Hydrogeologic Investigation
Chevron/Isleta Boulevard Site
Albuquerque, New Mexico
CDM Project No. 8557-113-SI
December 1992

Prepared For:

NEW MEXICO ENVIRONMENT DEPARTMENT

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1.0 INTRODUCTION

1.1 GENERAL

Camp Dresser & McKee Inc. (CDM) was contracted by the New Mexico Environment Department (NMED) to complete a Hydrogeologic Investigation in the vicinity of the Isleta Chevron facility located at the intersection of Isleta and Rio Bravo Boulevards in southwest Albuquerque, New Mexico. Previous reports for the site include Krancevich (1991) and Shomaker (1992).

In conjunction with the completion of this Hydrogeologic Investigation, five additional soil borings were advanced at the site and completed as groundwater monitor wells. Results of the initial investigations indicated that groundwater beneath the site is located at a depth of approximately 6 to 8 feet, with a consistent flow direction toward the south. Significant onsite concentrations of petroleum hydrocarbons in groundwater were reported by Krancevich (1991) and Shomaker (1992), but the off-site extent of these impacts had not been previously defined to the north and south of the site.

1.2 HYDROGEOLOGIC INVESTIGATION OBJECTIVES

The objectives of this Hydrogeologic Investigation included:

- Completion of selected additional soil borings as groundwater monitor wells to complete the definition of the horizontal and vertical extent of affected groundwater in the area of the site;

- Collection and chemical analysis of representative groundwater samples in order to define the horizontal and vertical extent of any petroleum hydrocarbon compounds which may be present in the groundwater in the vicinity of site;

- Collection and microbiological analysis of representative soil samples in order to evaluate the potential for natural biodegradation of petroleum hydrocarbons in the soil and groundwater beneath the site; and

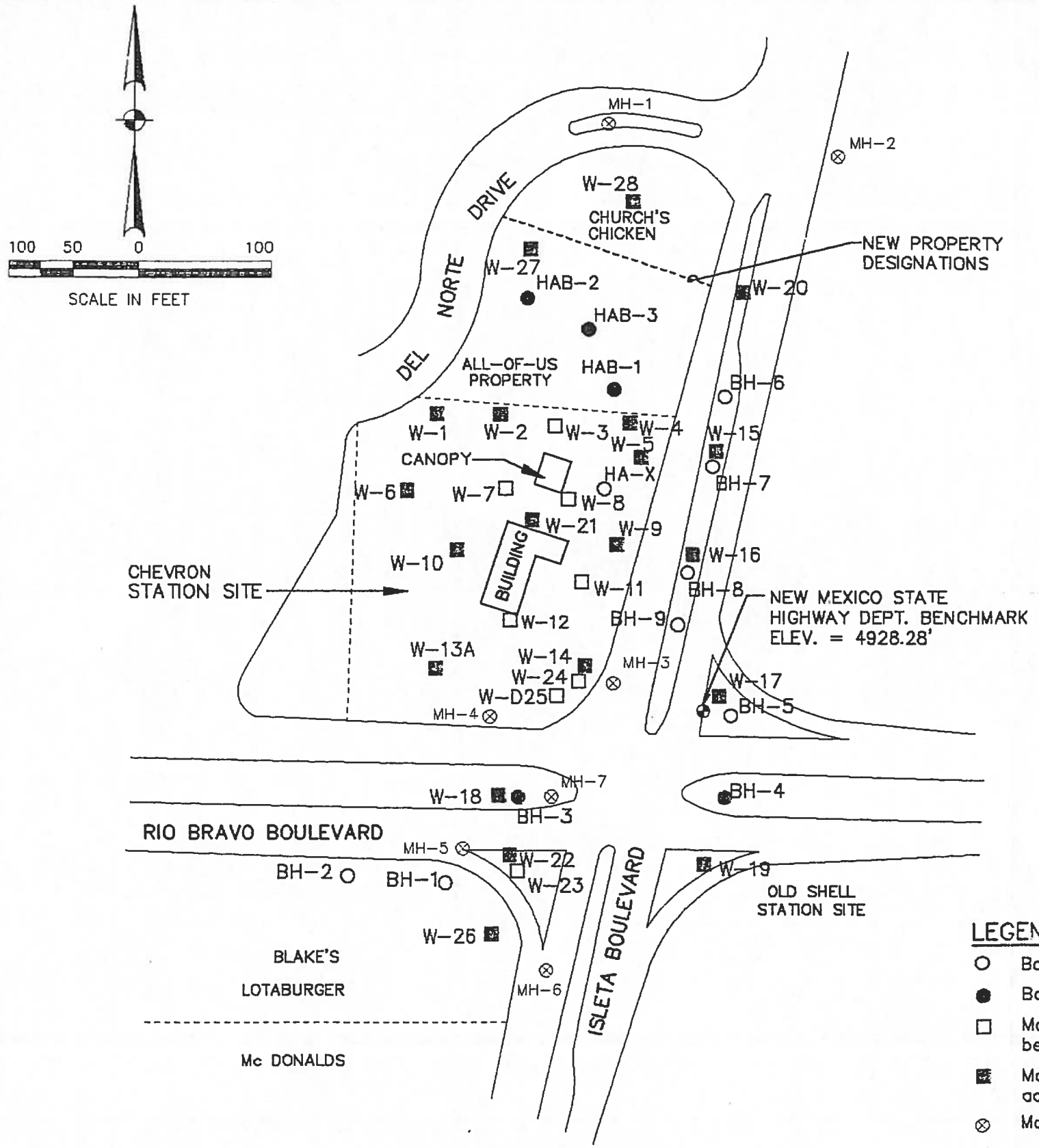
- Preparation of a report which summarizes the results of the Hydrogeologic Investigation, and complies with Section 1210 of the New Mexico Underground Storage Tank Regulations (NMUSTR).

1.3 SITE DESCRIPTION

The subject site is presently an active retail service station facility located at the northwest corner of the intersection of Isleta and Rio Bravo Boulevards in southwest Albuquerque. The site is surrounded by the following developments: to the north is a vacant lot owned by All-of-Us Investments, with a Church's Chicken facility beyond; to the south across Rio Bravo Boulevard is a Blake's Lotaburger restaurant; to the east across Isleta Boulevard is an abandoned grocery store and parking lot; and to the west of the site is an access road to a strip shopping center beyond. The topography in the area is flat, with a gentle slope toward the Rio Grande River, located approximately 1/2 mile to the east. Figure 1 depicts the layout of the site and surrounding properties.

1.4 SITE HISTORY

In order to provide a more complete understanding of the site, aerial photographs were obtained from the NASA Technology Application Center at the University of New Mexico. Time-lapse aerial photographs of the site and surrounding area were reviewed for the presence of other facilities which could affect the groundwater quality beneath the subject site based upon their apparent use. Specific aerial photographs from October 1967 and November 1959 were reviewed, and are included in Appendix A. It is important to note that the copies of the photographs included in Appendix A do not reflect the clarity of the original aerial photographs.



LEGEND

- ○ Borehole
- ● Borehole, temporary well
- □ Monitor well, screened below water table
- ■ Monitor well, screened across water table
- ⊗ Manhole

Map of Chevron Station site, 3401 Isleta Boulevard SW, Albuquerque, N.M.

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SITE PLAN	CDM environmental engineers, scientists planners, & management consultants	NMED-GWPA CHEVRON ISLETA PROJECT	Figure No. 1

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The 1967 photograph indicates that the current on-site service station was present in that year. Immediately north of the site, encompassing the current location of the All-of-Us property and the Church's Chicken property, was another service station facility. The previous report by Shomaker (1992) indicates that this site was a Plateau service station for a portion of its existence. Current NMED records identify this site as a former Horn Oil station. The other structures within 1000 feet of the site on the 1967 photograph appear to be light commercial structures of indeterminate use. A residential development existed in 1967 at the site of the current strip shopping center.

The 1959 photograph indicates that the current onsite service station did not exist in that year. In fact, the Rio Bravo Bridge over the Rio Grande did not exist at that time, and Rio Bravo Boulevard either did not exist or terminated at Isleta Boulevard. The parcel of land which currently contains the subject site appears to have been either a residence or a light commercial structure in 1959. The current commercial corridor along Isleta Boulevard was mostly undeveloped in 1959 within 1000 feet of the subject site.

2.0 HYDROGEOLOGY

The hydrogeologic setting for this site was described adequately in the previous report by Shomaker (1992). The data compiled in conjunction with this investigation support the conditions previously described.

3.0 FIELD INVESTIGATION

The Hydrogeologic Investigation performed at the site included the completion of 5 soil borings, all of which were constructed as supplemental groundwater monitor wells. Monitor wells W-27 and W-28 were installed to evaluate the northern extent of the impacted groundwater plume. Monitor well W-26 was installed to evaluate the southern extent of the impacted groundwater plume. Monitor well W-D25 was installed to evaluate the vertical extent of the impacted groundwater plume onsite. Monitor well W-13A was installed to replace W-13, which was destroyed by earthmoving equipment. All monitor wells constructed as part of this Hydrogeologic Investigation were installed at the locations shown on Figure 1.

As the drilling progressed, borehole soil samples were field screened for volatile organic vapors using a Thermo Environmental Model 580A Organic Vapor Meter, pursuant to Sections 1205.C.1.d and 1209.D.3.a of the New Mexico Underground Storage Tank Regulations (NMUSTR). Field screening data was collected in a manner consistent with that described in Appendix C of Section XII of the NMUSTR.

All of the borings were subsequently completed as groundwater monitor wells. Once completed, groundwater depths were measured, and the new wells were surveyed relative to the elevations of the existing site monitor wells, in order to facilitate the calculation of groundwater elevations. Section 3.3 (Site Survey) contains details of the survey procedures. Groundwater samples were collected from all onsite and off-site wells after purging (and development, where applicable), and these samples were submitted for laboratory analyses (See Section 4).

3.1 SOIL BORINGS

The borings were drilled using a high-torque CME-75 hollow stem auger drilling rig operated by Rodgers and Company. The borings were advanced using an 8-inch outside diameter hollow stem auger. Each boring was sampled at five foot intervals utilizing an

18-inch, decontaminated split spoon sampler, except for boring/well W-D25. This well was installed in a nested setting with two other wells, both of which had been previously logged. W-D25 was drilled as a deep-horizon sampling well to a depth of 30 feet plus a five foot long slotted screen drive point. Due to the specified use of this well and its proximity to W-14 and W-24, lithologies were not logged. Drilling tools were decontaminated prior to use at the site at Rodgers and Company's drilling service yard, located nearby. The split spoon sampler was decontaminated with a detergent wash, clean water rinse, and distilled water rinse between sampling runs.

Each boring was lithologically logged by a qualified CDM geologist according to the Uniform Soil Classification System (ASTM D2487-66T) as the drilling progressed. Graphical Logs of these borings/wells are provided in Appendix B. Generally, the materials encountered in the borings included layers of fine-grained sediments ranging from silty sand to clean sand. The materials encountered in the boreholes ranged in moisture content from dry to moist above the observed groundwater level, generally encountered at a depth of 6 to 8 feet. These conditions and depths are consistent with the logged wells completed in conjunction with the previous reports.

Soil samples were field screened using a Thermo Environmental Model 580A Organic Vapor Meter (OVM) equipped with a photoionization detector. The OVM was calibrated daily to 100 parts per million isobutylene. Soil samples were screened by placing them immediately upon retrieval from the sampler into 8 oz. soil jars and covered with aluminum foil and the jar ring lid. The sample was allowed to phase equilibrate in the jar for approximately five minutes, and was then shaken prior to piercing the aluminum foil seal with the OVM probe. The maximum OVM reading was recorded, before the meter reading stabilized or dropped.

The field screening data obtained during this supplemental investigation is summarized on individual boring logs provided in Appendix B, as well as in Table 1.

TABLE 1 SUMMARY OF SOIL SCREENING DATA		
BORING NO.	**DEPTH (FEET)**	**OVM READING (METER UNITS)**
W-D25	Soils not screened	N/A
W-26	5 10	0.0 N/A
W-27	5 10	0.0 N/A
W-28	5 10	N/A 0.0
W-13A	5 10	1.3 N/A

Drill cuttings and discarded field screened soil samples which indicated the presence of volatile organic compounds by field screening were stored in drums onsite for later disposal. Soil cuttings produced during previous investigation activities will be disposed of in a similar manner.

3.2 GROUNDWATER MONITOR WELLS

Groundwater monitor wells installed in each of the borings (except W-D25, see Section 3.1) were constructed using 2 inch diameter, Schedule 40, flush threaded PVC casing with 0.010 inch factory slotted well screen. The screened interval was placed across the air-groundwater interface as determined by initial water level gauging performed through the auger flights. The well screen and casing were connected by flush threaded ends without the use of glues or solvents. The annulus of each well was sand packed with clean 10-20 silica sand (2 inches of filter pack around the well screen) to approximately 1 to 2 feet above the well screen. A 1 to 2 foot thick well seal (bentonite plug) was installed immediately above the well seal, and was activated using 0.5 gallons of deionized water. The remaining well annulus was then grouted to the surface.

The PVC casing was installed extending to within one-half foot of surrounding site grade. Each well is secured with a 2 inch locking plug, and the wells are equipped with keyed-alike padlocks (Masterlock #2729). Manways were installed completing the surface of the wells and include two foot diameter, formed, concrete pads. Each well pad was completed to approximately 2 inches above grade to allow for surface drainage away from the well head. Well completion diagrams are provided in conjunction with the boring logs which appear in Appendix B. Well completion data for the supplementally-installed wells is summarized on Table 2.

TABLE 2
SUMMARY OF SUPPLEMENTAL WELL CONSTRUCTION DATA
(all data in feet)

WELL NO.	TOTAL DEPTH	SCREENED INTERVAL	SAND INTERVAL	SEAL INTERVAL	TOC*
W-D25	35	30-35	28-35	26-28	4928.60
W-26	14	4-14	4-14	2-4	4927.55
W-27	14.5	4.5-14.5	4.5-14.5	2.5-4.5	4928.11
W-28	15	5-15	5-15	3-5	4929.53
W-13A	15	5-15	5-15	3-5	4927.65

NOTE: Benchmark established at Highway Dept. marker at northeast corner of intersection (El. 4928.28)

* TOC - Top of casing elevation measured to the north side of the top of the PVC casing.

3.3 SITE WELL SURVEY

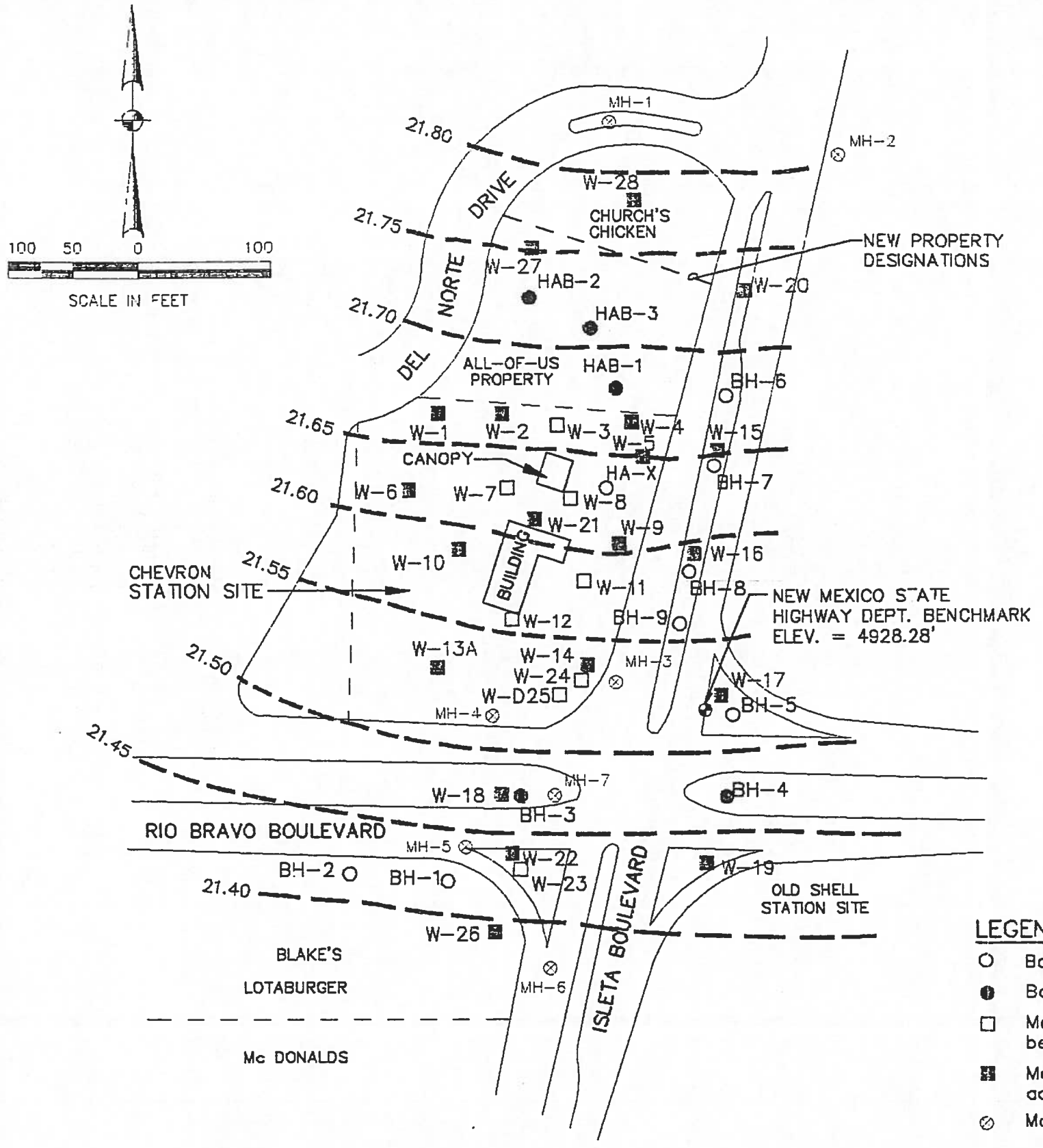
A well elevation survey was conducted on October 27, 1992 following the completion of the new wells and the repair of several wells which had sustained surface damage. All water table elevation data included in this report was corrected to the new survey data. Horizontal locations of each well were measured using a measuring wheel and are accurate to the nearest foot. Elevations of the top of the monitor well casings were

established to elevations within the nearest 0.01 foot. The benchmark utilized for this survey was a New Mexico Highway Department marker at the northeast corner of the intersection at an elevation of 4928.28 ft above mean sea level.

3.4 GROUNDWATER FLOW

Depth to groundwater data was collected from each of the site monitor wells on October 27, 1992. Groundwater was measured to the nearest 0.01 foot using an ORS Interface Probe. The probe measuring tape was decontaminated before measuring groundwater depths in each well with a detergent spray, a clean wipe followed by a distilled water spray and a clean wipe. No phase separated hydrocarbons (PSH) were observed in any of the gauged wells in conjunction with these activities. The compiled groundwater elevation data collected during the October 27, 1992 site visit is presented in tabulated form on Figure 2.

The groundwater flow direction, as indicated by the October 27, 1992 data, is toward the south, which is consistent with previously determined flow direction data. The calculated average flow gradient was 0.0007 ft/ft. Figure 2 presents the current groundwater contour map in the vicinity of the site.



Map of Chevron Station site, 3401 Isleta Boulevard SW, Albuquerque, N.M.

