Parkhill

June 7, 2024

Mr. Tim Shreve
Director of Landfill Operations, NDBL
OWL Landfill Services, LLC
2029 W. NM Hwy 128
Jal, NM 88252

Re: 42881.24 Northern Delaware Basin Landfill
Surface Waste Disposal Facility – NMOSE Permit No. NM1-63
Vadose Zone Monitoring Well Data, April 24, 2024, Monitoring Event
Lea County, New Mexico

Dear Mr. Shreve:

Enclosed with this letter are copies of depth to shallowest groundwater measurements and soil vapor field screening data collected from vadose zone monitoring wells at the Northern Delaware Basin Landfill (NDBL) on April 24, 2024 (Exhibit A). Vadose zone water was not detected in significant, sampleable quantities in the vadose wells at NDBL during the April 2024 event (i.e., de minimis quantities).

Vadose water was not present in quantities sufficient to be purged and collected for analysis as described in the requirements for Vadose Zone Monitoring set forth in Permit No. NM1-63 (August 17, 2017), and the Vadose Zone Monitoring Plan (Volume II.9) of the October 2016 facility Permit Application. Soil vapor samples were collected from each of the 10 vadose zone wells installed at the landfill (VZ-1 through VZ-10). Results of those screenings are provided as Exhibit C.

VADOSE WATER MONITORING AND MEASUREMENT

Vadose water was not detected in sufficient quantities in the 10 vadose wells shown in Exhibit B. Water detected was insufficient to purge and collect representative samples (i.e., water column ranging from 1.6 feet to less than 3 inches) and is believed to be a result of condensation collecting in the bottom of the well. Therefore, samples were not collected during this monitoring event.

HISTORIC WATER MEASUREMENTS AND POTENTIAL SOURCES OF VADOSE WATER

Well VZ-4 and VZ-5

Wells VZ-4 and VZ-5 are located in areas immediately adjacent to natural depressions that collect stormwater as a result of natural surface water flow and accumulation during storm events. This results in accumulation of surface water during storm events and infiltration of that stormwater into the vadose zone. The area is mapped with closed depressions, and aerial photos indicate the presence of well-established green vegetation. For this event, the measured water column in each well was insufficient to purge and collect a sample for analysis (i.e., de minimis quantities)

Well VZ-6

Water was not present in VZ-6 upon installation in August 2019 and was not detected during the February 2020 vadose zone monitoring event by Parkhill. During the May and October 2023 monitoring events, perched water was detected at a depth of 33.20 and 33.21 feet BTOC, respectively. During a follow-up site visit by Parkhill on August 17, 2023, the suspected source of water in well VZ-6 was thought to be a persistent leak from a water supply line positioned approximately 50 feet east-northeast of VZ-6. The presence of moisture and indications of leakage from the supply line were observed, and brought to the

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attention of NDBL management. The leak was stopped on August 19, 2023, and the ground surface in the area has remained dry since. During the April 2024 monitoring event, the ground surface in the vicinity of the supply line remained dry and no evidence of further leakage and infiltration were present. Additionally, water was detected at a depth of 60.5 feet BTOC in VZ-6, indicating that the discovery and remedy of that supply line leak has removed the perched water source for this monitoring point, and water levels in this well have returned to de minimis levels.

NDBL will continue to monitor all vadose wells on site semiannually for the presence of water, and collect samples when water is detected in sufficient quantities. NDBL will also monitor for leakage in their water supply network and make efforts to grade the site such that surface water is directed away from VZ-6 to prevent unnecessary infiltration of surface and supply waters into the vadose zone in the vicinity of the well.

Average annual rainfall in the area around NDBL is approximately 13.37 inches per year (1981-2010 average) as reported by the Western Regional Climate Center for the Jal, WIPP and Ochoa Co-op Stations. two personal weather stations near NDBL (El Capitan and Red Hills) have recorded a 12-month total rainfall of approximately 9” of precipitation through April 2024, which is significantly lower than annual average, but both stations show a wetter than typical May and June (Exhibit D).

