

2015 ANNUAL GROUNDWATER REPORT

Lateral O-21 Line Drip
NMOCD Case#: 3RP-213-0
Meter Code: LD151
T30N, R9W, Sec12, Unit O

SITE DETAILS

Site Location: Latitude: 36.818600 N, Longitude: -107.730400 W
Land Type: Federal
Operator: Enterprise

SITE BACKGROUND

- **Site Assessment:** 1/95
- **Excavation:** 1/95

Environmental Remediation activities at the Lateral O-21 Line Drip (Site) are managed pursuant to the procedures set forth in the document entitled, "Remediation Plan for Groundwater Encountered during Pit Closure Activities" (Remediation Plan, El Paso Natural Gas Company / El Paso Field Services Company, 1995). This Remediation Plan was conditionally approved by the New Mexico Oil Conservation Division (OCD) in correspondence dated November 30, 1995; and the OCD approval conditions were adopted into El Paso CGP Company (EPCGP's) program methods. Currently, the Site is operated by Enterprise and is not active.

The Site is located on Federal land. Several site investigations were conducted from 1995 to 2000. Monitoring wells were installed in 1995 (MW-1) and 2000 (MW-2 and MW-3). Temporary piezometers were installed in 1997 (PZ-1 and PZ-2). Free product recovery has been periodically conducted at the Site. Currently, groundwater sampling is conducted on a semi-annual basis. Free product was observed in MW-1 in 2015.

SUMMARY OF 2015 ACTIVITIES

On May 30 and November 19, 2015, water levels were gauged at MW-1, MW-2, and MW-3. Monitoring wells MW-2 and MW-3 were dry and MW-1 contained free product on both dates. Groundwater samples and additional field parameters were not collected due to the presence of free product.

SUMMARY TABLES

Historic analytical and water level data are summarized in Table 1 and Table 2, respectively. When free product was present, static water level elevations were corrected for measurable thicknesses of free-product (specific gravity of 0.75).

SITE MAPS

Groundwater analytical maps (Figures 1 and 3) and groundwater elevation contour maps (Figures 2 and 4) summarize the results of the 2015 groundwater sampling and gauging events.

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ANALYTICAL LAB REPORTS

Groundwater samples were not collected in 2015.

GROUNDWATER RESULTS

- The groundwater flow direction cannot be determined. MW-1 is the only monitoring well where measurable groundwater elevation is present (see Figures 2 and 4).
- Groundwater samples were not collected from MW-1 in 2015 due to the presence of free product.
- Monitoring wells MW-2 and MW-3 were dry during each semi-annual sampling event in 2015.

PLANNED FUTURE ACTIVITIES

Additional monitoring wells are planned for future installation at the Site. The wells will be installed to further assess the extent of the dissolved-phase hydrocarbons and to confirm and/or further define the groundwater gradient at the Site. Monitoring wells will be installed around the known extent of dissolved-phase hydrocarbons in order to better delineate impacts from the former pit. Monitoring wells MW-2 and MW-3 will be plugged and abandoned. Plugging activities will be completed in accordance with NMED, Ground Water Quality Bureau, Monitoring Well Construction and Abandonment Guidelines, dated March 2011. Groundwater monitoring events will be conducted on a semi-annual basis. The 2016 Annual Report will be submitted in early 2017.

