maximum Rate of diversions (1) _____ (2) _____ (3) _____ cfs
   b. Maximum Annual Amount (1) _____ (2) _____ (3) _____ acre-feet

* See Attachment No. 1 to the Application for a list of the proposed points of diversion and rediversion and the proposed flow rates for each.

2. Describe any works used to divert to offstream spreading grounds or injection wells not identified in item 7 of form APP.

The Application describes all diversion works.

3. Describe spreading grounds and identify its location and number of acres or location of upstream and downstream limits if onstream.

Please see the map in Attachment Nos. 6 and 7 to the Application, which depict the spreading grounds. Please also see the table in Attachment A hereto, which describes the spreading grounds' acreages.

4. State depth of groundwater table in spreading grounds or immediate vicinity:
   _____ feet below ground surface on _____ 19 __ measured at a point located within the _____ ¼ of _____ ¼ of Section _____, T _____, R _____, _____ B&M

The depth of the groundwater table is highly variable. Please see the hydrographs, included as Attachments B and C, for a representation of historical groundwater table depths.

5. Give any historic maximum and or minimum depths to the groundwater table in the area.
   Location _____ Maximum _____ feet below ground surface on _____ (date)
   Location _____ Maximum _____ feet below ground surface on _____ (date)

Please see Attachment B and C.

Additional copies of this form and water right information can be obtained at www.waterrights.ca.gov.

6. Describe proposed spreading operation.

Kern Water Bank Authority opens its gates to allow the flow of water to fill the spreading ponds. The water in the spreading ponds then percolates into the aquifer.

7. Describe location, capacity and features of proposed pretreatment facilities and/or injected wells.

N/A

8. Reference any available engineering reports, studies, or data on the aquifer involved.

Bartow, Alan J., and Pittman, Gardner M., 1983, The Kern River Formation, Southeastern San Joaquin Valley, California, Geological Survey Bulletin 1529-D.

Croft, M.G., 1972, Subsurface Geology of the Late Tertiary and Quaternary Water-Bearing Deposits of the Southern Part of the San Joaquin Valley, California, Geological Survey Water Supply Paper 1999-H.

Dale, R.H., French, J.J, and Gordon, G.V., 1966, Ground-water Geology and Hydrology of the Kern River Alluvial-Fan Area, California, U.S. Geological Survey Open-File Report.

Department of Water Resources, 1990, Kern Water Bank, First Stage, Kern Fan Element, Feasibility Report.

Page, R.W, 1976, Base of Fresh Groundwater – Approximately 3,000 Micromhos, San Joaquin Valley, California, U.S. Geological Survey Open-File Report.

Schmidt, K.D, and Associates, 1997, Hydrogeologic Conditions for Development of the Maximum Recovery Plan for the Kern Water Bank Authority.

Schmidt, K.D, and Associates, 1997, KWBA Amount of Recharge Possible.

9. Describe underground reservoir and attach a map or sketch of its location.

Please see the map in Attachment Nos. 6 and 7 of the Application, which depicts the spreading grounds and underground reservoir. Please also see the table in Attachment A hereto, which describes the spreading grounds' acreages.

10. State estimated storage capacity of underground reservoir.

The Kern County Water Agency estimates that the entire basin's capacity is approximately 10 million acre-feet.