As required by 19.15.36.13.L.(1), NDBL has performed monthly inspection of the facility’s leak detection sumps, and all have been found to be dry.

If you have any questions regarding this transmittal, feel free to contact me at 505.504.7765.

Sincerely,

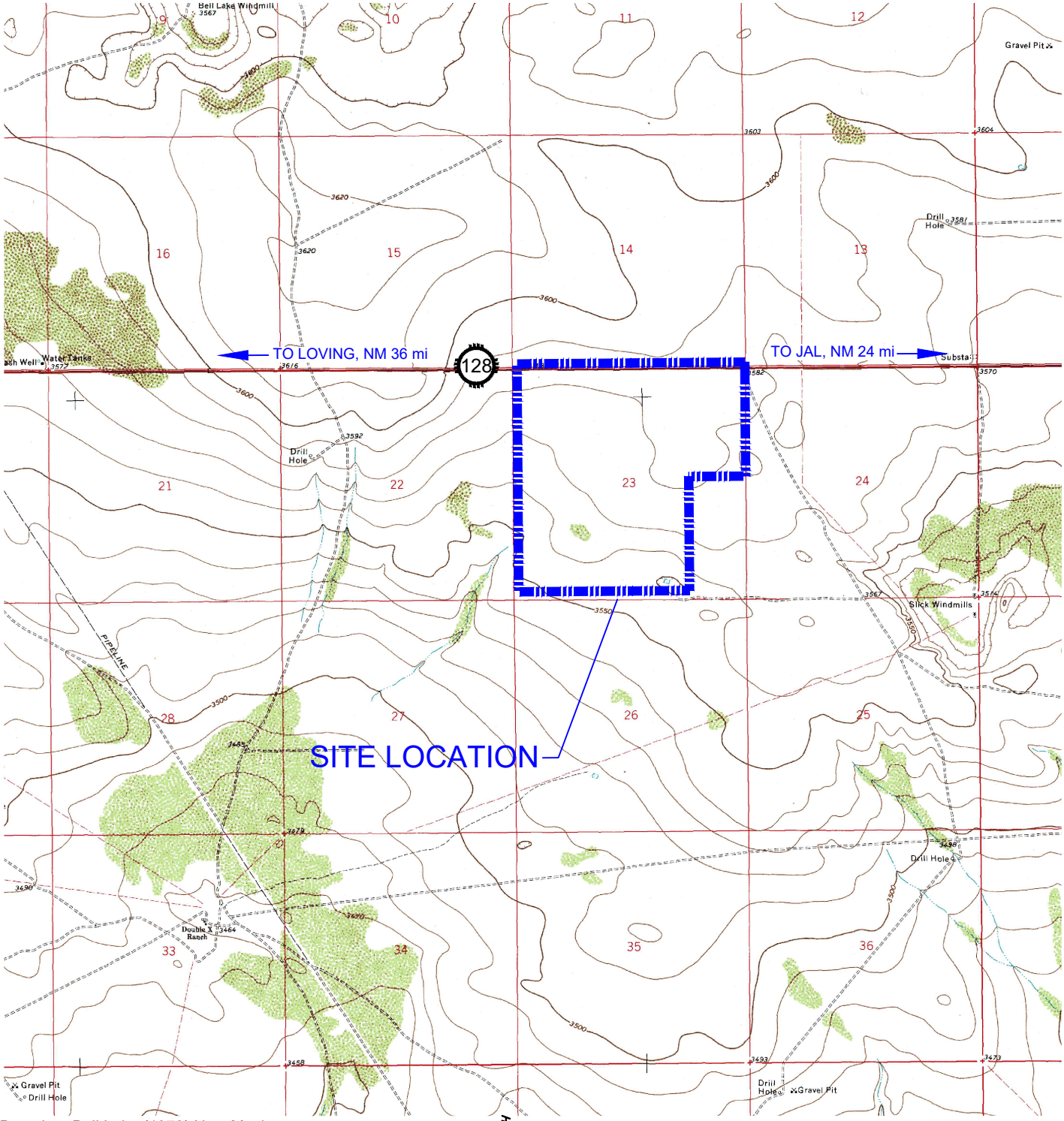
PARKHILL

By _____
Andy N. Yuhas, PG
Professional Geologist

ANY/pg
Enclosures:
Exhibit A: Site Location Map
Exhibit B: Site Plan/VZM Network Map
Exhibit C: VZM Well Soil Vapor Screening Results
Exhibit D: Nearby Weather Station Precipitation Data

cc: Mr. Matt Kingsley, PE, Principal, Parkhill

EXHIBIT A: SITE LOCATION MAP



Based on Bell Lake (1973) New Mexico Quadrangle. USGS 7.5' Series (1:24,000 Scale).

NORTH

0' 1,000'

LEGEND

SITE BOUNDARY

FILE NAME: \\projects-dfs\projects\2024\42881.24\03_DSGN\01_DWG\050_CIVIL\02_CONTENT\EX-A_SITE-LOC-MAP.dwg PRINTED: Wednesday, June 05, 2024 - 11:59am