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WATER TABLE ELEVATIONS (WTE) MEASURED 10/27/92

WELL NO.	WTE
W-1	21.67
W-2	21.66
W-3	21.68*
W-4	21.67
W-5	21.65
W-6	21.62
W-7	21.64*
W-8	N/A*
W-9	21.62
W-10	21.57
W-11	N/A*
W-12	21.58*
W-13A	21.54
W-14	21.53
W-15	21.65
W-16	21.58
W-17	21.54
W-18	21.49
W-19	21.42
W-20	21.72
W-21	N/A
W-22	21.42
W-23	21.41*
W-24	21.49*
W-D25	21.56*
W-26	21.39
W-27	21.75
W-28	21.79

* ELEVATION NOT USED FOR CONTOURING DUE TO LOCATION OF SCREENED INTERVAL BELOW WATER TABLE.

NOTE:
ELEVATIONS RELATIVE TO NEW MEXICO HIGHWAY DEPARTMENT BENCHMARK AT N.E. CORNER OF INTERSECTION, ELEV. 4928 28.
ACTUAL REPORTED ELEVATIONS = +4900.00' ABOVE SEA LEVEL.

LEGEND

- ○ Borehole
- ◐ Borehole, temporary well
- □ Monitor well, screened below water table
- ▣ Monitor well, screened across water table
- ⊘ Manhole

GROUNDWATER CONTOUR MAP OCTOBER 1992	CDM environmental engineers, scientists planners, & management consultants	NMED-GWPA CHEVRON ISLETA PROJECT	Figure No. 2

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4.0 LABORATORY ANALYSIS DATA

All groundwater and soil samples were submitted to Analytical Technologies Inc. (ATI) in Albuquerque, New Mexico for chemical analyses. Microbiological analyses were performed by the Idaho State University (Pocatello) Biology Department under the direction of Dr. Mary E. Watwood, Ph.D. Appropriate sample preservation and chain of custody procedures were followed during all soil and groundwater sampling events.

4.1 SOIL ANALYSIS DATA

CDM collected soil samples for laboratory analysis (for petroleum hydrocarbons) from four of the five borings advanced during this investigation. Soil from boring/well W-D25 was not sampled for the reasons listed in Section 3.1. One soil sample was collected from each of the sampled borings/wells (W-26, W-27, W-28, and W-13A) at a horizon judged to be most likely to be impacted by groundwater-transported hydrocarbon impacts (generally just above the static water table surface). Each soil sample was placed in laboratory-supplied glass jars for chemical analysis. Soil sample jars were placed in coolers with ice and were hand delivered to Analytical Technologies, Inc., in Albuquerque, New Mexico. Copies of the laboratory reports, complete with Chain of Custody Forms, are presented in Appendix C.

The soil samples selected as representative of the highest potential impact were submitted for analysis for the following parameters:

- benzene, toluene, ethylbenzene, and total xylenes using EPA Method 8020; and
- total petroleum hydrocarbons (TPH) using Modified EPA Test Method 8015.

The results of the soil chemical analyses are summarized in Table 3 below. The copies of the analytical laboratory reports are provided in Appendix C.

TABLE 3
SUMMARY OF SOIL CHEMISTRY DATA*
(data reported in milligrams per kilogram (mg/kg))

BORING	SAMPLE DEPTH (feet)	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	MTBE	TPH
W-D25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
W-26	5	<0.025	<0.025	<0.025	<0.025	<0.12	<5
W-27	5	<0.025	<0.025	<0.025	<0.025	<0.12	<5
W-28	10	<0.025	<0.025	<0.025	<0.025	<0.12	<5
W-13A	5	<0.025	<0.025	<0.025	<0.025	<0.12	<5
NMUSTR Standards (Section 1209.D.3.a)		10	No Standard	No Standard	No Standard	No Standard	100**

* BTEX and MTBE data obtained by EPA Test Method 8020
TPH data obtained by Modified EPA Test Method 8015
** Applies to heavier-hydrocarbon fuel source only

Section 1209.D.3.a of the NMUSTR establishes a maximum permissible benzene concentration of 10 ppm, a maximum total aromatic hydrocarbon concentration of 50 ppm, or a total organic vapor value of 100 ppm; and a maximum TPH concentration of 100 ppm (for soils impacted by heavier hydrocarbon fuel sources) for soil in areas where groundwater is encountered at a depth of less than 50 feet below the deepest affected soil depth. Analytical laboratory data indicates that all soil samples submitted by CDM for these analyses from the newly installed perimeter boreholes contain non-detectable levels of listed compounds.

Two soil samples were submitted to Idaho State University's laboratory for analysis for naturally occurring microbes known to degrade hydrocarbons in the subsurface. One soil sample was collected in a relatively unimpacted area (W-26 borehole at a depth of 4 feet below grade), and one sample was collected at a known contaminated area (location HA-X at a depth of 5 feet below grade).

The unimpacted sample exhibited populations of both hydrocarbon degraders (which specifically consume hydrocarbon compounds) and heterotrophy (which consume a wider variety of carbon compounds). The impacted sample contained the heterotrophic populations, but not the hydrocarbon degraders. Although a specific analysis for toxicity of the impacts to the hydrocarbon degraders was not performed, the data indicates that impact toxicity is a likely explanation for the lack of hydrocarbon degraders. This conclusion and its effect on the potential for bioremediation at this site are further discussed in Section 5, 6, and 7. A copy of the Microbiological Characterization Report is included as Appendix D.

4.2 GROUNDWATER CHEMISTRY DATA

During September and October 1992, groundwater samples were collected from all onsite and off-site groundwater monitoring wells. Prior to sampling the groundwater monitor wells, static groundwater levels were gauged, and each well was inspected for the presence of phase-separated hydrocarbons using an Oil Recovery Systems Interface Probe.

After static water levels were gauged, at least three well bore volumes of water were evacuated from each well using a centrifugal pump. Samples were collected from each well using either a dedicated or new, clean, 1.25 inch diameter Voss Technologies PVC disposable bailer. All purged water was contained in 55 gallon drums and placed behind the Isleta Chevron facility pending receipt of the groundwater chemistry data.

Collected groundwater samples were placed in laboratory pre-cleaned 40 milliliter glass vials with zero headspace. For certain samples, laboratory precleaned 1 liter bottles were used. These samples were preserved with 2 drops of mercuric chloride (8 part per million concentration) in order to retard potential bacterial degradation of volatile organic compounds during the sample holding time. Samples were then placed in a cooler and hand delivered to Analytical Technologies Inc. in Albuquerque for analysis by EPA Methods 601/602 (all samples) and EPA Test Method 625 (W-5 and W-26). A request

to specifically analyze selected samples for methyl-tert-butyl ether (MTBE) and ethylene dibromide (EDB) was made. The laboratory reports for groundwater samples are included in Appendix C and historical groundwater quality data is summarized in Table 4.

As indicated by the groundwater quality analysis data, the impacted groundwater plume at the site appears to be centered in the vicinity of the UST basin immediately north of the station building. Iso-concentration maps have been prepared for various hydrocarbon compounds to provide indications of the current plume geometry. An Iso-Benzene Contour Map has been included as Figure 3, as well as an Iso-Total Xylene Contour Map (Figure 4), an Iso-Total BTEX Contour Map (Figure 5), and an Iso-MTBE Contour Map (Figure 6). As required by Section 1210.C.1 of the New Mexico Underground Storage Tank Regulations, these maps indicate that the horizontal and vertical extent of hydrocarbon impacts have been adequately defined.

In addition to the hydrocarbon impacts present at the site, laboratory analysis indicated the presence of chlorinated solvents in some of the wells. Specifically, trichloroethane (TCE), tetrachloroethane (PCE), 1,2 dibromoethane (EDB), 1,2 dichloroethane (EDC) and total 1,2 dichloroethene (DCE) were reported by EPA Method 601. The occurrence of TCE, PCE, and DCE will be discussed separately from the occurrence of EDB and EDC, due to their respective chemical similarities.

The chlorinated solvents TCE and PCE were detected in groundwater samples collected from the following wells: W-15, W-17, W-20, W-27, W-28, HAB-2, and HAB-3. The highest TCE concentration encountered was 10.0 ppb in W-28 in September 1992. The highest PCE concentration encountered was 0.6 ppb in W-20 in September 1992. It is important to note that all of the positive results occur on the northern end of the study area (on the former Plateau/Horn Oil station site) and along Isleta Boulevard. The existing New Mexico Groundwater standards for TCE and PCE are 100 ppb and 20 ppb, respectively. None of the samples analyzed for these compounds exceeded this standard.

TABLE 4
NMED CHEVRON/ISLETA SITE
SUMMARY OF GROUNDWATER CHEMISTRY DATA
All data in ug/l (ppb), * indicates parameter not sampled

WELL NO.	DATE OF SAMPLE	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES	TOTAL BTEX	MTBE	EDC	EDB	TCE	PCE	DCE
W-13A	10/22/92	<0.5	<0.5	<0.5	<0.5	<0.5	8.8	<0.2	<0.5	<0.2	<0.2	0.0
W-28	10/22/92	<0.5	<0.5	<0.5	<0.5	<0.5	10.0	<0.2	<0.5	10.0	<0.2	0.0
W-01	09/22/92	3.8	<0.5	0.8	1.1	5.7	<1.0	<0.2	<1.0	<0.2	<0.2	13.1
W-02	09/22/92	22.9	0.6	0.0	0.8	24.3	*	<0.2	*	<0.2	<0.2	9.6
W-03	09/22/92	1500.0	34.0	460.0	350.0	2344.0	*	<10.0	*	<10.0	<10.0	32.0
W-04	09/22/92	4200.0	680.0	1300.0	3600.0	9780.0	<100.0	*	<100.0	<20.0	<20.0	<20.0
W-05	09/22/92	4100.0	520.0	1600.0	3600.0	9820.0	*	*	*	<20.0	<20.0	<20.0
W-06	09/22/92	<0.5	<0.5	<0.5	<0.5	<0.5	*	*	*	<0.2	<0.2	<0.2
W-07	09/22/92	8400.0	2200.0	2600.0	20000.0	33200.0	*	*	*	<100.0	<100.0	<100.0
W-08	09/22/92	2100.0	840.0	360.0	2100.0	5400.0	*	<10.0	*	<10.0	<10.0	14.0
W-09	09/22/92	3800.0	<50.0	2500.0	300.0	6600.0	<100.0	*	<100.0	<20.0	<20.0	<20.0
W-10	09/22/92	3.7	0.9	<0.5	<0.5	4.6	35.6	<0.2	<1.0	<0.2	<0.2	12.7
W-11	09/22/92	3100.0	3700.0	1000.0	2500.0	10300.0	140.0	*	*	<20.0	<20.0	<20.0
W-12	09/22/92	4200.0	<2.5	58.0	<2.5	4258.0	1200.0	<1.0	*	<1.0	<1.0	52.0
W-14	09/22/92	1.7	0.9	<0.5	<0.5	2.8	160.0	<0.2	<1.0	<0.2	<0.2	5.2
W-15	09/22/92	0.8	<0.5	9.2	<0.5	10.0	*	<0.2	*	2.2	0.2	0.7
W-16	09/22/92	<0.5	<0.5	<0.5	<0.5	<0.5	*	*	*	<0.2	<0.2	<0.2
W-17	09/22/92	<0.5	<0.5	<0.5	<0.5	<0.5	*	<0.2	*	<0.4	<0.4	0.3
W-18	09/22/92	<0.1	<0.1	<1.0	<1.0	<1.0	560.0	0.6	*	<50.0	<50.0	21.0
W-19	09/22/92	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	*	<1.0	<0.2	<0.2	<0.2
W-20	09/22/92	<0.5	0.6	<0.5	<0.5	0.6	<1.0	<0.2	<1.0	1.4	<0.2	1.2
W-21	09/22/92	8200.0	19000.0	2500.0	12000.0	41700.0	2300.0	<50.0	250.0	<50.0	<50.0	50.0
W-22	09/22/92	<0.5	<0.5	<0.5	<0.5	<0.5	290.0	<0.2	*	<0.2	<0.2	0.7
W-23	09/22/92	14.0	<2.5	<2.5	<2.5	14.0	150.0	<1.0	*	<1.0	<1.0	25.0
W-24	09/22/92	<2.5	<2.5	<2.5	<2.5	<2.5	16.0	<1.0	*	<1.0	<1.0	12.0
W-26	09/22/92	0.8	1.1	<0.5	<0.5	1.9	200.0	<0.2	<1.0	<0.2	<0.2	16.0
W-27	09/22/92	0.5	1.1	<0.5	<0.5	1.6	<1.0	<0.2	<1.0	0.9	<0.2	5.4
WD-25	09/22/92	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	*	<1.0	<0.2	<0.2	<0.2
W-20	02/11/92	<0.5	21.0	<0.5	<0.5	21.0	<1.0	<0.2	<1.0	1.4	0.6	1.0
W-22	02/11/92	<0.5	5.7	<0.5	<0.5	5.7	360.0	<0.2	<1.0	<0.2	<0.2	19.0
W-23	02/11/92	19.0	35.0	<5.0	<5.0	54.0	280.0	<0.2	<1.0	<0.2	<0.2	26.0

TABLE 4
NMED CHEVRON/ISLETA SITE
SUMMARY OF GROUNDWATER CHEMISTRY DATA
All data in ug/l (ppb), * indicates parameter not sampled

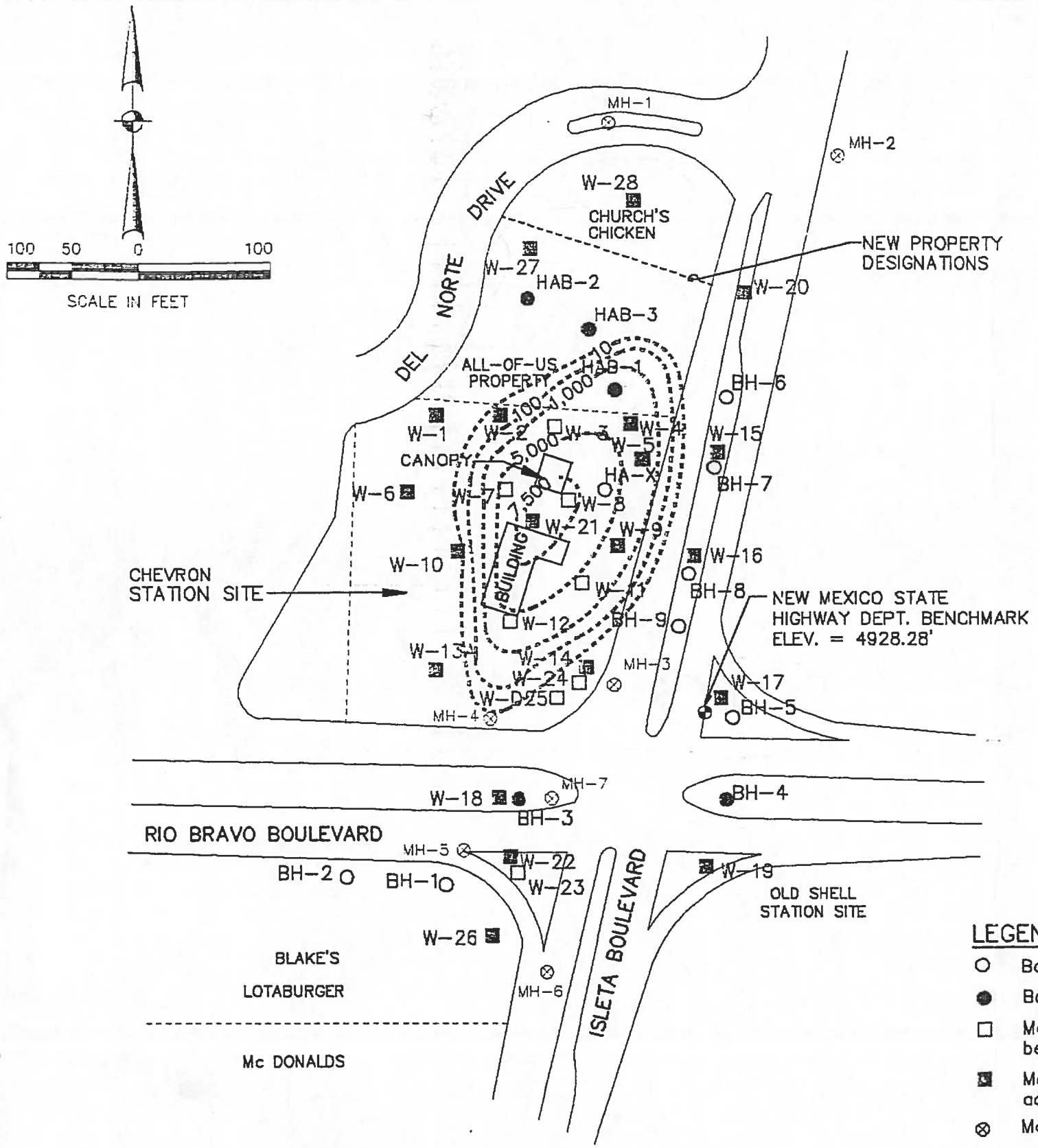
WELL NO.	DATE OF SAMPLE	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES	TOTAL BTEX	MTBE	EDC	EDB	TCE	PCE	DCE
W-24	02/11/92	80.0	26.0	9.1	<0.5	115.1	28.0	<0.2	<1.0	<0.2	<0.2	21.0
W-15	01/30/92	3.4	27.0	<0.5	<0.5	30.4	<1.0	<0.2	<1.0	0.9	<0.2	0.4
W-16	01/30/92	<0.5	7.3	<0.5	<0.5	7.3	<1.0	*	<1.0	<0.2	<0.2	<0.2
W-17	01/30/92	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.2	<1.0	1.8	<0.2	1.0
W-18	01/30/92	63.0	7.7	1.3	<0.5	72.0	1000.0	<0.2	<1.0	<0.2	<0.2	33.0
W-19	01/30/92	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.2	<1.0	<0.2	<0.2	0.5
BH-03	01/21/92	24.0	<2.5	<2.5	<2.5	24.0	900.0	<0.1	<5.0	<1.0	<1.0	39.0
BH-04	01/21/92	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.2	<1.0	<0.2	<0.2	0.8
W-01	01/20/92	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.2	<1.0	<0.2	<0.2	16.0
W-02	01/20/92	87.0	0.7	2.4	3.2	93.3	<1.0	<0.2	<1.0	<0.2	<0.2	38.0
W-03	01/20/92	1500.0	84.0	330.0	620.0	2534.0	<50.0	<10.0	<50.0	<10.0	<10.0	54.0
W-04	01/20/92	1100.0	520.0	430.0	1400.0	3450.0	70.0	<5.0	<25.0	<5.0	<5.0	14.0
W-05	01/20/92	1100.0	300.0	480.0	970.0	2850.0	<20.0	*	<20.0	<4.0	<4.0	<4.0
W-06	01/20/92	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	*	<1.0	<0.2	<0.2	<0.2
W-07	01/20/92	1200.0	4000.0	940.0	4000.0	10140.0	160.0	<5.0	<25.0	<5.0	<5.0	84.0
W-08	01/20/92	2100.0	1200.0	640.0	1500.0	5440.0	<25.0	<5.0	<25.0	<5.0	<5.0	45.0
W-09	01/20/92	14000.0	<500.0	7700.0	7900.0	29600.0	<1000.0	*	<1000.0	<200.0	<200.0	<200.0
W-10	01/20/92	1.3	<0.5	<0.5	<0.5	1.3	4.3	<0.2	<1.0	<0.2	<0.2	23.0
W-11	01/20/92	2800.0	2000.0	1500.0	5200.0	11500.0	<50.0	<10.0	<50.0	<10.0	<10.0	27.0
W-12	01/20/92	5500.0	<125.0	1300.0	<125.0	6800.0	1700.0	<50.0	<250.0	<50.0	<50.0	110.0
W-13	01/20/92	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.2	<1.0	<0.2	<0.2	1.1
W-14	01/20/92	310.0	<2.5	43.0	4.0	357.0	84.0	<1.0	<5.0	<1.0	<1.0	14.0
HAB-01	12/10/91	11800.0	22000.0	1900.0	11200.0	46900.0	<1000.0	*	<200.0	<200.0	<200.0	<200.0
HAB-02	12/10/91	<1.0	6.5	<1.0	<1.0	6.5	<5.0	<1.0	<1.0	10.0	<1.0	13.8
HAB-03	12/10/91	172.0	10.6	25.0	6.5	214.1	<5.0	<1.0	<1.0	6.0	<1.0	0.8
W-07	03/15/91	1100.0	3100.0	360.0	6200.0	10760.0	270.0	*	*	*	*	*
W-08	03/15/91	4400.0	3500.0	990.0	3900.0	12790.0	200.0	*	*	*	*	*
W-10	03/15/91	<1.0	<1.0	<1.0	<1.0	<1.0	23.0	*	*	*	*	*
W-11	03/15/91	2500.0	4300.0	<100.0	8100.0	27790.0	100.0	*	*	*	*	*
W-12	03/15/91	150.0	<10.0	<10.0	52.0	202.0	1500.0	*	*	*	*	*
W-01	02/12/91	<1.0	19.0	<1.0	<1.0	19.0	<1.0	*	*	*	*	*