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TABLES

TABLE 1 – GROUNDWATER ANALYTICAL RESULTS

TABLE 2 – GROUNDWATER ELEVATION RESULTS

TABLE 1 - GROUNDWATER ANALYTICAL REPORT

LAT 0-21 Line Drip					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-1	11/06/95	935	2700	168	1890
MW-1	11/12/96	741	1620	99	1100
MW-1	02/11/97	202	313	15.6	230
MW-1	05/08/97	1050	1220	50.8	764
MW-1	08/05/97	99.5	179	8.42	160
MW-1	11/04/97	1370	3040	174	2530
MW-1	02/03/98	3000	3600	138	2180
MW-1	05/07/98	5380	7500	247	3500
MW-1	05/18/99	4860	6810	183	3450
MW-1	05/26/00	620	900	49	580
MW-1	06/18/01	1400	2000	37	2500
MW-1	06/04/02	270	170	12	1900
MW-1	09/10/02	NS	NS	NS	NS
MW-1	12/30/02	NS	NS	NS	NS
MW-1	03/27/03	NS	NS	NS	NS
MW-1	06/18/03	137	<10	<10	1730
MW-1	09/16/03	NS	NS	NS	NS
MW-1	12/17/03	NS	NS	NS	NS
MW-1	03/16/04	NS	NS	NS	NS
MW-1	06/22/04	NS	NS	NS	NS
MW-1	06/23/04	59.9	11.8	23.8	44.1
MW-1	09/21/04	NS	NS	NS	NS
MW-1	12/21/04	NS	NS	NS	NS
MW-1	04/18/05	66.6	9.3	21.5	56.5
MW-1	10/22/05	8.9	1.4	5.6	9.1
MW-1	01/19/06	37.6	3.6	17.4	42
MW-1	04/24/06	81.4	24.5	21.8	152
MW-1	10/24/06	9.4	1.7	2.3	8.2
MW-1	01/19/07	28.7	5.5	7.3	19.8
MW-1	04/24/07	104	82.1	41	244
MW-1	05/29/07	NS	NS	NS	NS
MW-1	10/25/07	3.8	4	4.4	8.8
MW-1	04/21/08	11.6	1.6 J	5.7	15.1
MW-1	07/23/08	11.2	1.4	3.2	9.3
MW-1	10/08/08	7.6	0.61 J	1.6 J	5.8 J
MW-1	01/07/09	3.1	<1	1	2.6
MW-1	04/06/09	6	2.2	1.6	6.2
MW-1	07/27/09	6.8	0.86 J	1.6	4.8
MW-1	06/06/13	<0.42	<0.90	69	1000
MW-1	09/09/13	NS	NS	NS	NS
MW-1	12/12/13	NS	NS	NS	NS
MW-1	04/02/14	NS	NS	NS	NS
MW-1	10/23/14	NS	NS	NS	NS
MW-1	05/30/15	NS	NS	NS	NS
MW-1	11/19/15	NS	NS	NS	NS

TABLE 1 - GROUNDWATER ANALYTICAL REPORT

LAT 0-21 Line Drip					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
MW-2	08/30/00	1.3	<0.5	<0.5	9.5
MW-2	06/18/01	<0.5	<0.5	<0.5	2
MW-2	06/04/02	<0.5	<0.5	<0.5	<1
MW-2	09/10/02	NS	NS	NS	NS
MW-2	12/30/02	NS	NS	NS	NS
MW-2	03/27/03	NS	NS	NS	NS
MW-2	06/18/03	<1	<1	<1	<3
MW-2	06/18/03	NS	NS	NS	NS
MW-2	09/16/03	NS	NS	NS	NS
MW-2	12/17/03	NS	NS	NS	NS
MW-2	03/16/04	NS	NS	NS	NS
MW-2	06/22/04	NS	NS	NS	NS
MW-2	06/23/04	<0.5	<0.5	<0.5	<1
MW-2	09/21/04	NS	NS	NS	NS
MW-2	12/21/04	NS	NS	NS	NS
MW-2	04/18/05	NS	NS	NS	NS
MW-2	10/22/05	NS	NS	NS	NS
MW-2	01/19/06	NS	NS	NS	NS
MW-2	04/24/06	NS	NS	NS	NS
MW-2	10/24/06	NS	NS	NS	NS
MW-2	01/18/07	NS	NS	NS	NS
MW-2	04/24/07	NS	NS	NS	NS
MW-2	05/29/07	NS	NS	NS	NS
MW-2	10/25/07	NS	NS	NS	NS
MW-2	04/21/08	NS	NS	NS	NS
MW-2	07/23/08	NS	NS	NS	NS
MW-2	10/08/08	NS	NS	NS	NS
MW-2	01/07/09	<1	<1	<1	<2
MW-2	07/27/09	<1	<1	<1	<2
MW-2	06/06/13	NS	NS	NS	NS
MW-2	09/09/13	NS	NS	NS	NS
MW-2	12/12/13	NS	NS	NS	NS
MW-2	04/02/14	NS	NS	NS	NS
MW-2	10/23/14	NS	NS	NS	NS
MW-2	05/30/15	NS	NS	NS	NS
MW-2	11/19/15	NS	NS	NS	NS