Parkhill

Parkhill.com

SEMI-ANNUAL VADOSE ZONE MONITORING

OWL NDBL SWMF

JAL, NEW MEXICO

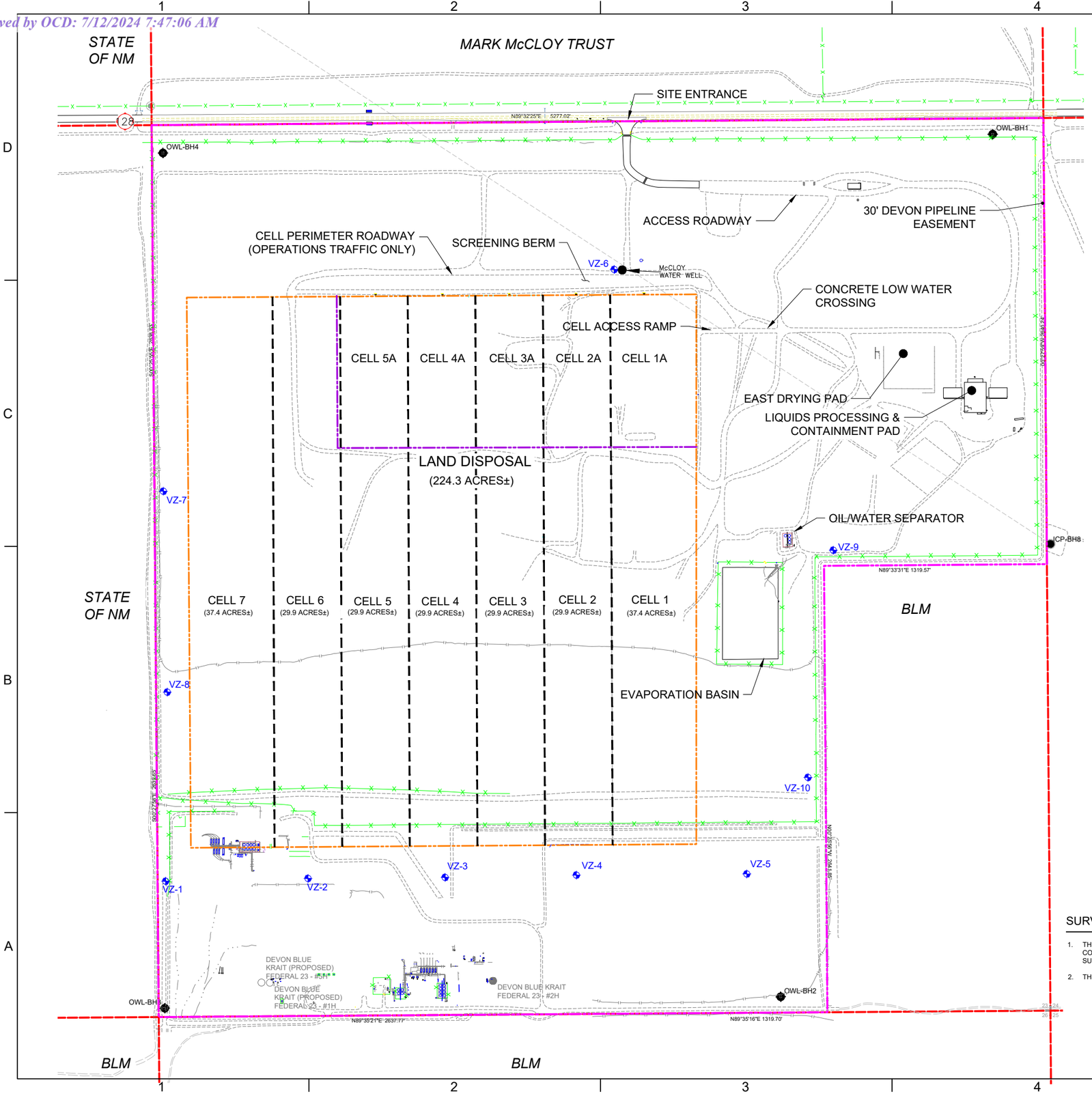
SITE LOCATION MAP

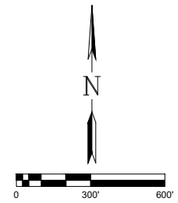
Date: 06/05/2024

Project No: 42881.24

Sheet: EXHIBIT A

EXHIBIT B: SITE PLAN/VZM NETWORK MAP





LEGEND

- PROPERTY BOUNDARY
- SECTION BOUNDARY
- SOLID WASTE DISPOSAL BOUNDARY
- ACTIVE DISPOSAL AREA BOUNDARY
- CELL BOUNDARY
- BUILDING OUTLINE
- EXISTING FENCE
- EXISTING PIPELINE
- EXISTING UNPAVED ROADWAY
- EXISTING PAVED ROADWAY
- ICP-BH8 / OWL-BH1 — BORING/WELL LOCATION / GEOTECHNICAL BORING LOCATION
- VZ-1 — VADOSE ZONE MONITORING WELL
- WATER WELL

VZ WELL DATA

WELL	NORTHING	EASTING
VZ-1	436667.301	783180.643
VZ-2	436683.626	784022.890
VZ-3	436689.942	784833.820
VZ-4	436703.381	785610.747
VZ-5	436710.311	786618.870
VZ-6	440286.617	785834.351
VZ-7	438974.816	783167.039
VZ-8	437786.271	783190.177
VZ-9	438625.583	787130.557
VZ-10	437281.261	786980.856

SURVEY NOTES:

1. THE COORDINATES FOR THE PROJECT WERE ESTABLISHED BY RUNNING A STATIC OBSERVATION ON A SINGLE CONTROL POINT (CP DUKE) FOR 4.5 HOURS, RTK SURVEY METHODS ON 9 PANEL POINTS SET BY JOHN WEST SURVEYING CO. AND 5 EXISTING POINTS SET BY HARCROW SURVEYING, INC. (SURVEY DATE AUGUST 7, 2020).
2. THE COORDINATE SYSTEM FOR THE PROJECT: STATE PLANE, NAD 83, NEW MEXICO EAST ZONE (3001), NAVD 88.