TABLE 4
NMED CHEVRON/ISLETA SITE
SUMMARY OF GROUNDWATER CHEMISTRY DATA
All data in ug/l (ppb), * indicates parameter not sampled

WELL NO.	DATE OF SAMPLE	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES	TOTAL BTEX	MTBE	EDC	EDB	TCE	PCE	DCE
W-02	02/12/91	22.0	17.0	4.1	3.9	47.0	<1.0	*	*	*	*	*
W-03	02/12/91	5900.0	1200.0	140.0	4100.0	11340.0	<100.0	*	*	*	*	*
W-04	02/12/91	3900.0	7600.0	2000.0	8500.0	22000.0	<100.0	*	*	*	*	*
W-05	02/12/91	3000.0	1900.0	910.0	3500.0	9310.0	<50.0	*	*	*	*	*
W-06	02/12/91	<1.0	<1.0	<1.0	<1.0	<0.1	<1.0	*	*	*	*	*
W-07	02/12/91	3400.0	9900.0	2400.0	15800.0	31500.0	800.0	*	*	*	*	*
W-08	02/12/91	7300.0	9300.0	2100.0	1700.0	20400.0	670.0	*	*	*	*	*
W-09	02/12/91	2600.0	130.0	1500.0	<1.0	4230.0	<50.0	*	*	*	*	*
W-10	02/12/91	<1.0	<1.0	<1.0	12000.0	12000.0	<1.0	*	*	*	*	*
W-11	02/12/91	5300.0	11000.0	2900.0	2.3	19202.3	180.0	*	*	*	*	*
W-12	02/12/91	<1.0	<1.0	1.8	<1.0	1.8	870.0	*	*	*	*	*
W-13	02/12/91	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	*	*	*	*	*
W-14	02/12/91	<1.0	<1.0	<1.0	*	<1.0	17.0	*	*	*	*	*
W-12	11/26/90	1700.0	3.4	39.0	10.0	1752.4	1300.0	*	*	*	*	*
W-03	10/30/90	2300.0	2400.0	750.0	2800.0	8250.0	<1.0	*	*	*	*	*
W-07	10/30/90	8000.0	20000.0	3500.0	25000.0	56500.0	2200.0	*	*	*	*	*
W-08	10/30/90	8700.0	20000.0	6200.0	28000.0	62900.0	385.0	*	*	*	*	*
W-11	10/30/90	4100.0	9000.0	4600.0	15000.0	32700.0	<1.0	*	*	*	*	*
W-12	10/30/90	113.0	<1.0	<1.0	23.0	136.0	1100.0	*	*	*	*	*

Measurable levels of total 1,2 dichloroethane (DCE) were detected in most monitoring wells sampled. DCE is a degradation product of TCE and PCE (Shoemaker, 1992), and no New Mexico Water Quality Control Commission (NMWQCC) groundwater quality standard exists for this compound. DCE was detected sporadically across the site, with unimpacted wells to the north (W-28), east (W-16) and west (W-13A). The furthest downgradient well to the south (W-26) exhibited at DCE concentration of 16.0 ppb.

Other compounds of interest included 1,2 dibromoethane (EDB) and 1,2 dichloroethane (EDC). None of the analyzed samples exceeded the NMWQCC EDC groundwater standard of 10 ppb. One sample (W-21) exceeded the EDB standard of 1 ppb, with a measured concentration of 250 ppb. The method detection limits for samples W-4 and W-9 (100 ppb) exceeded the standard of 1 ppb due to dilution. The samples did not detect EDB above that sample's detection limit of 100 ppb. The potential for EDB to be present above the NMWQCC standard but below the method detection limit exists.



BENZENE CONCENTRATIONS MEASURED 9/92 TO 10/92	
WELL NO.	CONCENTRATION (ppb)
W-1	3.8
W-2	22.9
W-3	1500.0 *
W-4	4200.0
W-5	4100.0
W-6	< 0.5
W-7	8400.0 *
W-8	2*00.0 *
W-9	3800.0
W-10	3.7
W-11	3100.0 *
W-12	4200.0 *
W-13A	< 0.5
W-14	1.7
W-15	0.8
W-16	< 0.5
W-17	< 0.5
W-18	< 1.0
W-19	< 0.5
W-20	< 0.5
W-21	8200.0
W-22	< 0.5
W-23	14.0 *
W-24	< 2.5 *
W-D25	< 0.5 *
W-26	0.8
W-27	0.5
W-28	< 0.5

* DATA NOT USED FOR CONTOURING DUE TO LOCATION OF SCREENED INTERVAL BELOW BELOW WATER TABLE.

** NOT SAMPLED

LEGEND

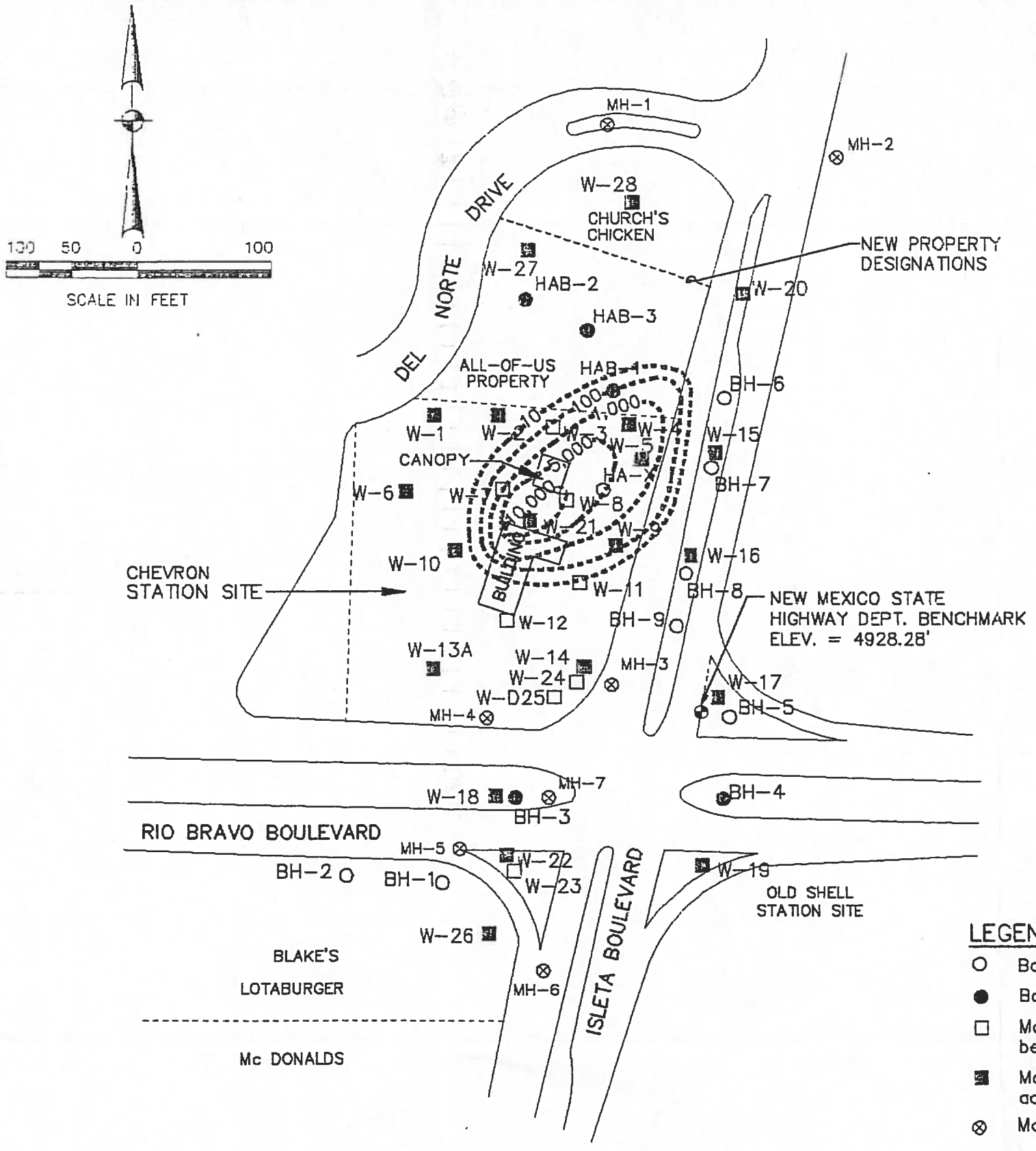
- ○ Borehole
- ● Borehole, temporary well
- □ Monitor well, screened below water table
- ■ Monitor well, screened across water table
- ⊗ Manhole

Map of Chevron Station site, 3401 Isleta Boulevard SW, Albuquerque, N.M.

REVISED FROM MARCH 1992, JOHN SHOEMAKER, INC. REPORT

ISO-BENZENE CONTOUR MAP	CDM environmental engineers, scientists planners, & management consultants	NMED-GWPA CHEVRON ISLETA PROJECT	Figure No. 3

CBZPLIS1.DWG 12/15/92 RSP 8557-113



TOTAL XYLENE CONCENTRATIONS MEASURED 9/92 TO 10/92	
WELL NO.	CONCENTRATION (ppb)
W-1	1.1
W-2	0.8
W-3	350.0 *
W-4	3600.0
W-5	3600.0
W-6	< 0.5
W-7	20,000.0 *
W-8	2100.0 *
W-9	300.0
W-10	< 0.5
W-11	2500.0 *
W-12	< 2.5 *
W-13A	< 0.5
W-14	< 0.5
W-15	< 0.5
W-16	< 0.5
W-17	< 0.5
W-18	< 1.0
W-19	< 0.5
W-20	< 0.5
W-21	12,000.0
W-22	< 0.5
W-23	< 2.5 *
W-24	< 2.5 *
W-D25	< 0.5 *
W-26	< 0.5
W-27	< 0.5
W-28	< 0.5

* DATA NOT USED FOR CONTOURING DUE TO LOCATION OF SCREENED INTERVAL BELOW BELOW WATER TABLE.

** NOT SAMPLED

LEGEND

- ○ Borehole
- ● Borehole, temporary well
- □ Monitor well, screened below water table
- ■ Monitor well, screened across water table
- ⊗ Manhole

Map of Chevron Station site, 3401 Isleta Boulevard SW, Albuquerque, N.M.

REVISED FROM MARCH 1992, JOHN SHOEMAKER, INC. REPORT

ISO-TOTAL XYLENES CONTOUR MAP

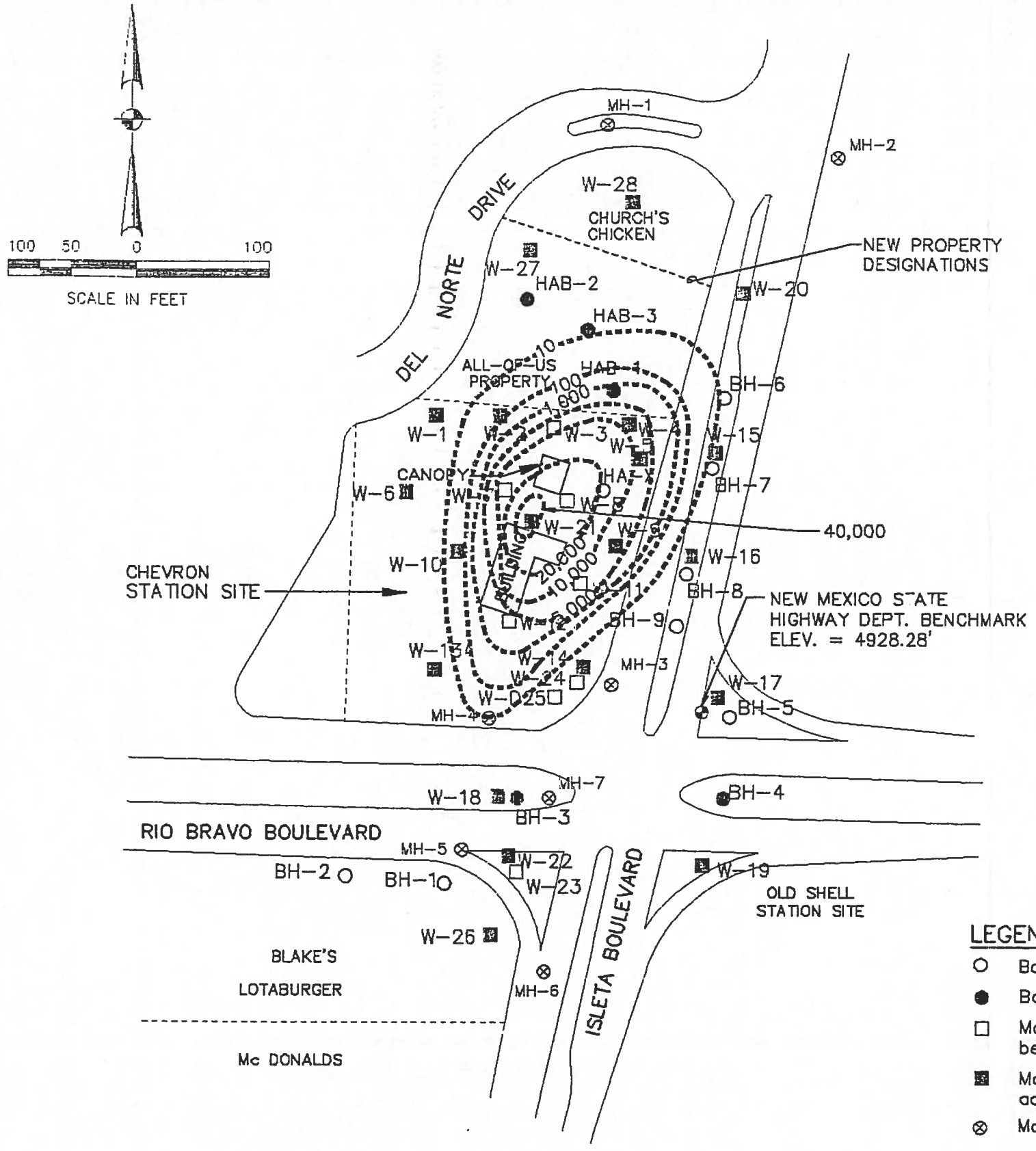
CDM environmental engineers, scientists planners, & management consultants

NMED-GWPA CHEVRON ISLETA PROJECT

Figure No. 4

CXYPLIS1.DWG 12/15/92 RSP 8557-113

4-0



TOTAL BTEX CONCENTRATIONS MEASURED 9/92 TO 10/92	
WELL NO.	CONCENTRATION (ppb)
W-1	5.7
W-2	24.3
W-3	2344.0 *
W-4	9780 0
W-5	9820.0
W-6	< 0.5
W-7	33,200.0 *
W-8	5400.0 *
W-9	6600.0
W-10	4.6
W-11	10,300.0 *
W-12	4258.0 *
W-13A	< 0.5
W-14	2.8
W-15	10.0
W-16	< 0.5
W-17	< 0.5
W-18	< 1.0
W-19	< 0.5
W-20	0.6
W-21	41,700.0
W-22	< 0.5
W-23	14.0 *
W-24	< 2.5 *
W-D25	< 0.5 *
W-26	1.9
W-27	1.6
W-28	< 0.5

* DATA NOT USED FOR CONTOURING DUE TO LOCATION OF SCREENED INTERVAL BELOW BELOW WATER TABLE.

** NOT SAMPLED

LEGEND

- ○ Borehole
- ● Borehole, temporary well
- □ Monitor well, screened below water table
- ▣ Monitor well, screened across water table
- ⊗ Manhole

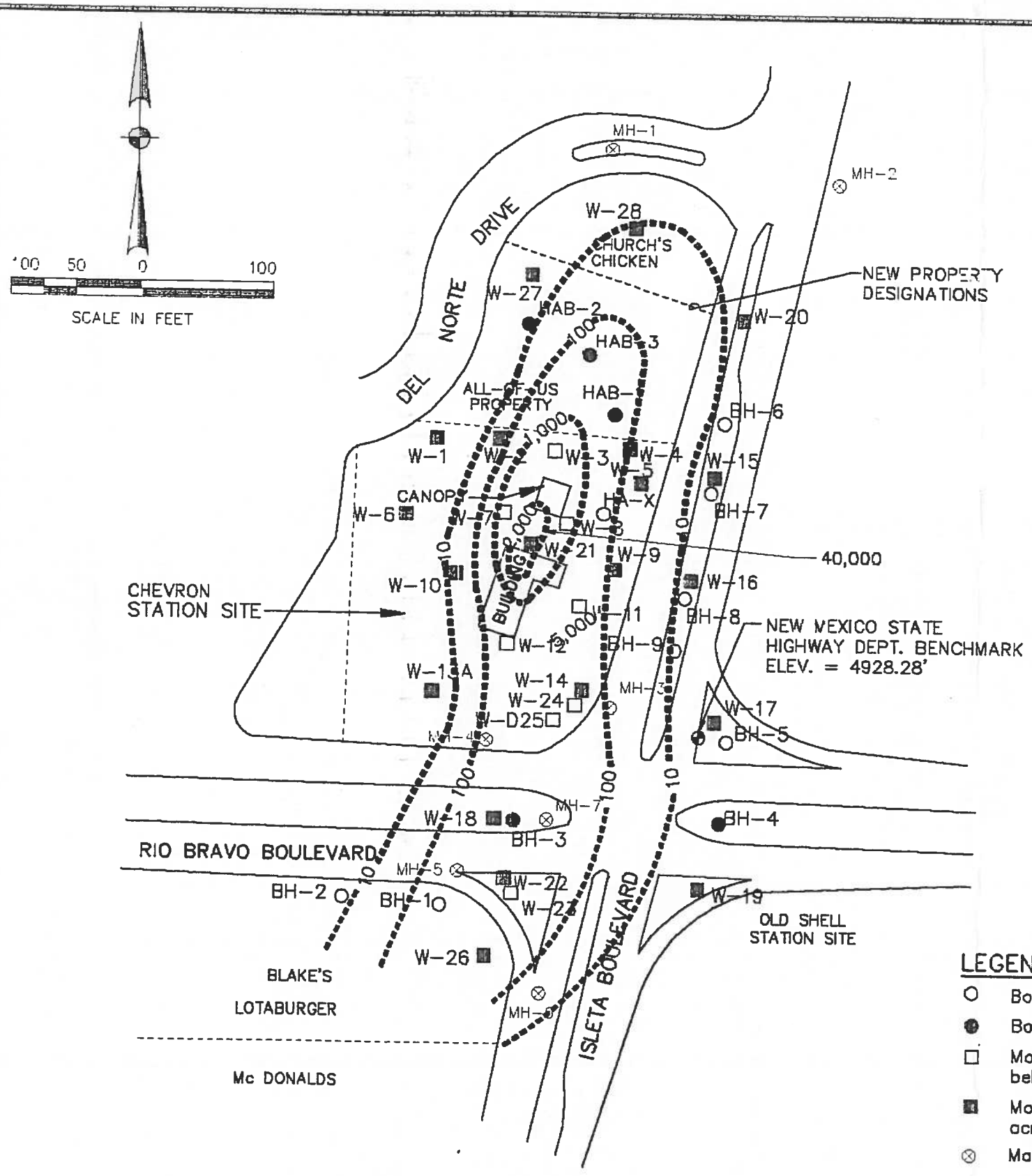
Map of Chevron Station site, 3401 Isleta Boulevard SW, Albuquerque, N.M.