TABLE 1 - GROUNDWATER ANALYTICAL REPORT

LAT 0-21 Line Drip					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
MW-3	08/30/00	190	20	37	460
MW-3	06/18/01	34	4.7	68	130
MW-3	06/04/02	5.7	0.52	19	30
MW-3	09/10/02	NS	NS	NS	NS
MW-3	12/30/02	NS	NS	NS	NS
MW-3	03/27/03	NS	NS	NS	NS
MW-3	06/18/03	<50	<50	540	6490
MW-3	09/16/03	NS	NS	NS	NS
MW-3	12/17/03	NS	NS	NS	NS
MW-3	03/16/04	NS	NS	NS	NS
MW-3	06/22/04	NS	NS	NS	NS
MW-3	06/23/04	3.3	28.9	34	48.4
MW-3	09/21/04	NS	NS	NS	NS
MW-3	12/21/04	NS	NS	NS	NS
MW-3	04/18/05	<1	<1	5.3	<2
MW-3	10/22/05	<1	<1	<1	1.1
MW-3	01/19/06	<1	<1	<1	<2
MW-3	04/24/06	<1	<1	<1	<2
MW-3	10/24/06	<1	<1	<1	1.2 J
MW-3	01/19/07	<1	<1	<1	<2
MW-3	04/24/07	<1	<1	<1	<2
MW-3	05/29/07	NS	NS	NS	NS
MW-3	10/25/07	<1	<1	<1	<2
MW-3	04/21/08	<2	<2	<2	<6
MW-3	07/23/08	<1	<1	<1	2.3
MW-3	10/08/08	<2	<2	<2	<6
MW-3	01/07/09	<1	<1	0.44 J	2.2
MW-3	04/06/09	NS	NS	NS	NS
MW-3	07/27/09	NS	NS	NS	NS
MW-3	06/06/13	NS	NS	NS	NS
MW-3	09/09/13	NS	NS	NS	NS
MW-3	12/12/13	NS	NS	NS	NS
MW-3	04/02/14	NS	NS	NS	NS
MW-3	10/23/14	NS	NS	NS	NS
MW-3	05/30/15	NS	NS	NS	NS
MW-3	11/19/15	NS	NS	NS	NS

Notes:

"µg/L" = micrograms per liter

Results highlighted yellow exceed their respective New Mexico Water Quality Control Commission (NMWQCC) standards.

"J" = Result is less than the reporting limit but greater than or equal to the method detection limit and the result is an approximate value.

"<" = analyte was not detected at the indicated reporting limit (some historic data were reported at the detection limit).

"NS" = Monitoring well not sampled

TABLE 2 - GROUNDWATER ELEVATION RESULTS

LAT 0-21 Line Drip						
Location	Date	TOC	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-1	11/06/95	5816.10	34.45	NR		5781.65
MW-1	11/12/96	5816.10	34.75	NR		5781.35
MW-1	02/11/97	5816.10	33.82	NR		5782.28
MW-1	05/08/97	5816.10	33.54	NR		5782.56
MW-1	08/05/97	5816.10	34.20	NR		5781.90
MW-1	11/04/97	5816.10	35.42	NR		5780.68
MW-1	02/03/98	5816.10	35.08	NR		5781.02
MW-1	05/07/98	5816.10	34.83	NR		5781.27
MW-1	05/18/99	5816.10	34.64	NR		5781.46
MW-1	05/26/00	5816.10	34.76	NR		5781.34
MW-1	06/18/01	5816.10	35.60	NR		5780.50
MW-1	06/04/02	5816.10	35.98	NR		5780.12
MW-1	09/10/02	5816.10	37.15	36.85	0.30	5779.18
MW-1	12/30/02	5816.10	36.39	36.08	0.31	5779.94
MW-1	03/27/03	5816.10	35.96	ND		5780.14
MW-1	06/18/03	5816.10	36.26	ND		5779.84
MW-1	09/16/03	5816.10	37.06	ND		5779.04
MW-1	12/17/03	5816.10	36.72	ND		5779.38
MW-1	03/16/04	5816.10	36.22	ND		5779.88
MW-1	06/22/04	5816.10	36.38	ND		5779.72
MW-1	06/23/04	5816.10	36.38	ND		5779.72
MW-1	09/21/04	5816.10	37.43	ND		5778.67
MW-1	12/21/04	5816.10	36.98	ND		5779.12
MW-1	04/18/05	5816.10	35.93	ND		5780.17
MW-1	10/22/05	5816.10	36.99	ND		5779.11
MW-1	01/19/06	5816.10	36.18	ND		5779.92
MW-1	04/24/06	5816.10	35.71	ND		5780.39
MW-1	10/24/06	5816.10	36.81	ND		5779.29
MW-1	01/19/07	5816.10	36.14	ND		5779.96
MW-1	04/24/07	5816.10	35.73	ND		5780.37
MW-1	05/29/07	5816.10	36.90	ND		5779.20
MW-1	10/25/07	5816.10	37.39	ND		5778.71
MW-1	04/21/08	5816.10	35.97	ND		5780.13
MW-1	07/23/08	5816.10	36.55	ND		5779.55
MW-1	10/08/08	5816.10	36.88	ND		5779.22
MW-1	01/07/09	5816.10	36.52	ND		5779.58
MW-1	04/06/09	5816.10	36.03	ND		5780.07
MW-1	07/27/09	5816.10	36.83	ND		5779.27
MW-1	06/06/13	5816.10	39.98	39.91	0.07	5776.17
MW-1	09/09/13	5816.10	40.04	39.77	0.27	5776.26
MW-1	12/12/13	5816.10	39.39	39.32	0.07	5776.76
MW-1	04/02/14	5816.10	39.01	38.99	0.02	5777.11
MW-1	10/23/14	5816.10	40.09	40.07	0.02	5776.03
MW-1	05/30/15	5816.10	39.49	39.48	0.01	5776.62
MW-1	11/19/15	5816.10	39.86	39.85	0.01	5776.25