Parkhill

OWL NDBL SWMF ENVIRONMENTAL MONITORING NETWORK

OILFIELD WATER LOGISTICS

CLIENT
OWL LANDFILL SERVICES, LLC.
2029 W. NM Hwy 128
JAL, NM 88252
LEA COUNTY

PROJECT NO.
40720.23

#	DATE	DESCRIPTION
1	10/11/2023	MONITORING REPORT

SITE PLAN/ VZM NETWORK MAP

EXHIBIT B

EXHIBIT C: VZM WELL SOIL VAPOR SCREENING RESULTS

Vadose Zone Well Vapor Monitoring Form

OWL Landfill Services, LLC

Monitoring Personnel Matt Kingsley **Date** April 24, 2024

Weather Information

Date, Amount of Last Precipitation:

Temp: 78 °F
Wind Speed: 5 mph
Wind Direction: From East
Barometric Pressure: 29.98 inches mercury (Hg)
Weather Conditions: Clear, Sunny, Calm

Casing Volume (ft^3) = Radius $(ft)^2$ x π x TD (ft)

Calculated Casinng Volume	
Casing Diameter	**Casing Vol/ft**
2-inch	0.0218 ft^3/ft
4-inch	0.0873 ft^3/ft

Equipment Information

Monitoring Equipment Used: GEM5000 s/n GS07609
Date and Time Last Calibrated: 6/29/2023

Well I.D.	Well Diameter (inches)	Total Well Depth (ftbtoc)	Casing Volume (ft^3)	Purge Start Time	Elapsed Purge Time (min)	Well Vapor Measurements Oxygen (%)	Carbon Dioxide (%)	Methane (%)	Hydrogen Sulfide Gas ~~(%)~~ ppm	Comments
VZ-1	2	51.23		10:25	5	20.9	0.5	0.0	1 ppm	DTW 51.0
VZ-2	2	43.99		10:00	5	19.8	0.6	0.0	1 ppm	Dry
VZ-3	2	42.09		9:30	5	20.1	0.4	0.0	0 ppm	Dry
VZ-4	2	50.50		9:05	5	19.6	0.8	0.0	2 ppm	DTW 49.0
VZ-5	2	56.50		8:40	5	19.1	0.6	0.0	1 ppm	DTW 55.1
VZ-6	2	62.10		11:50	10	19.3	1.3	0.0	2 ppm	DTW 60.5
VZ-7	2	44.76		11:25	5	19.7	1.0	0.0	0 ppm	Dry
VZ-8	2	37.60		11:00	5	20.0	1.1	0.0	2 ppm	Dry
VZ-9	2	50.30		13:15	5	19.0	1.2	0.0	1 ppm	Dry
VZ-10	2	52.26		13:53	5	19.3	0.9	0.0	1 ppm	Dry

EXHIBIT D: NEARBY WEATHER STATION PRECIPITATION DATA

Elev **3060** ft, **32.11** °N, **103.27** °W

El Capitan - KNMJAL2

FORECAST FOR JAL, NM (/WEATHER/US/NM/JAL/KNMJAL2)

Station Summary

Online(updated 14 minutes ago)

CURRENT CONDITIONS

80.3 °F

Feels Like 81.0 °

S

WIND & GUST
6.0 / **7.0** mph

DEWPOINT
59.0 ° F

PRECIP RATE
0.00 in/hr

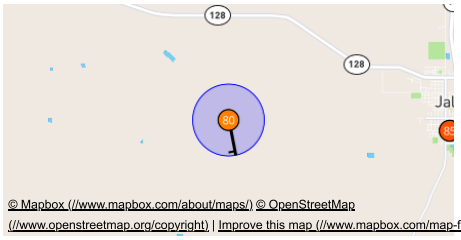
PRESSURE
29.76 in

HUMIDITY
49 %

PRECIP ACCUM
0.00 in

UV
5

MAP



lat=32.108051&lon=-103.266251&zoom=13&tl.play=0&tl.spd=2&groupSevere=1&groupHurricane=