REVISED FROM MARCH 1992, JOHN SHOEMAKER, INC. REPORT

ISO-TOTAL BTEX CONTOUR MAP	CDM environmental engineers, scientists planners, & management consultants	NMED-GWPA CHEVRON ISLETA PROJECT	Figure No. 5

CBTEXIS1.DWG 12/15/92 RSP 8557-113

4-11



Map of Chevron Station site, 3401 Isleta Boulevard SW, Albuquerque, N.M.

REVISED FROM MARCH 1992, JOHN SHOEMAKER, INC. REPORT

LEGEND

- ○ Borehole
- ● Borehole, temporary well
- □ Monitor well, screened below water table
- ■ Monitor well, screened across water table
- ⊗ Manhole

TOTAL MTBE CONCENTRATIONS MEASURED 9/92 TO 10/92

WELL NO.	CONCENTRATION (ppb)
W-1	< 1.0
W-2	**
W-3	**
W-4	< 100.0
W-5	**
W-6	**
W-7	**
W-8	**
W-9	< 100.0
W-10	35.6
W-11	140.0 *
W-12	1200.0 *
W-13A	8.8
W-14	160.0
W-15	**
W-16	**
W-17	**
W-18	560.0
W-19	< 1.0
W-20	< 1.0
W-21	2300.0
W-22	290.0
W-23	150.0 *
W-24	16.0 *
W-D25	< 1.0 *
W-26	200.0
W-27	< 1.0
W-28	10.0

* DATA NOT USED FOR CONTOURING DUE TO LOCATION OF SCREENED INTERVAL BELOW BELOW WATER TABLE.

** NOT SAMPLED

ISO-TOTAL MTBE CONTOUR MAP

CDM environmental engineers, scientists planners, & management consultants

NMED-GWPA CHEVRON ISLETA PROJECT

Figure No. 6

CMTBEIS1.DWG 12/15/92 RSP 8557-113

5.0 AQUIFER ANALYSIS

As required by Section 1210.C.2 and 1210.C.3 of the NMUSTR, aquifer tests were performed to determine aquifer parameters controlling groundwater and dissolved-phase contaminant movement. These aquifer tests were performed by Shomaker (1992) and were included in their report (Hydrogeologic Investigation, 1992). The testing included performing an instantaneous slug-withdrawal aquifer test in order to evaluate site specific parameters and to calculate the groundwater flow velocity of the shallow groundwater.

An instantaneous slug-withdrawal test was performed on two monitoring wells completed with screens just below the groundwater surface (W-23 and W-24) in February 1992. Additionally, Shomaker performed vertical migration tests on clustered wells W-22/W-23 and W-14/W24. CDM has reviewed Shomaker's methodology, raw data, and calculation results, and found their data to be valid and consistent with other published data regarding aquifer parameters in the area. The following list summarizes the results of the Shomaker aquifer analysis tests.

Horizontal Gradient -	0.0008 to 0.0011 ft/ft
	(CDM calculated - 0.0007)
Vertical Gradient -	0.004 to 0.006 ft/ft
Hydraulic Conductivity -	Range from 62 to 119 ft/day
Transmissivity -	2170 to 4165 ft2/day
Specific Yield -	0.10 to 0.20
Storage Coefficient -	0.10 to 0.20

For specific calculation methodologies and assumptions made, please refer to the Shomaker 1992 report.

6.0 CONCLUSIONS

- The newly-installed groundwater monitor wells (W-26, W-27, W-28 and W-13A) have defined the horizontal extent of petroleum-hydrocarbon compounds in groundwater in the vicinity of the subject site, with the exception of MTBE to the south. The solubility of MTBE in groundwater is several times that of other gasoline components (Garrett et al, 1986), therefore an MTBE "halo" commonly surrounds and leads a migrating hydrocarbon plume.

- The newly-installed deep groundwater monitor well (W-D25) has delineated the vertical extent of petroleum hydrocarbon compounds in groundwater to a depth of 30 feet or less in the shallow aquifer in the vicinity of the subject site.

- Water quality as a function of time does not display a consistently increasing or decreasing pattern at the site. Hydrocarbon concentrations appear to fluctuate within each well without respect to seasonal influences or a predictable contaminant movement pattern. Regular quarterly water quality data should assist in identifying trends in contaminant severity and movement at the site.

- The site geology is consistent with a channel-and-splay fluvial assemblage common along major river floodplains such as the Rio Grande. The variable sands with little clay present beneath the site should offer no restrictions to a mechanical flow-based remediation system.

- The groundwater flow direction has been consistently toward the south at this site. This phase of study corroborates this conclusion. Although no repeated seasonal data is available at this time, seasonal variation of groundwater flow direction, gradient, and velocity should be minor.

- The lack of hydrocarbon-degrading microbiological activity in the impacted areas of the site suggests that biological enhancement will be necessary at this site if bioremediation is to be considered as a cleanup method or as an augmentation of another cleanup method.

7.0 RECOMMENDATIONS

Based upon the data presented herein, CDM recommends that NMED implement the actions enumerated below:

- Pursuant to Section 1210 of the NMUSTR, a copy of this report should be reviewed for completeness by the New Mexico Environment Department.

- CDM suggests that a meeting be held with NMED to discuss remediation options for the subject site pursuant to the data presented herein.

- Pursuant to Section 1212 NMUSTR, a Reclamation Proposal should be prepared for the subject site. Such a proposal should address remediation of both the saturated and unsaturated zone.

- Pursuant to Section 1216 of the NMUSTR, quarterly site groundwater quality sampling and quarterly reporting should be implemented.

We have served as project hydrogeologist and project manager for the Hydrogeologic Investigation Chevron/Isleta Boulevard site in Albuquerque, New Mexico. In these roles, we are personally familiar with the data described herein.

CAMP DRESSER & McKEE INC.

Kelly W. Kading C.H.M.M.
Project Hydrogeologist

Peter Maggiore, C.P.G.
Project Manager

8.0 REFERENCES

Krancevich, T.J., 1991, Hydrogeologic Assessment of Chevron Station, 3401 Isleta SW, Albuquerque, NM: Unpublished Consultant Report prepared for EverReady Oil Co., Inc., 8p.

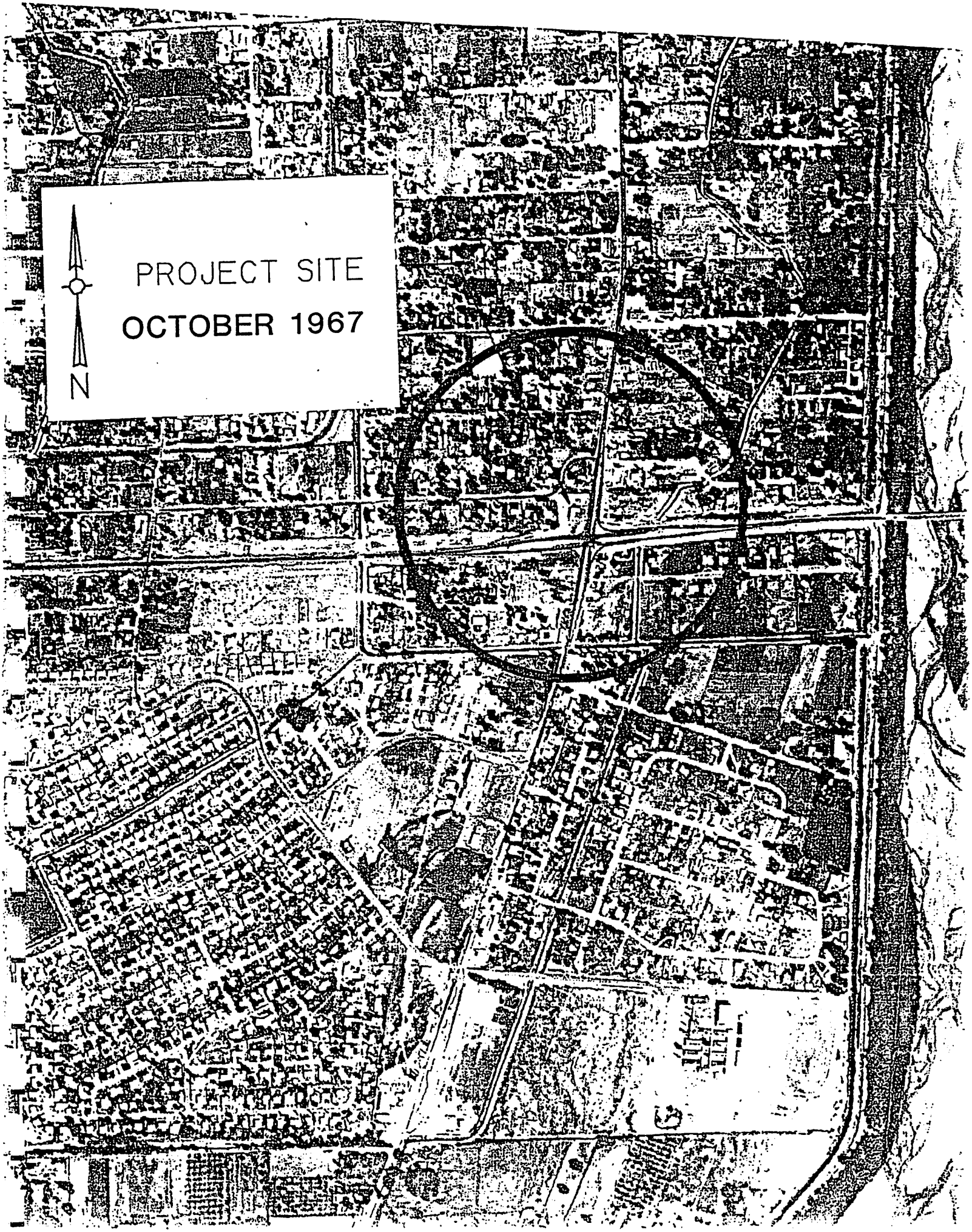
New Mexico Underground Storage Tank Regulation; Published by the State of New Mexico, updated 1992.

Shomaker & Associates, 1992, Hydrogeologic Investigation, Chevron Station Site, Isleta and Rio Bravo Blvds., Albuquerque, NM: Unpublished Consultant Report prepared for EverReady Oil Co., Inc., 27p.

APPENDIX A

AERIAL PHOTOGRAPHS - NOVEMBER 1959 AND OCTOBER 1967


PROJECT SITE
NOVEMBER 1959
N


PROJECT SITE
OCTOBER 1967
N

APPENDIX B

BORING LOGS/WELL COMPLETION DIAGRAMS

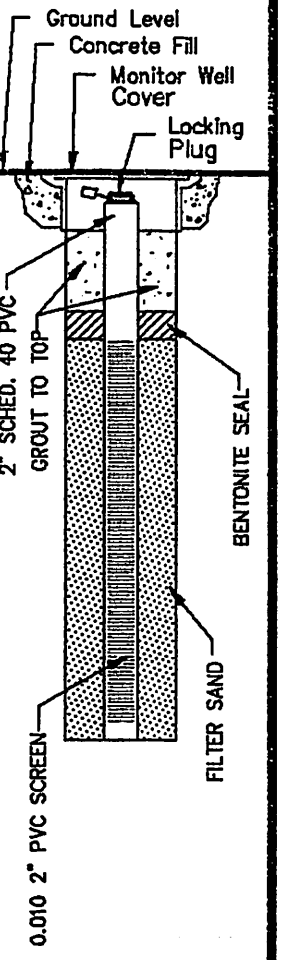
MONITOR WELL NO. W-13A

DEPTH, FT.	SYMBOL (USCS)	SAMPLE DESCRIPTION	SAMPLE NO.	SAMPLING INTERVAL	MOISTURE	CONTAMINATION: ORGANIC VAPOR CONC. (PPM)	CONTAMINATION: VISIBLE Y=Yes N=No
0	MMF	0.5–3' MANMADE FILL, sand, and gravel					
2.5							
5	SP	3.5–15' SAND, fine to medium, brown, moist at 7', saturated below 8', no staining	5	3' to 5'	D	1.3	N
7.5					M		
10			N/A	8'–10'	S	N/A	N
12.5							
15							
17.5							
20							
22.5							
25							
27.5							
30							

STRATIGRAPHY

WATER LEVEL

MONITOR WELL DETAILS



Client: NMED Job No.: 8557-113-SI-REPT Date Drilled: 10/14/92 Well No.: W-13A

Site: CHEVRON - ISLETA Top of Casing Elevation: 4927.65

Total Depth: 15' Casing Type & Size: 2" SCHED. 40 PVC Slot Size: 0.010 Drilling Method: HSA 7 1/4

Comments:

Driller: BRIAN/RAY (RODGERS) Logged by: KW KADING

MONITOR WELL COMPLETION LOG W-13A

CDM environmental engineers, scientists planners, & management consultants

NMED-GWPA CHEVRON ISLETA PROJECT

Figure No. **B-1**

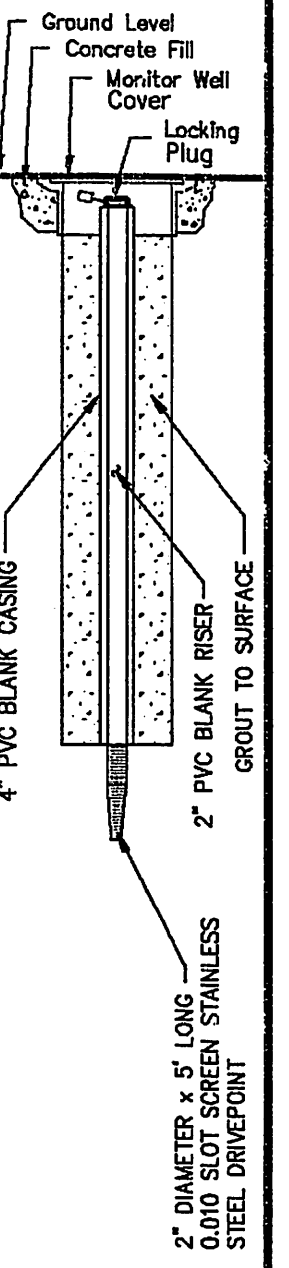
GMWSCIS3.DWG 10/20/92 EAC 8557-113-SI-REPT

C:\ACAD\8557-113\ GMWSCIS3 12/17/92 1:05:48

MONITOR WELL NO. W-D25

DEPTH, FT.	SYMBOL(USCS)	SAMPLE DESCRIPTION	SAMPLE NO.	SAMPLING INTERVAL	MOISTURE	CONTAMINATION: ORGANIC VAPOR CONC. (PPM)	CONTAMINATION: VISIBLE Y=Yes N=No	DEPTH, FT.	STRATIGRAPHY	WATER LEVEL
5		WELL WAS NOT LOGGED						5		
10								10		
15								15		
20								20		
25								25		
30								30		
35								35		
40								40		
45								45		
50								50		
55								55		
60								60		

MONITOR WELL DETAILS



Client: NMED Job No.: 8557-113-SI-REPT Date Drilled: 9-16-92 Boring No.: W-D25

Site: CHEVRON, ISLETA & RIO BRAVO, ALBUQUERQUE, NEW MEXICO Top of Casing Elevation: 4928.60

Total Depth: 35 Casing Type & Size: 4" PVC Slot Size: 0.010 Drilling Method: HSA TO 30'(SEE COMMENTS)

Comments: STAINLESS STEEL DRIVEPOINT AT 30-35'

Driller: RODGERS & CO. Logged by: KWK

WELL COMPLETION DIAGRAM W-D25

CDM environmental engineers, scientists planners, & management consultants

NMED-GWPA CHEVRON ISLETA PROJECT

Figure No. **B-2**

GMWSCD25.DWG 9-23-92 RSP 8557-113-SI-REPT

MONITOR WELL NO. W-26

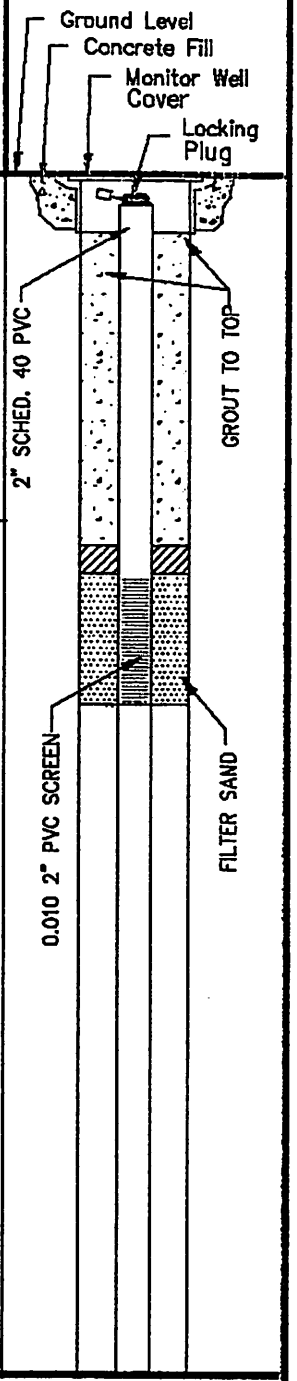
DEPTH, FT.	SYMBOL(USCS)	SAMPLE DESCRIPTION	SAMPLE NO.	SAMPLING INTERVAL	MOISTURE	CONTAMINATION: ORGANIC VAPOR CONC. (PPM)	CONTAMINATION: VISIBLE Y=Yes N=No
0	MMF	0–4' MANMADE FILL					
5	SW	4–7' SAND, well sorted, medium sand, trace gravel, tan, dry, no odor	5	4' to 6'	D	0.0	N
7.5	SW	7–14' SAND, well sorted, medium sand, trace gravel, tan, dry, no odor, saturated					
10			10	8' to 10'	S	N/A	N

DEPTH, FT. (0, 2.5, 5, 7.5, 10, 12.5, 15, 17.5, 20, 22.5, 25, 27.5, 30)

STRATIGRAPHY

WATER LEVEL

MONITOR WELL DETAILS



Client: NMED Job No.: 8557-113-SI-REPT Date Drilled: 9-16-92 Boring No.: W-26

Site: CHEVRON, ISLETA & RIO BRAVO, ALBUQUERQUE, NEW MEXICO Top of Casing Elevation: 4927.55

Total Depth: 14.5' Casing Type & Size: 2" SCHED. 40 PVC Slot Size: 0.010 Drilling Method: HSA