TABLE 2 - GROUNDWATER ELEVATION RESULTS

LAT 0-21 Line Drip						
Location	Date	TOC	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-2	08/30/00	5813.91	33.62	NR		5780.29
MW-2	06/18/01	5813.91	33.16	NR		5780.75
MW-2	06/04/02	5813.91	33.42	NR		5780.49
MW-2	09/10/02	5813.91	41.48	NR		5772.43
MW-2	12/30/02	5813.91	33.91	NR		5780.00
MW-2	03/27/03	5813.91	33.45	ND		5780.46
MW-2	06/18/03	5813.91	33.80	ND		5780.11
MW-2	06/18/03	5813.91	34.61	ND		5779.30
MW-2	09/16/03	5813.91	34.23	ND		5779.68
MW-2	12/17/03	5813.91	33.70	ND		5780.21
MW-2	03/16/04	5813.91	33.92	ND		5779.99
MW-2	06/22/04	5813.91	33.92	ND		5779.99
MW-2	06/23/04	5813.91	34.99	ND		5778.92
MW-2	09/21/04	5813.91	34.49	ND		5779.42
MW-2	12/21/04	5813.91	33.40	ND		5780.51
MW-2	04/18/05	5813.91	34.49	ND		5779.42
MW-2	10/22/05	5813.91	33.68	ND		5780.23
MW-2	01/19/06	5813.91	33.21	ND		5780.70
MW-2	04/24/06	5813.91	34.31	ND		5779.60
MW-2	10/24/06	5813.91	33.66	ND		5780.25
MW-2	01/18/07	5813.91	32.70	ND		5781.21
MW-2	04/24/07	5813.91	33.44	ND		5780.47
MW-2	05/29/07	5813.91	34.78	ND		5779.13
MW-2	10/25/07	5813.91	33.45	ND		5780.46
MW-2	04/21/08	5813.91	34.10	ND		5779.81
MW-2	07/23/08	5813.91	34.45	ND		5779.46
MW-2	10/08/08	5813.91	34.03	ND		5779.88
MW-2	01/07/09	5813.91	33.53	ND		5780.38
MW-2	07/27/09	5813.91	34.42	ND		5779.49
MW-2	06/06/13	5813.91	DRY	ND		DRY
MW-2	09/09/13	5813.91	DRY	ND		DRY
MW-2	12/12/13	5813.91	DRY	ND		DRY
MW-2	04/02/14	5813.91	DRY	ND		DRY
MW-2	10/23/14	5813.91	DRY	ND		DRY
MW-2	05/30/15	5813.91	DRY	ND		DRY
MW-2	11/19/15	5813.91	DRY	ND		DRY