PWS CURRENT CONDITIONS

TEMPERATURE

CURRENT
80°

DEWPOINT
59.0 °F

HUMIDITY
49 %

WIND

6.0

WIND FROM
S

GUST
7.0 mph

PRESSURE

CURRENT
29.76 In

PRECIPITATION

PRECIP RATE
0.00 in/hr

PRECIP TOTAL
0.00 in

UV

CURRENT UV
5

UV RISK

SOLAR RADIATION

CURRENT
853.00 watts/m²

Weekly Mode | April | 21 | 2024 | View

Previous Next

Summary

April 15, 2024 - April 21, 2024

	High	Low	Average
Temperature	**92.0** °F	**43.7** °F	**64.4** °F
Dew Point	**55.0** °F	**-30.0** °F	**27.4** °F
Humidity	**87** %	**1** %	**39** %
Precipitation	**0.17** in	--	--

	High	Low	Average
Wind Speed	**30.0** mph	**0.0** mph	**10.8** mph
Wind Gust	**42.0** mph	--	**15.7** mph
Wind Direction	--	--	**SSE**
Pressure	**30.59** in	**29.63** in	--

Graph | Table

April 15, 2024 - April 21, 2024

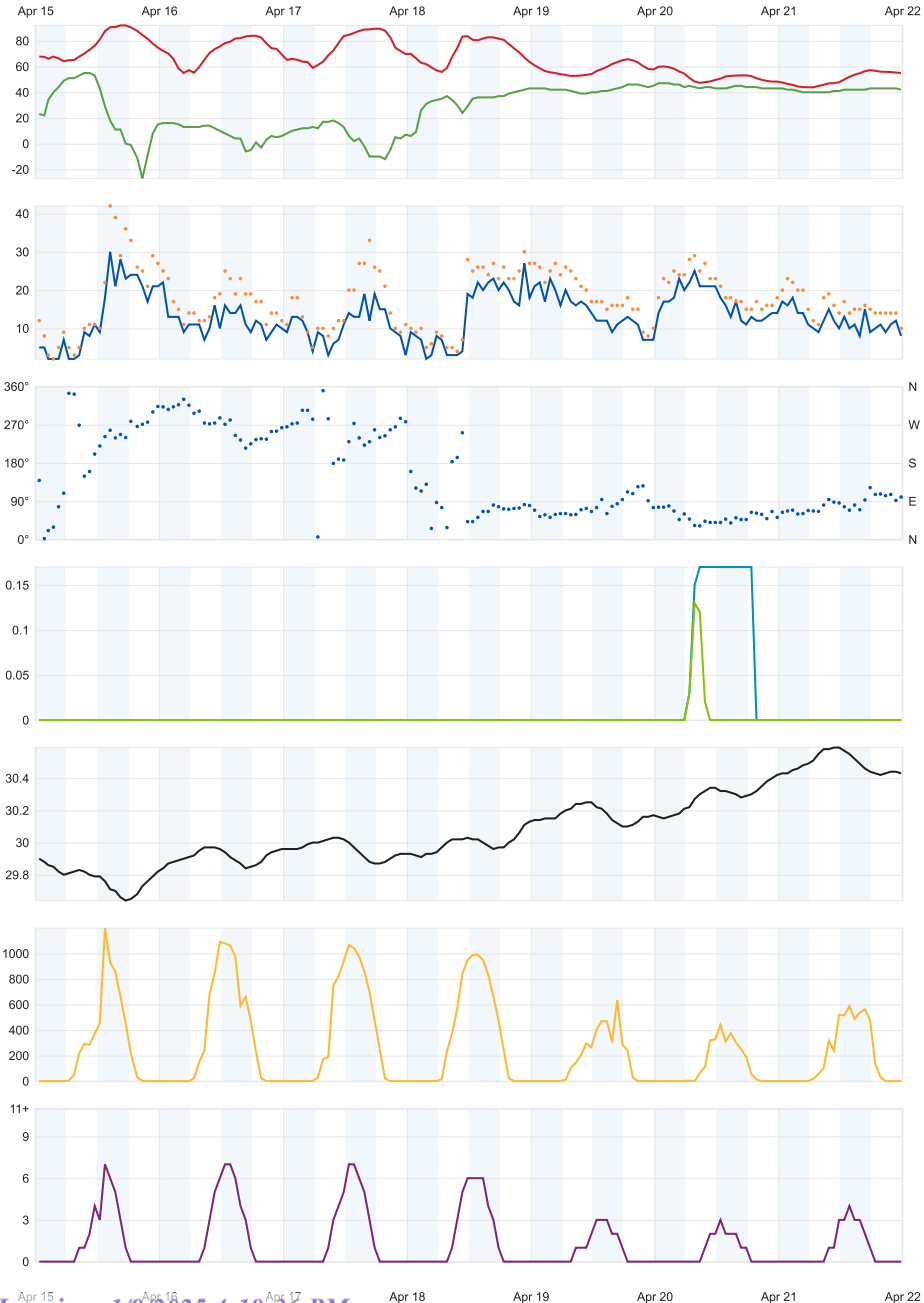


Exhibit D

Nearby Weather Station Precipitation data, Current and Historical

Station	Dist. (mi) [1]	P.O.R.	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	ANN.[2]
Jal Co-op Station (294346)[3]	26.75	1981-2010	1.56	1.62	2.09	1.92	2.14	1.30	0.66	0.54	0.48	0.54	0.55	0.78	14.18
Ochoa Co-op Station (296281)[3]	17.94	1981-2010	1.38	1.60	2.06	1.90	1.85	1.37	0.64	0.52	0.46	0.54	0.56	0.63	13.51
WIPP Co-op Station (299569)[3]	18.60	1981-2010	1.17	1.74	2.22	2.01	1.96	1.11	0.34	0.61	0.47	0.52	0.58	0.64	13.37
			May '23	**Jun '23**	**Jul '23**	**Aug '23**	**Sep '23**	**Oct '23**	**Nov '23**	**Dec '23**	**Jan '24**	**Feb '24**	**Mar'24**	**Apr'24**	**12 mo[5]**