Comments: Well location is S.W. corner intersection, Isleta and Rio Bravo

Driller: RODGERS & CO. Logged by: KWK

MONITOR WELL W-26

CDM environmental engineers, scientists planners, & management consultants

NMED-GWPA CHEVRON ISLETA PROJECT

Figure No. **B-3**

GMWSCD26.DWG 9-23-92 EAC 8557-113-SI-REPT

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MONITOR WELL NO. W-27

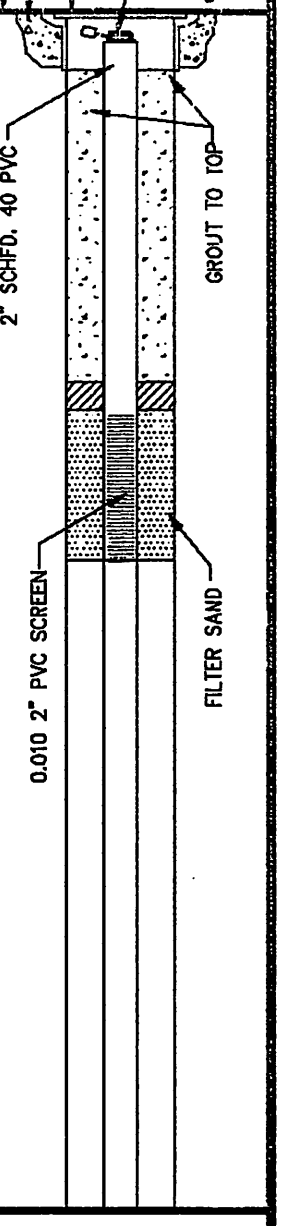
DEPTH, FT.	SYMBOL (USCS)	SAMPLE DESCRIPTION	SAMPLE NO.	SAMPLING INTERVAL	MOISTURE	CONTAMINATION: ORGANIC VAPOR CONC. (PPM)	CONTAMINATION: VISIBLE Y=Yes N=No
0	MMF	0–4' MANMADE FILL					
5	SW	4–7.5' SAND, well sorted, medium, tan, dry, no odor	5	4' to 6'	D	0.0	N
7.5	SW	7.5–14.5' SAND, well sorted, medium, tan, saturated, no odor, staining or discoloration	10	9'–11'	S	N/A	N

DEPTH, FT. (0, 2.5, 5, 7.5, 10, 12.5, 15, 17.5, 20, 22.5, 25, 27.5, 30)

STRATIGRAPHY

WATER LEVEL

MONITOR WELL DETAILS



Client: NMED Job No.: 8557-113-SI-REPT Date Drilled: 9-15-92 Boring No.: W-27

Site: CHEVRON, ISLETA & RIO BRAVO, ALBUQUERQUE, NEW MEXICO Top of Casing Elevation: 4928.11

Total Depth: 14.5' Casing Type & Size: 2" SCHED. 40 PVC Slot Size: 0.010 Drilling Method: HSA

Comments: Well location is N.W. corner of All of Us property

Driller: RODGERS & CO. Logged by: KWK

MONITOR WELL W-27

CDM environmental engineers, scientists, planners, & management consultants

NMED-GWPA CHEVRON ISLETA PROJECT

Figure No. **B-4**

GMWSCD27.DWG 9-23-92 EAC 8557-113-SI-REPT

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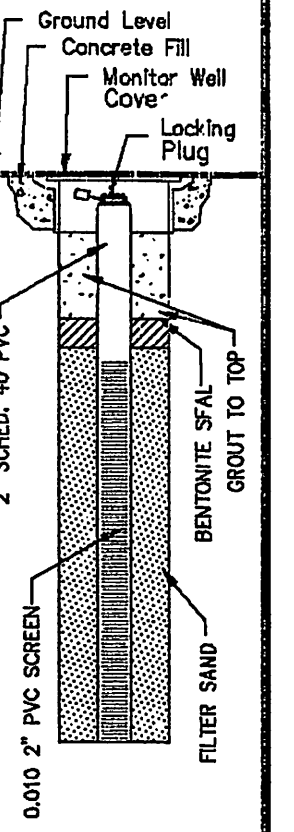
MONITOR WELL NO. W-28

DEPTH, FT.	SYMBOL (USCS)	SAMPLE DESCRIPTION	SAMPLE NO.	SAMPLING INTERVAL	MOISTURE	CONTAMINATION: ORGANIC VAPOR CONC. (PPM)	CONTAMINATION: VISIBLE Y=Yes N=No
0		0-0.5' ASPHALT LAYER					
2.5	MMF	0.5-3' MANMADE FILL, sand, and gravel					
		3-3.5' ASPHALT LAYER	5	3' to 5' (no returns)	D	N/A	N
5							
7.5	SP	3.5-15' SAND, fine to medium, brown, moist at 7', saturated below 8', no staining	10	8'-10'	W	0.0	N
10							
12.5							
15							
17.5							
20							
22.5							
25							
27.5							
30							

DEPTH, FT. | STRATIGRAPHY | WATER LEVEL

DIM

MONITOR WELL DETAILS



Client: NMED Job No.: 8557-113-SI-REPT Date Drilled: 10/14/92 Well No.: W-28

Site: CHEVRON - ISLETA Top of Casing Elevation: 4929.53

Total Depth: 15' Casing Type & Size: 2" SCHED. 40 PVC Slot Size: 0.010 Drilling Method: HSA 7 1/4

Comments: PREVIOUS ASPHALT LAYER ENCOUNTERED @ 3.0 TO 3.5 FEET.

Driller: BRIAN/RAY (RODGERS) Logged by: KW KADING

MONITOR WELL COMPLETION LOG W-28

CDM environmental engineers, scientists planners, & management consultants

NMED-GWPA CHEVRON ISLETA PROJECT

Figure No. **B-5**

GMWSCIS2.DWG 10/20/92 EAC 8557-113-SI-REPT

C:\ACAD\8557-113\ 12/15/92 0:24:18 GMWSCIS2

APPENDIX C

ANALYTICAL LABORATORY REPORTS

Analytical Technologies, Inc.

2709-D Pan American Freeway, NE Albuquerque, NM 87107
Phone (505) 344-3777 FAX (505) 344-4413

ATI I.D. 209331

October 13, 1992

Camp, Dresser & McKee
2400 Louisiana, NE
Albuquerque, NM 87110

Project Name/Number: CHEV/ISLETA/NMED 8557-113-SI

Attention: Pete Maggiore

On 09/22/92, Analytical Technologies, Inc. received a request to analyze aqueous sample(s). The sample(s) were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

D indicates compound analyzed at a greater dilution.

All analyses were performed by ATI, Phoenix.

Method 624 analyses were cancelled on 09/23/92. Ethylene Dibromide was added on 09/23/92 to samples W-1, W-4, W-9, W-10, W-19, W-20, W-21, W-25D, W-26, and W-27 per K. Kading. MTBE was added on 10/08/92 for samples W-11, W-12, W-18, W-21, W-22, W-23, and W-24 per K. Kading.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Elizabeth Proffitt
Laboratory Manager

EP:td
Enclosure

Analytical Technologies, Inc.

CLIENT : CAMP, DRESSER AND MCKEE
PROJECT # : 8557-113-SI
PROJECT NAME : CHEV/ISLETA

DATE RECEIVED : 09/22/92
REPORT DATE : 10/13/92

ATI I.D. : 209331

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	W-1	AQUEOUS	09/22/92
02	W-2	AQUEOUS	09/22/92
03	W-3	AQUEOUS	09/22/92
04	W-4	AQUEOUS	09/22/92
05	W-5	AQUEOUS	09/22/92
06	W-6	AQUEOUS	09/22/92
07	W-7	AQUEOUS	09/22/92
08	W-8	AQUEOUS	09/22/92
09	W-9	AQUEOUS	09/22/92
10	W-10	AQUEOUS	09/22/92
11	W-11	AQUEOUS	09/22/92
12	W-12	AQUEOUS	09/22/92
13	W-14	AQUEOUS	09/22/92
14	W-15	AQUEOUS	09/22/92
15	W-16	AQUEOUS	09/22/92
16	W-17	AQUEOUS	09/22/92
17	W-18	AQUEOUS	09/22/92
18	W-19	AQUEOUS	09/22/92
19	W-20	AQUEOUS	09/22/92
20	W-21	AQUEOUS	09/22/92
21	W-22	AQUEOUS	09/22/92
22	W-23	AQUEOUS	09/22/92
23	W-24	AQUEOUS	09/22/92
24	W-D25	AQUEOUS	09/22/92
25	W-26	AQUEOUS	09/22/92
26	W-27	AQUEOUS	09/22/92

----- TOTALS -----

MATRIX	# SAMPLES
AQUEOUS	26

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933102

TEST : VOLATILE HALOCARBONS/AROMATICS (EPA 601/602)

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-2	DATE ANALYZED	: 09/29/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	22.9
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<0.2
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	<0.5
CHLOROETHANE	<0.2
CHLOROFORM	<0.2
CHLOROMETHANE	<0.2
DIBROMOCHLOROMETHANE	<0.2
2-CHLOROETHYL VINYL ETHER	<0.5
1,3-DICHLOROBENZENE	<0.5
1,2 & 1,4-DICHLOROBENZENE	<0.5
DICHLORODIFLUOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
1,2-DICHLOROETHENE(TOTAL)	9.6
1,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
ETHYLBENZENE	<0.5
METHYLENE CHLORIDE	<2.0
1,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	<0.2
TOLUENE	0.6
1,1,1-TRICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	<0.2
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<0.2
TOTAL XYLENES	0.8
TRICHLOROTRIFLUOROETHANE	<2.0

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	101
BROMOFLUOROBENZENE (%)	99

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933103

TEST : VOLATILE HALOCARBONS/AROMATICS (EPA 601/602)

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-3	DATE ANALYZED	: 09/29/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 50

COMPOUNDS	RESULTS
BENZENE	1500
BROMODICHLOROMETHANE	<10.0
BROMOFORM	<10.0
BROMOMETHANE	<10.0
CARBON TETRACHLORIDE	<10.0
CHLOROBENZENE	<25.0
CHLOROETHANE	<10.0
CHLOROFORM	<10.0
CHLOROMETHANE	<10.0
DIBROMOCHLOROMETHANE	<10.0
2-CHLOROETHYL VINYL ETHER	<25.0
1,3-DICHLOROBENZENE	<25.0
1,2 & 1,4-DICHLOROBENZENE	<25.0
DICHLORODIFLUOROMETHANE	<10.0
1,1-DICHLOROETHANE	<10.0
1,2-DICHLOROETHANE	<10.0
1,1-DICHLOROETHENE	<10.0
1,2-DICHLOROETHENE(TOTAL)	32
1,2-DICHLOROPROPANE	<10.0
CIS-1,3-DICHLOROPROPENE	<10.0
TRANS-1,3-DICHLOROPROPENE	<10.0
ETHYLBENZENE	460
METHYLENE CHLORIDE	<100.0
1,1,2,2-TETRACHLOROETHANE	<10.0
TETRACHLOROETHENE	<10.0
TOLUENE	34
1,1,1-TRICHLOROETHANE	<10.0
1,1,2-TRICHLOROETHANE	<10.0
TRICHLOROETHENE	<10.0
TRICHLOROFLUOROMETHANE	<25.0
VINYL CHLORIDE	<10.0
TOTAL XYLENES	350
TRICHLOROTRIFLUOROETHANE	<100.0

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	103
BROMOFLUOROBENZENE (%)	110

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933105

TEST : VOLATILE HALOCARBONS/AROMATICS (EPA 601/602)

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-5	DATE ANALYZED	: 09/29/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 100

COMPOUNDS	RESULTS
BENZENE	4100
BROMODICHLOROMETHANE	<20
BROMOFORM	<20
BROMOMETHANE	<20
CARBON TETRACHLORIDE	<20
CHLOROBENZENE	<50
CHLOROETHANE	<20
CHLOROFORM	<20
CHLOROMETHANE	<20
DIBROMOCHLOROMETHANE	<20
2-CHLOROETHYL VINYL ETHER	<50
1,3-DICHLOROBENZENE	<50
1,2 & 1,4-DICHLOROBENZENE	<50
DICHLORODIFLUOROMETHANE	<20
1,1-DICHLOROETHANE	<20
1,2-DICHLOROETHANE	<20
1,1-DICHLOROETHENE	<20
1,2-DICHLOROETHENE(TOTAL)	<20
1,2-DICHLOROPROPANE	<20
CIS-1,3-DICHLOROPROPENE	<20
TRANS-1,3-DICHLOROPROPENE	<20
ETHYLBENZENE	1600
METHYLENE CHLORIDE	<200
1,1,2,2-TETRACHLOROETHANE	<20
TETRACHLOROETHENE	<20
TOLUENE	520
1,1,1-TRICHLOROETHANE	<20
1,1,2-TRICHLOROETHANE	<20
TRICHLOROETHENE	<20
TRICHLOROFLUOROMETHANE	<50
VINYL CHLORIDE	<20
TOTAL XYLENES	3600
TRICHLOROTRIFLUOROETHANE	<200

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	92
BROMOFLUOROBENZENE (%)	114

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933106

TEST : VOLATILE HALOCARBONS/AROMATICS (EPA 601/602)

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-6	DATE ANALYZED	: 09/28/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	<0.5
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<0.2
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	<0.5
CHLOROETHANE	<0.2
CHLOROFORM	<0.2
CHLOROMETHANE	<0.2
DIBROMOCHLOROMETHANE	<0.2
2-CHLOROETHYL VINYL ETHER	<0.5
1,3-DICHLOROBENZENE	<0.5
1,2 & 1,4-DICHLOROBENZENE	<0.5
DICHLORODIFLUOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
1,2-DICHLOROETHENE(TOTAL)	<0.2
1,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
ETHYLBENZENE	<0.5
METHYLENE CHLORIDE	<2.0
1,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	<0.2
TOLUENE	<0.5
1,1,1-TRICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	<0.2
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<0.2
TOTAL XYLENES	<0.5
TRICHLOROTRIFLUOROETHANE	<2.0

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	87
BROMOFLUOROBENZENE (%)	108

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933107

TEST : VOLATILE HALOCARBONS/AROMATICS (EPA 601/602)

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-7	DATE ANALYZED	: 09/29/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 500

COMPOUNDS	RESULTS
BENZENE	8400
BROMODICHLOROMETHANE	<100
BROMOFORM	<100
BROMOMETHANE	<100
CARBON TETRACHLORIDE	<100
CHLOROBENZENE	<250
CHLOROETHANE	<100
CHLOROFORM	<100
CHLOROMETHANE	<100
DIBROMOCHLOROMETHANE	<100
2-CHLOROETHYL VINYL ETHER	<250
1,3-DICHLOROBENZENE	<250
1,2 & 1,4-DICHLOROBENZENE	<250
DICHLORODIFLUOROMETHANE	<100
1,1-DICHLOROETHANE	<100
1,2-DICHLOROETHANE	<100
1,1-DICHLOROETHENE	<100
1,2-DICHLOROETHENE(TOTAL)	<100
1,2-DICHLOROPROPANE	<100
CIS-1,3-DICHLOROPROPENE	<100
TRANS-1,3-DICHLOROPROPENE	<100
ETHYLBENZENE	2600
METHYLENE CHLORIDE	<1000
1,1,2,2-TETRACHLOROETHANE	<100
TETRACHLOROETHENE	<100
TOLUENE	22000
1,1,1-TRICHLOROETHANE	<100
1,1,2-TRICHLOROETHANE	<100
TRICHLOROETHENE	<100
TRICHLOROFLUOROMETHANE	<250
VINYL CHLORIDE	<100
TOTAL XYLENES	20000
TRICHLOROTRIFLUOROETHANE	<1000

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	93
BROMOFLUOROBENZENE (%)	117

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933108

TEST : VOLATILE HALOCARBONS/AROMATICS (EPA 601/602)

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-8	DATE ANALYZED	: 09/29/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 50

COMPOUNDS	RESULTS
BENZENE	2100
BROMODICHLOROMETHANE	<10.0
BROMOFORM	<10.0
BROMOMETHANE	<10.0
CARBON TETRACHLORIDE	<10.0
CHLOROBENZENE	<25.0
CHLOROETHANE	<10.0
CHLOROFORM	<10.0
CHLOROMETHANE	<10.0
DIBROMOCHLOROMETHANE	<10.0
2-CHLOROETHYL VINYL ETHER	<25.0
1,3-DICHLOROBENZENE	<25.0
1,2 & 1,4-DICHLOROBENZENE	<25.0
DICHLORODIFLUOROMETHANE	<10.0
1,1-DICHLOROETHANE	<10.0
1,2-DICHLOROETHANE	<10.0
1,1-DICHLOROETHENE	<10.0
1,2-DICHLOROETHENE(TOTAL)	14
1,2-DICHLOROPROPANE	<10.0
CIS-1,3-DICHLOROPROPENE	<10.0
TRANS-1,3-DICHLOROPROPENE	<10.0
ETHYLBENZENE	360
METHYLENE CHLORIDE	<100.0
1,1,2,2-TETRACHLOROETHANE	<10.0
TETRACHLOROETHENE	<10.0
TOLUENE	840
1,1,1-TRICHLOROETHANE	<10.0
1,1,2-TRICHLOROETHANE	<10.0
TRICHLOROETHENE	<10.0
TRICHLOROFLUOROMETHANE	<25.0
VINYL CHLORIDE	<10.0
TOTAL XYLENES	2100
TRICHLOROTRIFLUOROETHANE	<100.0

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	96
BROMOFLUOROBENZENE (%)	105

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933111

TEST : VOLATILE HALOCARBONS/AROMATICS (EPA 601/602)

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-11	DATE ANALYZED	: 09/29/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 100

COMPOUNDS	RESULTS
BENZENE	3100
BROMODICHLOROMETHANE	<20
BROMOFORM	<20
BROMOMETHANE	<20
CARBON TETRACHLORIDE	<20
CHLOROBENZENE	<50
CHLOROETHANE	<20
CHLOROFORM	<20
CHLOROMETHANE	<20
DIBROMOCHLOROMETHANE	<20
2-CHLOROETHYL VINYL ETHER	<50
1,3-DICHLOROBENZENE	<50
1,2 & 1,4-DICHLOROBENZENE	<50
DICHLORODIFLUOROMETHANE	<20
1,1-DICHLOROETHANE	<20
1,2-DICHLOROETHANE	<20
1,1-DICHLOROETHENE	<20
1,2-DICHLOROETHENE(TOTAL)	<20
1,2-DICHLOROPROPANE	<20
CIS-1,3-DICHLOROPROPENE	<20
TRANS-1,3-DICHLOROPROPENE	<20
ETHYLBENZENE	1000
METHYLENE CHLORIDE	<200
1,1,2,2-TETRACHLOROETHANE	<20
TETRACHLOROETHENE	<20
TOLUENE	3700
1,1,1-TRICHLOROETHANE	<20
1,1,2-TRICHLOROETHANE	<20
TRICHLOROETHENE	<20
TRICHLOROFLUOROMETHANE	<50
VINYL CHLORIDE	<20
TOTAL XYLENES	2500
TRICHLOROTRIFLUOROETHANE	<200
METHYL-t-BUTYL ETHER	140
SURROGATE PERCENT RECOVERIES	
BROMOCHLOROMETHANE (%)	105
BROMOFLUOROBENZENE (%)	104

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933112

TEST : VOLATILE HALOCARBONS/AROMATICS (EPA 601/602)

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-12	DATE ANALYZED	: 09/29/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 5