11. Describe existing use of the underground storage reservoir and any proposed change in its use.

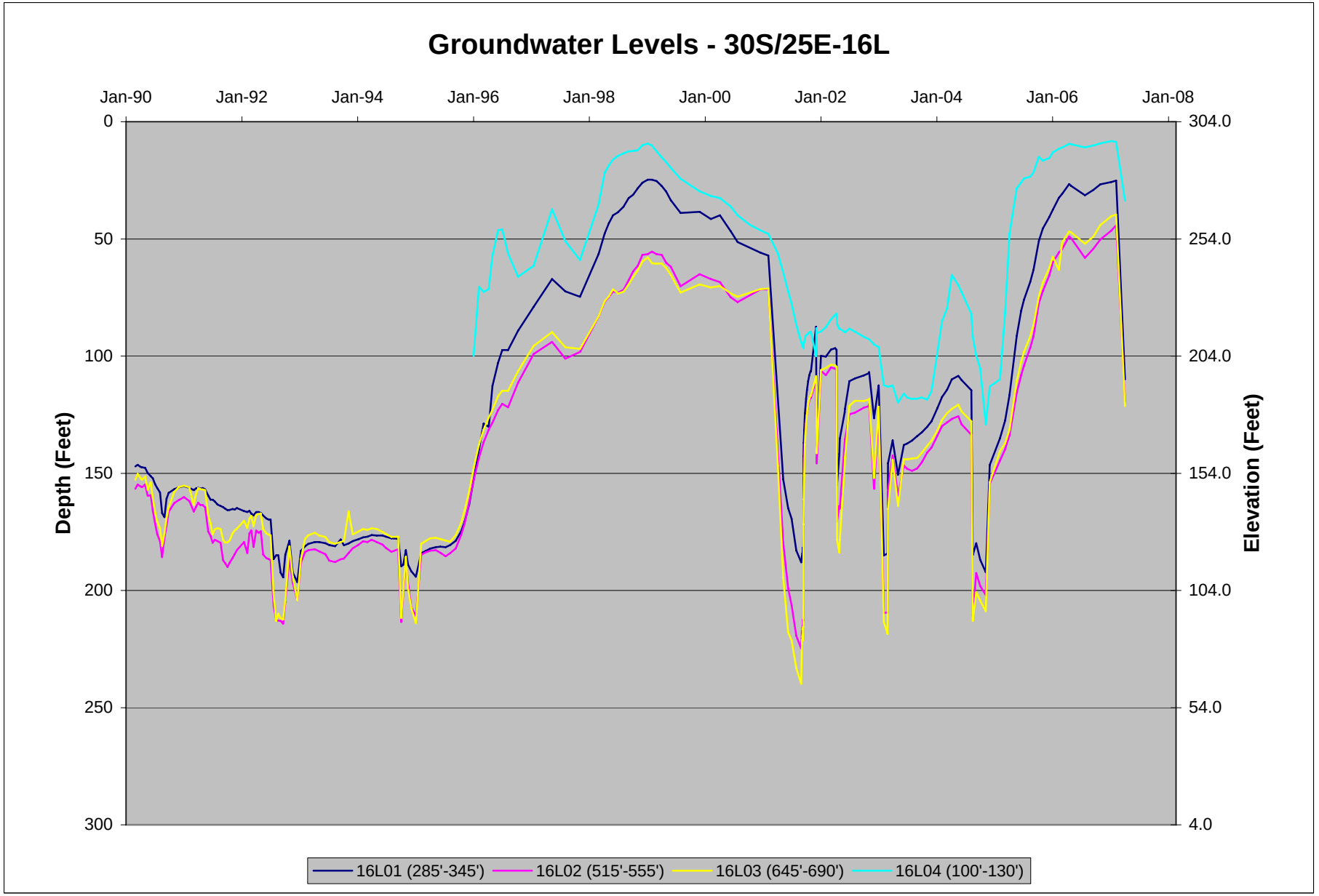
The groundwater basin is already used for conjunctive use. Kern Water Bank Authority does not propose to change this use, but simply to continue and expand the existing conjunctive use of the groundwater basin.