TABLE 2 - GROUNDWATER ELEVATION RESULTS

LAT 0-21 Line Drip						
Location	Date	TOC	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-3	08/30/00	5814.64	34.56	NR		5780.08
MW-3	06/18/01	5814.64	34.14	NR		5780.50
MW-3	06/04/02	5814.64	34.42	NR		5780.22
MW-3	09/10/02	5814.64	35.92	35.29	0.64	5779.20
MW-3	12/30/02	5814.64	34.97	34.42	0.55	5780.08
MW-3	03/27/03	5814.64	34.49	ND		5780.15
MW-3	06/18/03	5814.64	34.80	ND		5779.84
MW-3	09/16/03	5814.64	35.64	35.62	0.02	5779.02
MW-3	12/17/03	5814.64	35.24	ND		5779.40
MW-3	03/16/04	5814.64	34.75	ND		5779.89
MW-3	06/22/04	5814.64	34.95	ND		5779.69
MW-3	06/23/04	5814.64	34.95	ND		5779.69
MW-3	09/21/04	5814.64	35.95	ND		5778.69
MW-3	12/21/04	5814.64	35.51	ND		5779.13
MW-3	04/18/05	5814.64	34.48	ND		5780.16
MW-3	10/22/05	5814.64	35.52	ND		5779.12
MW-3	01/19/06	5814.64	34.71	ND		5779.93
MW-3	04/24/06	5814.64	34.23	ND		5780.41
MW-3	10/24/06	5814.64	35.33	ND		5779.31
MW-3	01/19/07	5814.64	34.66	ND		5779.98
MW-3	04/24/07	5814.64	33.25	ND		5781.39
MW-3	05/29/07	5814.64	34.42	ND		5780.22
MW-3	10/25/07	5814.64	35.88	ND		5778.76
MW-3	04/21/08	5814.64	34.50	ND		5780.14
MW-3	07/23/08	5814.64	35.06	ND		5779.58
MW-3	10/08/08	5814.64	35.41	ND		5779.23
MW-3	01/07/09	5814.64	35.05	ND		5779.59
MW-3	04/06/09	5814.64	34.53	ND		5780.11
MW-3	07/27/09	5814.64	DRY	ND		DRY
MW-3	06/06/13	5814.64	DRY	ND		DRY
MW-3	09/09/13	5814.64	DRY	ND		DRY
MW-3	12/12/13	5814.64	DRY	ND		DRY
MW-3	04/02/14	5814.64	DRY	ND		DRY
MW-3	10/23/14	5814.64	DRY	ND		DRY
MW-3	05/30/15	5814.64	DRY	ND		DRY
MW-3	11/19/15	5814.64	DRY	ND		DRY

Notes:

"ft" = feet

"TOC" = Top of casing

"LNAPL" = Light non-aqueous phase liquid

"ND" = LNAPL not detected

"NR" = LNAPL not recorded

FIGURES

FIGURE 1: MAY 30, 2015 GROUNDWATER ANALYTICAL RESULTS MAP

FIGURE 2: MAY 30, 2015 GROUNDWATER ELEVATION MAP

FIGURE 3: NOV. 19, 2015 GROUNDWATER ANALYTICAL RESULTS MAP

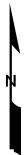
FIGURE 4: NOV. 19, 2015 GROUNDWATER ELEVATION MAP



AERIAL IMAGERY FROM GOOGLE EARTH, DATED 5/2/2013

LEGEND:

- 5816 APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- OVHD— OVERHEAD ELECTRIC LINE
- GAS— NATURAL GAS LINE
- ⊕ GEOPROBE LOCATION
- ⬮ MONITORING WELL
- ⬮ MONITORING WELL WITH MEASUREABLE FREE PRODUCT
- ▲ SMA BENCHMARK
- NS NOT SAMPLED



REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	2/15/2016	CCL	CCL	SRV

TITLE:
**GROUNDWATER ANALYTICAL RESULTS
MAY 30, 2015**

PROJECT: **LAT 0-21
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO**



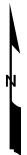
Figure No.:

1



LEGEND:

- 5816 APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- OVHD OVERHEAD ELECTRIC LINE
- GAS NATURAL GAS LINE
- GEOPROBE LOCATION
- MONITORING WELL
- MONITORING WELL WITH MEASUREABLE FREE PRODUCT
- SMA BENCHMARK
- NS NOT SAMPLED



REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	2/15/2016	CCL	CCL	SRV

TITLE:
**GROUNDWATER ANALYTICAL RESULTS
NOVEMBER 19, 2015**

PROJECT: **LAT 0-21
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO**



Figure No.:
3

	APPROXIMATE SURFACE CONTOUR AND ELEVATION, FEET
	OVERHEAD ELECTRIC LINE
	NATURAL GAS LINE
	GEOPROBE LOCATION
	MONITORING WELL
	MONITORING WELL WITH MEASUREABLE FREE PRODUCT
	SMA BENCHMARK

GROUNDWATER ELEVATION
CORRECTED FOR PRODUCT THICKNESS
(FEET ABOVE MEAN SEA LEVEL).



A number line from 0 to 80 with tick marks every 10 units. The segment from 0 to 40 is divided into four equal parts, each containing a black square and a white square. The segment from 40 to 80 is a single black square.

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	2/15/2016	CCL	CCL	SRV

GROUNDWATER ELEVATION MAP
NOVEMBER 19, 2015

LAT 0-21
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO



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