COMPOUNDS	RESULTS
BENZENE	420 D
BROMODICHLOROMETHANE	<1.0
BROMOFORM	<1.0
BROMOMETHANE	<1.0
CARBON TETRACHLORIDE	<1.0
CHLOROBENZENE	<2.5
CHLOROETHANE	<1.0
CHLOROFORM	<1.0
CHLOROMETHANE	<1.0
DIBROMOCHLOROMETHANE	<1.0
2-CHLOROETHYL VINYL ETHER	<2.5
1,3-DICHLOROBENZENE	<2.5
1,2 & 1,4-DICHLOROBENZENE	<2.5
DICHLORODIFLUOROMETHANE	<1.0
1,1-DICHLOROETHANE	<1.0
1,2-DICHLOROETHANE	<1.0
1,1-DICHLOROETHENE	<1.0
1,2-DICHLOROETHENE(TOTAL)	52
1,2-DICHLOROPROPANE	<1.0
CIS-1,3-DICHLOROPROPENE	<1.0
TRANS-1,3-DICHLOROPROPENE	<1.0
ETHYLBENZENE	58
METHYLENE CHLORIDE	<10.0
1,1,2,2-TETRACHLOROETHANE	<1.0
TETRACHLOROETHENE	<1.0
TOLUENE	<2.5
1,1,1-TRICHLOROETHANE	<1.0
1,1,2-TRICHLOROETHANE	<1.0
TRICHLOROETHENE	<1.0
TRICHLOROFLUOROMETHANE	<2.5
VINYL CHLORIDE	<1.0
TOTAL XYLENES	<2.5
TRICHLOROTRIFLUOROETHANE	<10.0
METHYL-t-BUTYL ETHER	1200
SURROGATE PERCENT RECOVERIES	
BROMOCHLOROMETHANE (%)	100
BROMOFLUOROBENZENE (%)	102

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933114

TEST : VOLATILE HALOCARBONS/AROMATICS (EPA 601/602)

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-15	DATE ANALYZED	: 09/29/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	0.8
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<0.2
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	<0.5
CHLOROETHANE	<0.2
CHLOROFORM	<0.2
CHLOROMETHANE	<0.2
DIBROMOCHLOROMETHANE	<0.2
2-CHLOROETHYL VINYL ETHER	<0.5
1,3-DICHLOROBENZENE	<0.5
1,2 & 1,4-DICHLOROBENZENE	<0.5
DICHLORODIFLUOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
1,2-DICHLOROETHENE(TOTAL)	0.7
1,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
ETHYLBENZENE	9.2
METHYLENE CHLORIDE	<2.0
1,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	0.2
TOLUENE	<0.5
1,1,1-TRICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	2.2
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<0.2
TOTAL XYLENES	<0.5
TRICHLOROTRIFLUOROETHANE	<2.0

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	93
BROMOFLUOROBENZENE (%)	111

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933115

TEST : VOLATILE HALOCARBONS/AROMATICS (EPA 601/602)

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-16	DATE ANALYZED	: 09/29/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	<0.5
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<0.2
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	<0.5
CHLOROETHANE	<0.2
CHLOROFORM	<0.2
CHLOROMETHANE	<0.2
DIBROMOCHLOROMETHANE	<0.2
2-CHLOROETHYL VINYL ETHER	<0.5
1,3-DICHLOROBENZENE	<0.5
1,2 & 1,4-DICHLOROBENZENE	<0.5
DICHLORODIFLUOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
1,2-DICHLOROETHENE(TOTAL)	<0.2
1,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
ETHYLBENZENE	<0.5
METHYLENE CHLORIDE	<2.0
1,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	<0.2
TOLUENE	<0.5
1,1,1-TRICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	<0.2
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<0.2
TOTAL XYLENES	<0.5
TRICHLOROTRIFLUOROETHANE	<2.0

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	87
BROMOFLUOROBENZENE (%)	109

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933116

TEST : VOLATILE HALOCARBONS/AROMATICS (EPA 601/602)

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-17	DATE ANALYZED	: 09/30/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	<0.5
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<0.2
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	<0.5
CHLOROETHANE	<0.2
CHLOROFORM	<0.2
CHLOROMETHANE	<0.2
DIBROMOCHLOROMETHANE	<0.2
2-CHLOROETHYL VINYL ETHER	<0.5
1,3-DICHLOROBENZENE	<0.5
1,2 & 1,4-DICHLOROBENZENE	<0.5
DICHLORODIFLUOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
1,2-DICHLOROETHENE(TOTAL)	0.3
1,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
ETHYLBENZENE	<0.5
METHYLENE CHLORIDE	<2.0
1,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	<0.2
TOLUENE	<0.5
1,1,1-TRICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	0.4
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<0.2
TOTAL XYLENES	<0.5
TRICHLOROTRIFLUOROETHANE	<2.0

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	92
BROMOFLUOROBENZENE (%)	112

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933117

TEST : VOLATILE HALOCARBONS/AROMATICS (EPA 601/602)

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-18	DATE ANALYZED	: 09/29/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 2

COMPOUNDS	RESULTS
BENZENE	<1.0
BROMODICHLOROMETHANE	<0.4
BROMOFORM	<0.4
BROMOMETHANE	<0.4
CARBON TETRACHLORIDE	<0.4
CHLOROBENZENE	<1.0
CHLOROETHANE	<0.4
CHLOROFORM	<0.4
CHLOROMETHANE	<0.4
DIBROMOCHLOROMETHANE	<0.4
2-CHLOROETHYL VINYL ETHER	<1.0
1,3-DICHLOROBENZENE	<1.0
1,2 & 1,4-DICHLOROBENZENE	<1.0
DICHLORODIFLUOROMETHANE	<0.4
1,1-DICHLOROETHANE	<0.4
1,2-DICHLOROETHANE	0.6
1,1-DICHLOROETHENE	1
1,2-DICHLOROETHENE(TOTAL)	21
1,2-DICHLOROPROPANE	<0.4
CIS-1,3-DICHLOROPROPENE	<0.4
TRANS-1,3-DICHLOROPROPENE	<0.4
ETHYLBENZENE	<1.0
METHYLENE CHLORIDE	<4.0
1,1,2,2-TETRACHLOROETHANE	<0.4
TETRACHLOROETHENE	<0.4
TOLUENE	<1.0
1,1,1-TRICHLOROETHANE	<0.4
1,1,2-TRICHLOROETHANE	<0.4
TRICHLOROETHENE	<0.4
TRICHLOROFLUOROMETHANE	<1.0
VINYL CHLORIDE	<0.4
TOTAL XYLENES	<1.0
TRICHLOROTRIFLUOROETHANE	<4.0
METHYL-t-BUTYL ETHER	560
SURROGATE PERCENT RECOVERIES	
BROMOCHLOROMETHANE (%)	91
BROMOFLUOROBENZENE (%)	101

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933120

TEST : VOLATILE HALOCARBONS/AROMATICS (601/602) & MTBE

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-21	DATE ANALYZED	: 09/29/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 250

COMPOUNDS	RESULTS
BENZENE	8200
BROMODICHLOROMETHANE	<50
BROMOFORM	<50
BROMOMETHANE	<50
CARBON TETRACHLORIDE	<50
CHLOROBENZENE	<125
CHLOROETHANE	<50
CHLOROFORM	<50
CHLOROMETHANE	<50
DIBROMOCHLOROMETHANE	<50
2-CHLOROETHYL VINYL ETHER	<125
1,3-DICHLOROBENZENE	<125
1,2 & 1,4-DICHLOROBENZENE	<125
DICHLORODIFLUOROMETHANE	<50
1,1-DICHLOROETHANE	<50
1,2-DICHLOROETHANE	<50
1,1-DICHLOROETHENE	<50
1,2-DICHLOROETHENE(TOTAL)	<50
1,2-DICHLOROPROPANE	<50
CIS-1,3-DICHLOROPROPENE	<50
TRANS-1,3-DICHLOROPROPENE	<50
ETHYLBENZENE	2500
METHYLENE CHLORIDE	<500
1,1,2,2-TETRACHLOROETHANE	<50
TETRACHLOROETHENE	<50
TOLUENE	19000 D
1,1,1-TRICHLOROETHANE	<50
1,1,2-TRICHLOROETHANE	<50
TRICHLOROETHENE	<50
TRICHLOROFLUOROMETHANE	<125
VINYL CHLORIDE	<50
TOTAL XYLENES	12000
TRICHLOROTRIFLUOROETHANE	<500
METHYL-t-BUTYL ETHER	<250
1,2-DIBROMOETHANE	<250
ACETONE	<12500
METHYL-t-BUTYL ETHER	2300
SURROGATE PERCENT RECOVERIES	
BROMOCHLOROMETHANE (%)	94
BROMOFLUOROBENZENE (%)	104

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933121

TEST : VOLATILE HALOCARBONS/AROMATICS (EPA 601/602)

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-22	DATE ANALYZED	: 09/30/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	<0.5
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<0.2
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	<0.5
CHLOROETHANE	<0.2
CHLOROFORM	<0.2
CHLOROMETHANE	<0.2
DIBROMOCHLOROMETHANE	<0.2
2-CHLOROETHYL VINYL ETHER	<0.5
1,3-DICHLOROBENZENE	<0.5
1,2 & 1,4-DICHLOROBENZENE	<0.5
DICHLORODIFLUOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
1,2-DICHLOROETHENE(TOTAL)	0.7
1,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
ETHYLBENZENE	<0.5
METHYLENE CHLORIDE	<2.0
1,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	<0.2
TOLUENE	<0.5
1,1,1-TRICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	<0.2
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<0.2
TOTAL XYLENES	<0.5
TRICHLOROTRIFLUOROETHANE	<2.0
METHYL-t-BUTYL ETHER	290
SURROGATE PERCENT RECOVERIES	
BROMOCHLOROMETHANE (%)	91
BROMOFLUOROBENZENE (%)	104

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933122

TEST : VOLATILE HALOCARBONS/AROMATICS (EPA 601/602)

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-23	DATE ANALYZED	: 10/01/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 5

COMPOUNDS	RESULTS
BENZENE	14
BROMODICHLOROMETHANE	<1.0
BROMOFORM	<1.0
BROMOMETHANE	<1.0
CARBON TETRACHLORIDE	<1.0
CHLOROBENZENE	<2.5
CHLOROETHANE	<1.0
CHLOROFORM	<1.0
CHLOROMETHANE	<1.0
DIBROMOCHLOROMETHANE	<1.0
2-CHLOROETHYL VINYL ETHER	<2.5
1,3-DICHLOROBENZENE	<2.5
1,2 & 1,4-DICHLOROBENZENE	<2.5
DICHLORODIFLUOROMETHANE	<1.0
1,1-DICHLOROETHANE	<1.0
1,2-DICHLOROETHANE	<1.0
1,1-DICHLOROETHENE	<1.0
1,2-DICHLOROETHENE(TOTAL)	25
1,2-DICHLOROPROPANE	<1.0
CIS-1,3-DICHLOROPROPENE	<1.0
TRANS-1,3-DICHLOROPROPENE	<1.0
ETHYLBENZENE	<2.5
METHYLENE CHLORIDE	<10.0
1,1,2,2-TETRACHLOROETHANE	<1.0
TETRACHLOROETHENE	<1.0
TOLUENE	<2.5
1,1,1-TRICHLOROETHANE	<1.0
1,1,2-TRICHLOROETHANE	<1.0
TRICHLOROETHENE	<1.0
TRICHLOROFLUOROMETHANE	<2.5
VINYL CHLORIDE	<1.0
TOTAL XYLENES	<2.5
TRICHLOROTRIFLUOROETHANE	<10.0
METHYL-t-BUTYL ETHER	150
SURROGATE PERCENT RECOVERIES	
BROMOCHLOROMETHANE (%)	99
BROMOFLUOROBENZENE (%)	94

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933123

TEST : VOLATILE HALOCARBONS/AROMATICS (EPA 601/602)

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-24	DATE ANALYZED	: 10/01/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 5

COMPOUNDS	RESULTS
BENZENE	<2.5
BROMODICHLOROMETHANE	<1.0
BROMOFORM	<1.0
BROMOMETHANE	<1.0
CARBON TETRACHLORIDE	<1.0
CHLOROBENZENE	<2.5
CHLOROETHANE	<1.0
CHLOROFORM	<1.0
CHLOROMETHANE	<1.0
DIBROMOCHLOROMETHANE	<1.0
2-CHLOROETHYL VINYL ETHER	<2.5
1,3-DICHLOROBENZENE	<2.5
1,2 & 1,4-DICHLOROBENZENE	<2.5
DICHLORODIFLUOROMETHANE	<1.0
1,1-DICHLOROETHANE	<1.0
1,2-DICHLOROETHANE	<1.0
1,1-DICHLOROETHENE	<1.0
1,2-DICHLOROETHENE(TOTAL)	12
1,2-DICHLOROPROPANE	<1.0
CIS-1,3-DICHLOROPROPENE	<1.0
TRANS-1,3-DICHLOROPROPENE	<1.0
ETHYLBENZENE	<2.5
METHYLENE CHLORIDE	<10.0
1,1,2,2-TETRACHLOROETHANE	<1.0
TETRACHLOROETHENE	<1.0
TOLUENE	<2.5
1,1,1-TRICHLOROETHANE	<1.0
1,1,2-TRICHLOROETHANE	<1.0
TRICHLOROETHENE	<1.0
TRICHLOROFLUOROMETHANE	<2.5
VINYL CHLORIDE	<1.0
TOTAL XYLENES	<2.5
TRICHLOROTRIFLUOROETHANE	<10.0
METHYL-t-BUTYL ETHER	16
SURROGATE PERCENT RECOVERIES	
BROMOCHLOROMETHANE (%)	98
BROMOFLUOROBENZENE (%)	98

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933124

TEST : VOLATILE HALOCARBONS/AROMATICS (601/602) & MTBE

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-D25	DATE ANALYZED	: 10/01/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	<0.5
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<0.2
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	<0.5
CHLOROETHANE	<0.2
CHLOROFORM	<0.2
CHLOROMETHANE	<0.2
DIBROMOCHLOROMETHANE	<0.2
2-CHLOROETHYL VINYL ETHER	<0.5
1,3-DICHLOROBENZENE	<0.5
1,2 & 1,4-DICHLOROBENZENE	<0.5
DICHLORODIFLUOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
1,2-DICHLOROETHENE(TOTAL)	<0.2
1,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
ETHYLBENZENE	<0.5
METHYLENE CHLORIDE	<2.0
1,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	<0.2
TOLUENE	<0.5
1,1,1-TRICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	<0.2
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<0.2
TOTAL XYLENES	<0.5
TRICHLOROTRIFLUOROETHANE	<2.0
METHYL-t-BUTYL ETHER	<1.0
1,2-DIBROMOETHANE	<1.0
ACETONE	<50

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	98
BROMOFLUOROBENZENE (%)	119

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

REAGENT BLANK

TEST : VOLATILE HALOCARBONS/AROMATICS (EPA 601/602)

CLIENT	: CAMP, DRESSER AND MCKEE	ATI I.D.	: 209331
PROJECT #	: 8557-113-SI	DATE EXTRACTED	: 09/28/92
PROJECT NAME	: CHEV/ISLETA	DATE ANALYZED	: 09/28/92
CLIENT I.D.	: REAGENT BLANK	UNITS	: UG/L
		DILUTION FACTOR	: N/A

COMPOUNDS	RESULTS
BENZENE	<0.5
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<0.2
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	<0.5
CHLOROETHANE	<0.2
CHLOROFORM	<0.2
CHLOROMETHANE	<0.2
DIBROMOCHLOROMETHANE	<0.2
2-CHLOROETHYL VINYL ETHER	<0.5
1,3-DICHLOROBENZENE	<0.5
1,2 & 1,4-DICHLOROBENZENE	<0.5
DICHLORODIFLUOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
1,2-DICHLOROETHENE(TOTAL)	<0.2
1,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
ETHYLBENZENE	<0.5
METHYLENE CHLORIDE	<2.0
1,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	<0.2
TOLUENE	<0.5
1,1,1-TRICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	<0.2
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<0.2
TOTAL XYLENES	<0.5
TRICHLOROTRIFLUOROETHANE	<2.0

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	87
BROMOFLUOROBENZENE (%)	105

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

REAGENT BLANK

TEST : VOLATILE HALOCARBONS/AROMATICS (EPA 601/602)

CLIENT	: CAMP, DRESSER AND MCKEE	ATI I.D.	: 209331
PROJECT #	: 8557-113-SI	DATE EXTRACTED	: 09/29/92
PROJECT NAME	: CHEV/ISLETA	DATE ANALYZED	: 09/29/92
CLIENT I.D.	: REAGENT BLANK	UNITS	: UG/L
		DILUTION FACTOR	: N/A

COMPOUNDS	RESULTS
BENZENE	<0.5
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<0.2
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	<0.5
CHLOROETHANE	<0.2
CHLOROFORM	<0.2
CHLOROMETHANE	<0.2
DIBROMOCHLOROMETHANE	<0.2
2-CHLOROETHYL VINYL ETHER	<0.5
1,3-DICHLOROBENZENE	<0.5
1,2 & 1,4-DICHLOROBENZENE	<0.5
DICHLORODIFLUOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
1,2-DICHLOROETHENE(TOTAL)	<0.2
1,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
ETHYLBENZENE	<0.5
METHYLENE CHLORIDE	<2.0
1,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	<0.2
TOLUENE	<0.5
1,1,1-TRICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	<0.2
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<0.2
TOTAL XYLENES	<0.5
TRICHLOROTRIFLUOROETHANE	<2.0

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	98
BROMOFLUOROBENZENE (%)	104

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

REAGENT BLANK

TEST : VOLATILE HALOCARBONS/AROMATICS (EPA 601/602)

		ATI I.D.	: 209331
CLIENT	: CAMP, DRESSER AND MCKEE	DATE EXTRACTED	: 09/30/92
PROJECT #	: 8557-113-SI	DATE ANALYZED	: 09/30/92
PROJECT NAME	: CHEV/ISLETA	UNITS	: UG/L
CLIENT I.D.	: REAGENT BLANK	DILUTION FACTOR	: N/A

COMPOUNDS	RESULTS
BENZENE	<0.5
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<0.2
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	<0.5
CHLOROETHANE	<0.2
CHLOROFORM	<0.2
CHLOROMETHANE	<0.2
DIBROMOCHLOROMETHANE	<0.2
2-CHLOROETHYL VINYL ETHER	<0.5
1,3-DICHLOROBENZENE	<0.5
1,2 & 1,4-DICHLOROBENZENE	<0.5
DICHLORODIFLUOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
1,2-DICHLOROETHENE(TOTAL)	<0.2
1,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
ETHYLBENZENE	<0.5
METHYLENE CHLORIDE	<2.0
1,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	<0.2
TOLUENE	<0.5
1,1,1-TRICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	<0.2
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<0.2
TOTAL XYLENES	<0.5
TRICHLOROTRIFLUOROETHANE	<2.0

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	103
BROMOFLUOROBENZENE (%)	96

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

REAGENT BLANK

TEST : VOLATILE HALOCARBONS/AROMATICS (EPA 601/602)

		ATI I.D.	: 209331
CLIENT	: CAMP, DRESSER AND MCKEE	DATE EXTRACTED	: 10/01/92
PROJECT #	: 8557-113-SI	DATE ANALYZED	: 10/01/92
PROJECT NAME	: CHEV/ISLETA	UNITS	: UG/L
CLIENT I.D.	: REAGENT BLANK	DILUTION FACTOR	: N/A

COMPOUNDS	RESULTS
BENZENE	<0.5
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<0.2
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	<0.5
CHLOROETHANE	<0.2
CHLOROFORM	<0.2
CHLOROMETHANE	<0.2
DIBROMOCHLOROMETHANE	<0.2
2-CHLOROETHYL VINYL ETHER	<0.5
1,3-DICHLOROBENZENE	<0.5
1,2 & 1,4-DICHLOROBENZENE	<0.5
DICHLORODIFLUOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
1,2-DICHLOROETHENE(TOTAL)	<0.2
1,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
ETHYLBENZENE	<0.5
METHYLENE CHLORIDE	<2.0
1,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	<0.2
TOLUENE	<0.5
1,1,1-TRICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	<0.2
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<0.2
TOTAL XYLENES	<0.5
TRICHLOROTRIFLUOROETHANE	<2.0

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	105
BROMOFLUOROBENZENE (%)	116

Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 209331

TEST : VOLATILE HALOCARBONS/AROMATICS (EPA 601/602)

CLIENT : CAMP, DRESSER AND MCKEE
PROJECT # : 8557-113-SI
PROJECT NAME : CHEV/ISLETA
REF I.D. : 21049901

DATE ANALYZED : 09/28/92
SAMPLE MATRIX : AQUEOUS
UNITS : UG/L

COMPOUNDS	SAMPLE RESULT	CONC. SPIKED	SPIKED SAMPLE	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
1,1-DICHLOROETHENE	<0.2	20.0	19.6	98	19.5	98	1
TRICHLOROETHENE	<0.2	20.0	20.4	102	20.9	104	2
TETRACHLOROETHENE	<0.2	20.0	21.2	106	21.8	109	3
BENZENE	<0.5	20.0	19.8	99	19.9	100	1
BROMODICHLOROMETHANE	<0.2	20.0	19.8	99	20.4	102	3
CHLOROFORM	<0.2	20.0	21.0	105	21.1	106	0
1,1,1-TRICHLOROETHANE	<0.2	20.0	22.0	110	21.8	109	1
TOLUENE	<0.5	20.0	19.7	98	19.8	99	1
CHLOROBENZENE	<0.5	20.0	19.9	100	20.2	101	1
M-XYLENE	<0.5	20.0	18.4	92	18.6	93	1

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$

Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 209331

TEST : VOLATILE HALOCARBONS/AROMATICS (EPA 601/602)

CLIENT : CAMP, DRESSER AND MCKEE
PROJECT # : 8557-113-SI
PROJECT NAME : CHEV/ISLETA
REF I.D. : 21049902

DATE ANALYZED : 09/29/92
SAMPLE MATRIX : AQUEOUS
UNITS : UG/L

COMPOUNDS	SAMPLE RESULT	CONC. SPIKED	SPIKED SAMPLE	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
1,1-DICHLOROETHENE	<0.2	20.0	19.7	98	19.4	97	2
TRICHLOROETHENE	<0.2	20.0	21.0	105	22.6	113	7
TETRACHLOROETHENE	<0.2	20.0	22.6	113	20.9	104	8
BENZENE	<0.5	20.0	21.0	105	20.0	100	5
BROMODICHLOROMETHANE	<0.2	20.0	20.0	100	19.1	96	5
CHLOROFORM	<0.2	20.0	21.6	108	21.1	106	2
1,1,1-TRICHLOROETHANE	<0.2	20.0	22.1	110	21.5	108	3
TOLUENE	<0.5	20.0	20.7	104	19.7	98	5
CHLOROBENZENE	<0.5	20.0	21.2	106	20.9	104	1
M-XYLENE	<0.5	20.0	19.4	97	18.1	90	7

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$

Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 209331

TEST : VOLATILE HALOCARBONS/AROMATICS (EPA 601/602)

CLIENT : CAMP, DRESSER AND MCKEE
PROJECT # : 8557-113-SI
PROJECT NAME : CHEV/ISLETA
REF I.D. : 21049903

DATE ANALYZED : 09/30/92
SAMPLE MATRIX : AQUEOUS
UNITS : UG/L

COMPOUNDS	SAMPLE RESULT	CONC. SPIKED	SPIKED SAMPLE	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
1,1-DICHLOROETHENE	<0.2	20.0	19.1	96	19.4	97	2
TRICHLOROETHENE	<0.2	20.0	20.8	104	21.1	106	1
TETRACHLOROETHENE	<0.2	20.0	22.9	114	21.2	106	8
BENZENE	<0.5	20.0	19.9	100	19.8	99	1
BROMODICHLOROMETHANE	<0.2	20.0	18.7	94	19.5	98	4
CHLOROFORM	<0.2	20.0	21.4	107	21.2	106	1
1,1,1-TRICHLOROETHANE	<0.2	20.0	22.2	111	22.3	112	0
TOLUENE	<0.5	20.0	19.8	99	19.7	98	1
CHLOROBENZENE	<0.5	20.0	20.9	104	20.7	104	1
M-XYLENE	<0.5	20.0	19.8	99	19.9	100	1

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933101

TEST : VOLATILE HALOCARBONS/AROMATICS (601/602) & MTBE

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-1	DATE ANALYZED	: 09/28/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	3.8
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<0.2
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	<0.5
CHLOROETHANE	<0.2
CHLOROFORM	<0.2
CHLOROMETHANE	<0.2
DIBROMOCHLOROMETHANE	<0.2
2-CHLOROETHYL VINYL ETHER	<0.5
1,3-DICHLOROBENZENE	<0.5
1,2 & 1,4-DICHLOROBENZENE	<0.5
DICHLORODIFLUOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
1,2-DICHLOROETHENE(TOTAL)	13.1
1,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
ETHYLBENZENE	0.8
METHYLENE CHLORIDE	<2.0
1,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	<0.2
TOLUENE	<0.5
1,1,1-TRICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	<0.2
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<0.2
TOTAL XYLENES	1.1
TRICHLOROTRIFLUOROETHANE	<2.0
METHYL-t-BUTYL ETHER	<1.0
1,2-DIBROMOETHANE	<1.0
ACETONE	<50

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	89
BROMOFLUOROBENZENE (%)	102

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933104

TEST : VOLATILE HALOCARBONS/AROMATICS (601/602) & MTBE

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-4	DATE ANALYZED	: 09/29/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 100

COMPOUNDS	RESULTS
BENZENE	4200
BROMODICHLOROMETHANE	<20
BROMOFORM	<20
BROMOMETHANE	<20
CARBON TETRACHLORIDE	<20
CHLOROBENZENE	<50
CHLOROETHANE	<20
CHLOROFORM	<20
CHLOROMETHANE	<20
DIBROMOCHLOROMETHANE	<20
2-CHLOROETHYL VINYL ETHER	<50
1,3-DICHLOROBENZENE	<50
1,2 & 1,4-DICHLOROBENZENE	<50
DICHLORODIFLUOROMETHANE	<20
1,1-DICHLOROETHANE	<20
1,2-DICHLOROETHANE	<20
1,1-DICHLOROETHENE	<20
1,2-DICHLOROETHENE(TOTAL)	<20
1,2-DICHLOROPROPANE	<20
CIS-1,3-DICHLOROPROPENE	<20
TRANS-1,3-DICHLOROPROPENE	<20
ETHYLBENZENE	1300
METHYLENE CHLORIDE	<200
1,1,2,2-TETRACHLOROETHANE	<20
TETRACHLOROETHENE	<20
TOLUENE	680
1,1,1-TRICHLOROETHANE	<20
1,1,2-TRICHLOROETHANE	<20
TRICHLOROETHENE	<20
TRICHLOROFLUOROMETHANE	<50
VINYL CHLORIDE	<20
TOTAL XYLENES	3600
TRICHLOROTRIFLUOROETHANE	<200
METHYL-t-BUTYL ETHER	<100
1,2-DIBROMOETHANE	<100
ACETONE	<5000

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	102
BROMOFLUOROBENZENE (%)	117

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933109

TEST : VOLATILE HALOCARBONS/AROMATICS (601/602) & MTBE

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-9	DATE ANALYZED	: 09/29/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 100

COMPOUNDS	RESULTS
BENZENE	3800
BROMODICHLOROMETHANE	<20
BROMOFORM	<20
BROMOMETHANE	<20
CARBON TETRACHLORIDE	<20
CHLOROBENZENE	<50
CHLOROETHANE	<20
CHLOROFORM	<20
CHLOROMETHANE	<20
DIBROMOCHLOROMETHANE	<20
2-CHLOROETHYL VINYL ETHER	<50
1,3-DICHLOROBENZENE	<50
1,2 & 1,4-DICHLOROBENZENE	<50
DICHLORODIFLUOROMETHANE	<20
1,1-DICHLOROETHANE	<20
1,2-DICHLOROETHANE	<20
1,1-DICHLOROETHENE	<20
1,2-DICHLOROETHENE(TOTAL)	<20
1,2-DICHLOROPROPANE	<20
CIS-1,3-DICHLOROPROPENE	<20
TRANS-1,3-DICHLOROPROPENE	<20
ETHYLBENZENE	2500
METHYLENE CHLORIDE	<200
1,1,2,2-TETRACHLOROETHANE	<20
TETRACHLOROETHENE	<20
TOLUENE	<50
1,1,1-TRICHLOROETHANE	<20
1,1,2-TRICHLOROETHANE	<20
TRICHLOROETHENE	<20
TRICHLOROFLUOROMETHANE	<50
VINYL CHLORIDE	<20
TOTAL XYLENES	300
TRICHLOROTRIFLUOROETHANE	<200
METHYL-t-BUTYL ETHER	<100
1,2-DIBROMOETHANE	<100
ACETONE	<5000

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	90
BROMOFLUOROBENZENE (%)	112

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933110

TEST : VOLATILE HALOCARBONS/AROMATICS (601/602) & MTBE

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-10	DATE ANALYZED	: 09/29/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	3.7
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<0.2
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	8.1
CHLOROETHANE	<0.2
CHLOROFORM	<0.2
CHLOROMETHANE	<0.2
DIBROMOCHLOROMETHANE	<0.2
2-CHLOROETHYL VINYL ETHER	<0.5
1,3-DICHLOROBENZENE	<0.5
1,2 & 1,4-DICHLOROBENZENE	0.5
DICHLORODIFLUOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
1,2-DICHLOROETHENE(TOTAL)	12.7
1,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
ETHYLBENZENE	<0.5
METHYLENE CHLORIDE	<2.0
1,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	<0.2
TOLUENE	0.9
1,1,1-TRICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	<0.2
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<0.2
TOTAL XYLENES	<0.5
TRICHLOROTRIFLUOROETHANE	<2.0
METHYL-t-BUTYL ETHER	35.6
1,2-DIBROMOETHANE	<1.0
ACETONE	<50

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	102
BROMOFLUOROBENZENE (%)	81

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933113

TEST : VOLATILE HALOCARBONS/AROMATICS (601/602) & MTBE

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-14	DATE ANALYZED	: 09/29/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	1.7
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<0.2
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	<0.5
CHLOROETHANE	<0.2
CHLOROFORM	0.5
CHLOROMETHANE	<0.2
DIBROMOCHLOROMETHANE	<0.2
2-CHLOROETHYL VINYL ETHER	<0.5
1,3-DICHLOROBENZENE	<0.5
1,2 & 1,4-DICHLOROBENZENE	<0.5
DICHLORODIFLUOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
1,2-DICHLOROETHENE(TOTAL)	5.2
1,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
ETHYLBENZENE	<0.5
METHYLENE CHLORIDE	<2.0
1,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	<0.2
TOLUENE	0.9
1,1,1-TRICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	<0.2
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<0.2
TOTAL XYLENES	<0.5
TRICHLOROTRIFLUOROETHANE	<2.0
METHYL-t-BUTYL ETHER	160 D
1,2-DIBROMOETHANE	<1.0
ACETONE	<50

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	103
BROMOFLUOROBENZENE (%)	91

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933118

TEST : VOLATILE HALOCARBONS/AROMATICS (601/602) & MTBE

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-19	DATE ANALYZED	: 09/29/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	<0.5
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<0.2
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	<0.5
CHLOROETHANE	<0.2
CHLOROFORM	<0.2
CHLOROMETHANE	<0.2
DIBROMOCHLOROMETHANE	<0.2
2-CHLOROETHYL VINYL ETHER	<0.5
1,3-DICHLOROBENZENE	<0.5
1,2 & 1,4-DICHLOROBENZENE	<0.5
DICHLORODIFLUOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
1,2-DICHLOROETHENE(TOTAL)	<0.2
1,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
ETHYLBENZENE	<0.5
METHYLENE CHLORIDE	<2.0
1,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	<0.2
TOLUENE	<0.5
1,1,1-TRICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	<0.2
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<0.2
TOTAL XYLENES	<0.5
TRICHLOROTRIFLUOROETHANE	<2.0
METHYL-t-BUTYL ETHER	<1.0
1,2-DIBROMOETHANE	<1.0
ACETONE	<50

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	94
BROMOFLUOROBENZENE (%)	111

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933119

TEST : VOLATILE HALOCARBONS/AROMATICS (601/602) & MTBE

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-20	DATE ANALYZED	: 09/29/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	<0.5
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<0.2
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	<0.5
CHLOROETHANE	<0.2
CHLOROFORM	<0.2
CHLOROMETHANE	<0.2
DIBROMOCHLOROMETHANE	<0.2
2-CHLOROETHYL VINYL ETHER	<0.5
1,3-DICHLOROBENZENE	<0.5
1,2 & 1,4-DICHLOROBENZENE	<0.5
DICHLORODIFLUOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
1,2-DICHLOROETHENE(TOTAL)	1.2
1,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
ETHYLBENZENE	<0.5
METHYLENE CHLORIDE	<2.0
1,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	<0.2
TOLUENE	0.6
1,1,1-TRICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	1.4
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<0.2
TOTAL XYLENES	<0.5
TRICHLOROTRIFLUOROETHANE	<2.0
METHYL-t-BUTYL ETHER	<1.0
1,2-DIBROMOETHANE	<1.0
ACETONE	<50

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	86
BROMOFLUOROBENZENE (%)	100

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933125

TEST : VOLATILE HALOCARBONS/AROMATICS (601/602) & MTBE

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-26	DATE ANALYZED	: 10/01/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	0.8
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<0.2
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	<0.5
CHLOROETHANE	<0.2
CHLOROFORM	<0.2
CHLOROMETHANE	<0.2
DIBROMOCHLOROMETHANE	<0.2
2-CHLOROETHYL VINYL ETHER	<0.5
1,3-DICHLOROBENZENE	<0.5
1,2 & 1,4-DICHLOROBENZENE	<0.5
DICHLORODIFLUOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
1,2-DICHLOROETHENE(TOTAL)	16.0
1,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
ETHYLBENZENE	<0.5
METHYLENE CHLORIDE	<2.0
1,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	<0.2
TOLUENE	1.1
1,1,1-TRICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	<0.2
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<0.2
TOTAL XYLENES	<0.5
TRICHLOROTRIFLUOROETHANE	<2.0
METHYL-t-BUTYL ETHER	200 D
1,2-DIBROMOETHANE	<1.0
ACETONE	<50

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	105
BROMOFLUOROBENZENE (%)	100

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 20933126

TEST : VOLATILE HALOCARBONS/AROMATICS (601/602) & MTBE

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: N/A
CLIENT I.D.	: W-27	DATE ANALYZED	: 10/01/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	<0.5
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<0.2
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	<0.5
CHLOROETHANE	<0.2
CHLOROFORM	<0.2
CHLOROMETHANE	<0.2
DIBROMOCHLOROMETHANE	<0.2
2-CHLOROETHYL VINYL ETHER	<0.5
1,3-DICHLOROBENZENE	<0.5
1,2 & 1,4-DICHLOROBENZENE	<0.5
DICHLORODIFLUOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
1,2-DICHLOROETHENE(TOTAL)	5.4
1,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
ETHYLBENZENE	<0.5
METHYLENE CHLORIDE	<2.0
1,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	<0.2
TOLUENE	1.1
1,1,1-TRICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	0.9
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<0.2
TOTAL XYLENES	<0.5
TRICHLOROTRIFLUOROETHANE	<2.0
METHYL-t-BUTYL ETHER	<1.0
1,2-DIBROMOETHANE	<1.0
ACETONE	<50

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	98
BROMOFLUOROBENZENE (%)	100

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

REAGENT BLANK

TEST : VOLATILE HALOCARBONS/AROMATICS (601/602) & MTBE

CLIENT	: CAMP, DRESSER AND MCKEE	ATI I.D.	: 209331
PROJECT #	: 8557-113-SI	DATE EXTRACTED	: 09/28/92
PROJECT NAME	: CHEV/ISLETA	DATE ANALYZED	: 09/28/92
CLIENT I.D.	: REAGENT BLANK	UNITS	: UG/L
		DILUTION FACTOR	: N/A

COMPOUNDS	RESULTS
BENZENE	<0.5
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<0.2
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	<0.5
CHLOROETHANE	<0.2
CHLOROFORM	<0.2
CHLOROMETHANE	<0.2
DIBROMOCHLOROMETHANE	<0.2
2-CHLOROETHYL VINYL ETHER	<0.5
1,3-DICHLOROBENZENE	<0.5
1,2 & 1,4-DICHLOROBENZENE	<0.5
DICHLORODIFLUOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
1,2-DICHLOROETHENE(TOTAL)	<0.2
1,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
ETHYLBENZENE	<0.5
METHYLENE CHLORIDE	<2.0
1,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	<0.2
TOLUENE	<0.5
1,1,1-TRICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	<0.2
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<0.2
TOTAL XYLENES	<0.5
TRICHLOROTRIFLUOROETHANE	<2.0
METHYL-t-BUTYL ETHER	<1.0
1,2-DIBROMOETHANE	<1.0
ACETONE	<50

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	87
BROMOFLUOROBENZENE (%)	105

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

REAGENT BLANK

TEST : VOLATILE HALOCARBONS/AROMATICS (601/602) & MTBE

CLIENT	: CAMP, DRESSER AND MCKEE	ATI I.D.	: 209331
PROJECT #	: 8557-113-SI	DATE EXTRACTED	: 09/29/92
PROJECT NAME	: CHEV/ISLETA	DATE ANALYZED	: 09/29/92
CLIENT I.D.	: REAGENT BLANK	UNITS	: UG/L
		DILUTION FACTOR	: N/A

COMPOUNDS	RESULTS
BENZENE	<0.5
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<0.2
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	<0.5
CHLOROETHANE	<0.2
CHLOROFORM	<0.2
CHLOROMETHANE	<0.2
DIBROMOCHLOROMETHANE	<0.2
2-CHLOROETHYL VINYL ETHER	<0.5
1,3-DICHLOROBENZENE	<0.5
1,2 & 1,4-DICHLOROBENZENE	<0.5
DICHLORODIFLUOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
1,2-DICHLOROETHENE(TOTAL)	<0.2
1,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
ETHYLBENZENE	<0.5
METHYLENE CHLORIDE	<2.0
1,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	<0.2
TOLUENE	<0.5
1,1,1-TRICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	<0.2
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<0.2
TOTAL XYLENES	<0.5
TRICHLOROTRIFLUOROETHANE	<2.0
METHYL-t-BUTYL ETHER	<1.0
1,2-DIBROMOETHANE	<1.0
ACETONE	<50

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	98
BROMOFLUOROBENZENE (%)	104

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

REAGENT BLANK

TEST : VOLATILE HALOCARBONS/AROMATICS (601/602) & MTBE

CLIENT	: CAMP, DRESSER AND MCKEE	ATI I.D.	: 209331
PROJECT #	: 8557-113-SI	DATE EXTRACTED	: 10/01/92
PROJECT NAME	: CHEV/ISLETA	DATE ANALYZED	: 10/01/92
CLIENT I.D.	: REAGENT BLANK	UNITS	: UG/L
		DILUTION FACTOR	: N/A