El Capitan PWS (KNMJAL2)[4]	17.71	2023/24	1.71	0.77	0.12	1.98	0.86	1.51	0.28	0.47	0.38	0.46	0.12	0.17	8.83
Red Hills PWS (KNMJAL7)[4]	2.22	2023/24	2.21	1.87	0.52	1.54	0.97	1.37 *	0.49	0.22	0.12	0.21	0.00	0.00	9.52

NOTES:

P.O.R.: Period of Record

[1]: "Dist." represents the distance from eachweather station to the NDBL Facility

[2]: "ANN" refers to annual average rainfall for histori data stations, and YTD rainfall for nearby Personal Weather Stations (PWS)

[3]: Co-op station data are obtained from the Western Regional Climate Center (https://wrcc.dri.edu/Climate/west_coop_summaries.php)

[4]: Personal Weather Station data obtained from individual PWS web pages hosted by Weather Underground (https://www.wunderground.com/dashboard/pws/KNMJAL2 and https://www.wunderground.com/dashboard/pws/KNMJAL7)

*: Rainfall for October 2023 contains an outlier (12.32" rain recorded in 60 minutes on 10/3/2023) that coincides with an apparent instrument malfunction on that day. The anomalous value has been removed from this table.

[2]: "12-mo" refers to curret month's rainfall and previous 11 months for historic data stations

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Operator:	OGRID:
OWL LANDFILL SERVICES, LLC 3889 Maple Avenue Dallas, TX 75219	371820
	Action Number: 363544
	Action Type: [C-137] Non-Fee SWMF Submittal (SWMF NON-FEE SUBMITTAL)

CONDITIONS

Created By	Condition	Condition Date
joseph.kennedy	None	1/9/2025