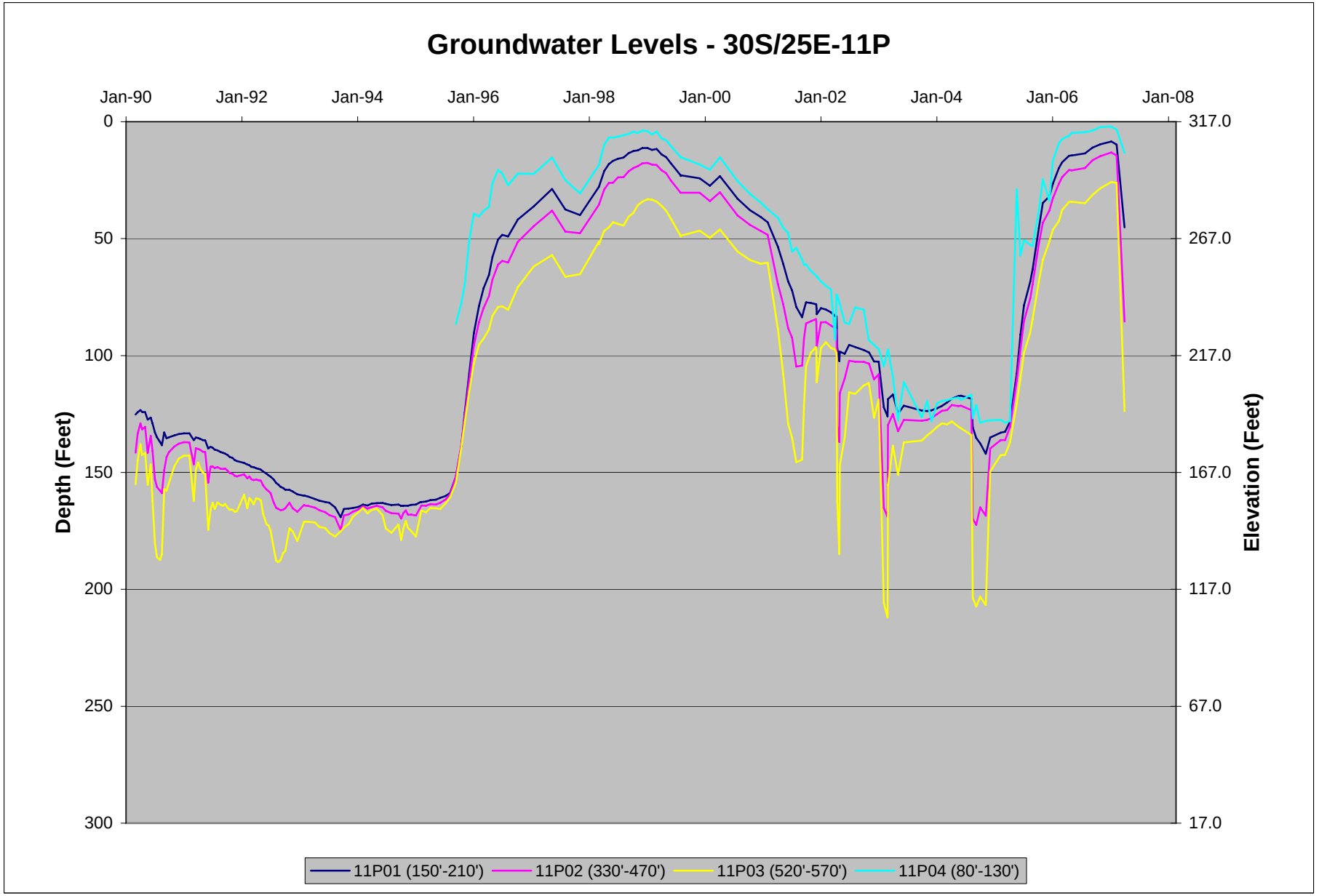
12. Describe the proposed method and location of measurement of water placed into and withdrawn from underground storage.

All diversions into and extractions out of the underground storage reservoir are measured by the California Department of Water Resources through State Water Project facilities, the Kern River Watermaster, or the Kern County Water Agency.

Basin ID	Acreage
A1	77.8
C1	26.7
C2	50.6
C3	78.4
C4	114.3
C5	84.9
C6	65.3
C7	27.0
E1	140.6
E2	141.5
E3	40.4
E5	36.6
E6	64.6
J1	90.3
J1-A	22.1
J2	101.1
J3	123.5
J4	35.5
J5	54.6
J6	8.2
J7	19.9
K1	68.9
K2	98.6
L1	111.4
L2	38.5
M1	84.5
M10	99.4
M2	154.1
M3	93.0
M4	66.1
M5-N	131.6
M5-S	90.7
M6	21.6
M7	109.2
M8	285.7
M9	249.7
N1	31.5
N2	75.2
N3	213.9
R1	71.7
R2	108.4
R3	114.9
R4	81.9
R4-A	17.7
R5	82.6
R6	42.1
R7	45.9
R8	56.5
R9	127.9
S1	50.4
S10	49.0

S11	88.4
S2	43.3
S3	141.3
S4	28.0
S5	17.5
S6	32.8
S7	39.1
S8	42.4
S9	33.6
SC	29.8
SP	6.4
SP0	28.2
SP1	60.6
SP2	72.5
SP3	87.7
SP4	73.9
W1	143.7
W2	188.4
W3	442.1
W4	508.5
W4	62.5
W5	481.0
W6	555.8


Groundwater Levels - 30S/25E-16L
Jan-90
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
0
50
100
150
200
250
300
304.0
254.0
204.0
154.0
104.0
54.0
4.0
Depth (Feet)
Elevation (Feet)
16L01 (285'-345')
16L02 (515'-555')
16L03 (645'-690')
16L04 (100'-130')


Groundwater Levels - 30S/25E-11P
Jan-90
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
0
50
100
150
200
250
300
317.0
267.0
217.0
167.0
117.0
67.0
17.0
Depth (Feet)
Elevation (Feet)
11P01 (150'-210')
11P02 (330'-470')
11P03 (520'-570')
11P04 (80'-130')