COMPOUNDS	RESULTS
BENZENE	<0.5
BROMODICHLOROMETHANE	<0.2
BROMOFORM	<0.2
BROMOMETHANE	<0.2
CARBON TETRACHLORIDE	<0.2
CHLOROBENZENE	<0.5
CHLOROETHANE	<0.2
CHLOROFORM	<0.2
CHLOROMETHANE	<0.2
DIBROMOCHLOROMETHANE	<0.2
2-CHLOROETHYL VINYL ETHER	<0.5
1,3-DICHLOROBENZENE	<0.5
1,2 & 1,4-DICHLOROBENZENE	<0.5
DICHLORODIFLUOROMETHANE	<0.2
1,1-DICHLOROETHANE	<0.2
1,2-DICHLOROETHANE	<0.2
1,1-DICHLOROETHENE	<0.2
1,2-DICHLOROETHENE(TOTAL)	<0.2
1,2-DICHLOROPROPANE	<0.2
CIS-1,3-DICHLOROPROPENE	<0.2
TRANS-1,3-DICHLOROPROPENE	<0.2
ETHYLBENZENE	<0.5
METHYLENE CHLORIDE	<2.0
1,1,2,2-TETRACHLOROETHANE	<0.2
TETRACHLOROETHENE	<0.2
TOLUENE	<0.5
1,1,1-TRICHLOROETHANE	<0.2
1,1,2-TRICHLOROETHANE	<0.2
TRICHLOROETHENE	<0.2
TRICHLOROFLUOROMETHANE	<0.5
VINYL CHLORIDE	<0.2
TOTAL XYLENES	<0.5
TRICHLOROTRIFLUOROETHANE	<2.0
METHYL-t-BUTYL ETHER	<1.0
1,2-DIBROMOETHANE	<1.0
ACETONE	<50

SURROGATE PERCENT RECOVERIES

BROMOCHLOROMETHANE (%)	105
BROMOFLUOROBENZENE (%)	116

Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 209331

TEST : VOLATILE HALOCARBONS/AROMATICS (601/602) & MTBE

CLIENT : CAMP, DRESSER AND MCKEE
PROJECT # : 8557-113-SI
PROJECT NAME : CHEV/ISLETA
REF I.D. : 21049901

DATE ANALYZED : 09/28/92
SAMPLE MATRIX : AQUEOUS
UNITS : UG/L

COMPOUNDS	SAMPLE RESULT	CONC. SPIKED	SPIKED SAMPLE	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
1,1 DICHLOROETHENE	<0.2	20.0	19.6	98	19.5	98	1
TRICHLOROETHENE	<0.2	20.0	20.4	102	20.9	104	2
TETRACHLOROETHENE	<0.2	20.0	21.2	106	21.8	109	3
BENZENE	<0.5	20.0	19.8	99	19.9	100	1
BROMODICHLOROMETHANE	<0.2	20.0	19.8	99	20.4	102	3
CHLOROFORM	<0.2	20.0	21.0	105	21.1	106	0
1,1,1-TRICHLOROETHANE	<0.2	20.0	22.0	110	21.8	109	1
TOLUENE	<0.5	20.0	19.7	98	19.8	99	1
CHLOROBENZENE	<0.5	20.0	19.9	100	20.2	101	1
XYLENES	<0.5	20.0	18.4	92	18.6	93	1

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$

Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 209331

TEST : VOLATILE HALOCARBONS/AROMATICS (601/602) & MTBE

CLIENT : CAMP, DRESSER AND MCKEE
PROJECT # : 8557-113-SI
PROJECT NAME : CHEV/ISLETA
REF I.D. : 21049902

DATE ANALYZED : 09/30/92
SAMPLE MATRIX : AQUEOUS
UNITS : UG/L

COMPOUNDS	SAMPLE RESULT	CONC. SPIKED	SPIKED SAMPLE	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
1,1 DICHLOROETHENE	<0.2	20.0	19.1	96	19.4	97	2
TRICHLOROETHENE	<0.2	20.0	20.8	104	21.1	106	1
TETRACHLOROETHENE	<0.2	20.0	22.9	114	21.2	106	8
BENZENE	<0.5	20.0	19.9	100	19.8	99	1
BROMODICHLOROMETHANE	<0.2	20.0	18.7	94	19.5	98	4
CHLOROFORM	<0.2	20.0	21.4	107	21.2	106	1
1,1,1-TRICHLOROETHANE	<0.2	20.0	22.2	111	22.3	112	0
TOLUENE	<0.5	20.0	19.8	99	19.7	98	1
CHLOROBENZENE	<0.5	20.0	20.9	104	20.7	104	1
XYLENES	<0.5	20.0	19.8	99	19.9	100	1

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 20933105

TEST : SEMI-VOLATILE ORGANICS (EPA 625)

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: 09/24/92
CLIENT I.D.	: W-5	DATE ANALYZED	: 09/30/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
N-NITROSODIMETHYLAMINE	<10
PHENOL	<10
ANILINE	<10
BIS(2-CHLOROETHYL)ETHER	<10
2-CHLOROPHENOL	<10
1,3-DICHLOROBENZENE	<10
1,4-DICHLOROBENZENE	<10
BENZYL ALCOHOL	<10
1,2-DICHLOROBENZENE	<10
2-METHYLPHENOL	<10
BIS(2-CHLOROISOPROPYL)ETHER	<10
4-METHYLPHENOL	<10
N-NITROSO-DI-N-PROPYLAMINE	<10
HEXACHLOROETHANE	<10
NITROBENZENE	<10
ISOPHORONE	<10
2-NITROPHENOL	<10
2,4-DIMETHYLPHENOL	<10
BENZOIC ACID	<50
BIS(2-CHLOROETHOXY)METHANE	<10
2,4-DICHLOROPHENOL	<10
1,2,4-TRICHLOROBENZENE	<10
NAPHTHALENE	210
4-CHLOROANILINE	<10
HEXACHLOROBUTADIENE	<10
4-CHLORO-3-METHYLPHENOL	<10
2-METHYLNAPHTHALENE	84
HEXACHLOROCYCLOPENTADIENE	<10
2,4,6-TRICHLOROPHENOL	<10
2,4,5-TRICHLOROPHENOL	<50
2-CHLORONAPHTHALENE	<10
2-NITROANILINE	<50
DIMETHYLPHTHALATE	<10
ACENAPHTHYLENE	<10
3-NITROANILINE	<50
ACENAPHTHENE	<10
2,4-DINITROPHENOL	<50
4-NITROPHENOL	<50
DIBENZOFURAN	<10
2,4-DINITROTOLUENE	<10
2,6-DINITROTOLUENE	<10

(CONTINUED NEXT PAGE)

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 20933105

TEST : SEMI-VOLATILE ORGANICS (EPA 625)

COMPOUNDS	RESULTS
DIETHYLPHTHALATE	<10
4-CHLOROPHENYL-PHENYLETHER	<10
FLUORENE	<10
4-NITROANILINE	<50
4,6-DINITRO-2-METHYLPHENOL	<50
N-NITROSODIPHENYLAMINE	<10
4-BROMOPHENYL-PHENYLETHER	<10
HEXACHLOROBENZENE	<10
PENTACHLOROPHENOL	<50
PHENANTHRENE	<10
ANTHRACENE	<10
DI-N-BUTYLPHTHALATE	<10
FLUORANTHENE	<10
BENZIDINE	<100
PYRENE	<10
BUTYLBENZYLPHTHALATE	<10
3,3'-DICHLOROBENZIDINE	<20
BENZO(a)ANTHRACENE	<10
BIS(2-ETHYLHEXYL)PHTHALATE	<10
CHRYSENE	<10
DI-N-OCTYLPHTHALATE	<10
BENZO(b)FLUORANTHENE	<10
BENZO(k)FLUORANTHENE	<10
BENZO(a)PYRENE	<10
INDENO(1,2,3-cd)PYRENE	<10
DIBENZO(a,h)ANTHRACENE	<10
BENZO(g,h,i)PERYLENE	<10

SURROGATE PERCENT RECOVERIES

NITROBENZENE-D5 (%)	84
2-FLUOROBIPHENYL (%)	85
TERPHENYL (%)	70
PHENOL-D6 (%)	31
2-FLUOROPHENOL (%)	36
2,4,6-TRIBROMOPHENOL (%)	53

Analytical Technologies, Inc.

ADDITIONAL COMPOUNDS (SEMI-QUANTITATED)

TEST : SEMI-VOLATILE ORGANICS (EPA 625)

ATI I.D. : 20933105

COMPOUNDS	RESULTS
SUBSTITUTED BENZENES C7-C10	6000
1-METHYLNAPHTHALENE	60
OXYGENATED AMINE C6	100
OXYGENATED HYDROCARBONS C8-C10	30

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 20933125

TEST : SEMI-VOLATILE ORGANICS (EPA 625)

CLIENT	: CAMP, DRESSER AND MCKEE	DATE SAMPLED	: 09/22/92
PROJECT #	: 8557-113-SI	DATE RECEIVED	: 09/22/92
PROJECT NAME	: CHEV/ISLETA	DATE EXTRACTED	: 09/24/92
CLIENT I.D.	: W-26	DATE ANALYZED	: 09/30/92
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
N-NITROSODIMETHYLAMINE	<10
PHENOL	<10
ANILINE	<10
BIS(2-CHLOROETHYL)ETHER	<10
2-CHLOROPHENOL	<10
1,3-DICHLOROBENZENE	<10
1,4-DICHLOROBENZENE	<10
BENZYL ALCOHOL	<10
1,2-DICHLOROBENZENE	<10
2-METHYLPHENOL	<10
BIS(2-CHLOROISOPROPYL)ETHER	<10
4-METHYLPHENOL	<10
N-NITROSO-DI-N-PROPYLAMINE	<10
HEXACHLOROETHANE	<10
NITROBENZENE	<10
ISOPHORONE	<10
2-NITROPHENOL	<10
2,4-DIMETHYLPHENOL	<10
BENZOIC ACID	<50
BIS(2-CHLOROETHOXY)METHANE	<10
2,4-DICHLOROPHENOL	<10
1,2,4-TRICHLOROBENZENE	<10
NAPHTHALENE	<10
4-CHLOROANILINE	<10
HEXACHLOROBUTADIENE	<10
4-CHLORO-3-METHYLPHENOL	<10
2-METHYLNAPHTHALENE	<10
HEXACHLOROCYCLOPENTADIENE	<10
2,4,6-TRICHLOROPHENOL	<10
2,4,5-TRICHLOROPHENOL	<50
2-CHLORONAPHTHALENE	<10
2-NITROANILINE	<50
DIMETHYLPHTHALATE	<10
ACENAPHTHYLENE	<10
3-NITROANILINE	<50
ACENAPHTHENE	<10
2,4-DINITROPHENOL	<50
4-NITROPHENOL	<50
DIBENZOFURAN	<10
2,4-DINITROTOLUENE	<10
2,6-DINITROTOLUENE	<10

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 20933125

TEST : SEMI-VOLATILE ORGANICS (EPA 625)

COMPOUNDS	RESULTS
DIETHYLPHTHALATE	<10
4-CHLOROPHENYL-PHENYLETHER	<10
FLUORENE	<10
4-NITROANILINE	<50
4,6-DINITRO-2-METHYLPHENOL	<50
N-NITROSODIPHENYLAMINE	<10
4-BROMOPHENYL-PHENYLETHER	<10
HEXACHLOROBENZENE	<10
PENTACHLOROPHENOL	<50
PHENANTHRENE	<10
ANTHRACENE	<10
DI-N-BUTYLPHTHALATE	<10
FLUORANTHENE	<10
BENZIDINE	<100
PYRENE	<10
BUTYLBENZYLPHTHALATE	<10
3,3'-DICHLOROBENZIDINE	<20
BENZO(a)ANTHRACENE	<10
BIS(2-ETHYLHEXYL)PHTHALATE	<10
CHRYSENE	<10
DI-N-OCTYLPHTHALATE	<10
BENZO(b)FLUORANTHENE	<10
BENZO(k)FLUORANTHENE	<10
BENZO(a)PYRENE	<10
INDENO(1,2,3-cd)PYRENE	<10
DIBENZO(a,h)ANTHRACENE	<10
BENZO(g,h,i)PERYLENE	<10

SURROGATE PERCENT RECOVERIES

NITROBENZENE-D5 (%)	72
2-FLUOROBIPHENYL (%)	72
TERPHENYL (%)	43
PHENOL-D6 (%)	18
2-FLUOROPHENOL (%)	21
2,4,6-TRIBROMOPHENOL (%)	24

Analytical Technologies, Inc.

ADDITIONAL COMPOUNDS (SEMI-QUANTITATED)

TEST : SEMI-VOLATILE ORGANICS (EPA 625)

ATI I.D. : 20933125

COMPOUNDS	RESULTS
NO ADDITIONAL COMPOUNDS	

Analytical Technologies, Inc.

GCMS - RESULTS

REAGENT BLANK

TEST : SEMI-VOLATILE ORGANICS (EPA 625)

CLIENT	: CAMP, DRESSER AND MCKEE	ATI I.D.	: 209331
PROJECT #	: 8557-113-SI	DATE EXTRACTED	: 09/24/92
PROJECT NAME	: CHEV/ISLETA	DATE ANALYZED	: 09/30/92
CLIENT I.D.	: REAGENT BLANK	UNITS	: UG/L
		DILUTION FACTOR	: N/A

COMPOUNDS	RESULTS
N-NITROSODIMETHYLAMINE	<10
PHENOL	<10
ANILINE	<10
BIS(2-CHLOROETHYL)ETHER	<10
2-CHLOROPHENOL	<10
1,3-DICHLOROBENZENE	<10
1,4-DICHLOROBENZENE	<10
BENZYL ALCOHOL	<10
1,2-DICHLOROBENZENE	<10
2-METHYLPHENOL	<10
BIS(2-CHLOROISOPROPYL)ETHER	<10
4-METHYLPHENOL	<10
N-NITROSO-DI-N-PROPYLAMINE	<10
HEXACHLOROETHANE	<10
NITROBENZENE	<10
ISOPHORONE	<10
2-NITROPHENOL	<10
2,4-DIMETHYLPHENOL	<10
BENZOIC ACID	<50
BIS(2-CHLOROETHOXY)METHANE	<10
2,4-DICHLOROPHENOL	<10
1,2,4-TRICHLOROBENZENE	<10
NAPHTHALENE	<10
4-CHLOROANILINE	<10
HEXACHLOROBUTADIENE	<10
4-CHLORO-3-METHYLPHENOL	<10
2-METHYLNAPHTHALENE	<10
HEXACHLOROCYCLOPENTADIENE	<10
2,4,6-TRICHLOROPHENOL	<10
2,4,5-TRICHLOROPHENOL	<50
2-CHLORONAPHTHALENE	<10
2-NITROANILINE	<50
DIMETHYLPHTHALATE	<10
ACENAPHTHYLENE	<10
3-NITROANILINE	<50
ACENAPHTHENE	<10
2,4-DINITROPHENOL	<50
4-NITROPHENOL	<50
DIBENZOFURAN	<10
2,4-DINITROTOLUENE	<10
2,6-DINITROTOLUENE	<10
DIETHYLPHTHALATE	<10
4-CHLOROPHENYL-PHENYLETHER	<10

(CONTINUED NEXT PAGE)

Analytical Technologies, Inc.

GCMS - RESULTS

REAGENT BLANK

ATI I.D. : 209331

TEST : SEMI-VOLATILE ORGANICS (EPA 625)

COMPOUNDS	RESULTS
FLUORENE	<10
4-NITROANILINE	<50
4,6-DINITRO-2-METHYLPHENOL	<50
N-NITROSODIPHENYLAMINE	<10
4-BROMOPHENYL-PHENYLETHER	<10
HEXACHLOROBENZENE	<10
PENTACHLOROPHENOL	<50
PHENANTHRENE	<10
ANTHRACENE	<10
DI-N-BUTYLPHTHALATE	<10
FLUORANTHENE	<10
BENZIDINE	<100
PYRENE	<10
BUTYLBENZYLPHTHALATE	<10
3,3'-DICHLOROBENZIDINE	<20
BENZO(a)ANTHRACENE	<10
BIS(2-ETHYLHEXYL)PHTHALATE	<10
CHRYSENE	<10
DI-N-OCTYLPHTHALATE	<10
BENZO(b)FLUORANTHENE	<10
BENZO(k)FLUORANTHENE	<10
BENZO(a)PYRENE	<10
INDENO(1,2,3-cd)PYRENE	<10
DIBENZO(a,h)ANTHRACENE	<10
BENZO(g,h,i)PERYLENE	<10

SURROGATE PERCENT RECOVERIES

NITROBENZENE-D5 (%)	74
2-FLUOROBIPHENYL (%)	89
TERPHENYL (%)	78
PHENOL-D6 (%)	33
2-FLUOROPHENOL (%)	40
2,4,6-TRIBROMOPHENOL (%)	46

Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 209331

TEST : SEMI-VOLATILE ORGANICS (EPA 625)

CLIENT : CAMP, DRESSER AND MCKEE
PROJECT # : 8557-113-SI
PROJECT NAME : CHEV/ISLETA
REF I.D. : 21049801

DATE ANALYZED : 09/30/92
SAMPLE MATRIX : AQUEOUS
UNITS : UG/L

COMPOUNDS	SAMPLE RESULT	CONC. SPIKED	SPIKED SAMPLE	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
1,2,4-TRICHLOROBENZENE	<10	100	75	75	82	82	9
ACENAPHTHENE	<10	100	78	78	80	80	3
2,4-DINITROTOLUENE	<10	100	70	70	72	72	3
PYRENE	<10	100	79	79	79	79	0
N-NITROSO-DI-N-PROPYLAMINE	<10	100	72	72	80	80	11
1,4-DICHLOROBENZENE	<10	100	70	70	80	80	13
PENTACHLOROPHENOL	<50	200	160	80	150	75	6
PHENOL	<10	200	130	65	150	75	14
2-CHLOROPHENOL	<10	200	140	70	150	75	7
4-CHLORO-3-METHYLPHENOL	<10	200	150	75	150	75	0
4-NITROPHENOL	<50	200	150	75	160	80	6

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$

Analytical Technologies, Inc., Albuquerque, NM
San Diego ▪ Phoenix ▪ Seattle ▪ Pensacola ▪ Ft. Collins ▪ Portland ▪ Albuquerque

CHAIN OF CUSTODY

DATE: 9/22/92 PAGE 1 OF 3

ATI LAB I.D.: 209331

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER: PETE MAGGIORE

COMPANY: CDM
ADDRESS: 2400 LOUISIANA NE STE 740 ALBQ NM 87110
PHONE: 8813077
FAX:

BILL TO: ↑
COMPANY:
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	EDB	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	NUMBER OF CONTAINERS
W-1 ✓	9/22	10:24	H_2O	1	X	X	X			N
W-2		10:28		2						N
W-3		10:45		3						N
W-4 ✓		10:50		4			X			N
W-5		10:55		5				X	X	4
W-6		10:21		6						N
W-7		11:20		7						N
W-8		11:30		8						N
W-9 ✓	↓	11:10	↓	9	↓	↓	X			N

PROJECT INFORMATION

PROJ. NO.: 9557-113-SI
PROJ. NAME: CHEV/ISLETA/NMED
P.O. NO.:
SHIPPED VIA:

SAMPLE RECEIPT

NO. CONTAINERS	20
CUSTODY SEALS	Y / N (NA)
RECEIVED INTACT	Y
RECEIVED COLD	Y

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒ 2 WEEK

Comments:

SEND REPORT TO KELLY W KADING

Report as 601/602

SAMPLED & RELINQUISHED BY: 1.

Signature: Time: 13:48
Printed Name: KELLY W KADING Date: 9/22/92
Company: CDM Phone: 8813077

RELINQUISHED BY: 2.

Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 3.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 1.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 2.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY:(LAB) 3.

Signature: Time: 1348
Printed Name: Jerri Dotte Date: 9/22/92
Analytical Technologies, Inc.

Analytical**Technologies,**Inc., Albuquerque, NM
San Diego ▪ Phoenix ▪ Seattle ▪ Pensacola ▪ Ft. Collins ▪ Portland ▪ Albuquerque

CHAIN OF CUSTODY

DATE: 9/22/92 PAGE 2 OF 3

ATI LAB I.D. 209331

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER: PETE MAGGIORE

COMPANY: CDM
ADDRESS:

PHONE:
FAX:

BILL TO: ↑
COMPANY:
ADDRESS:

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
W-10 ✓	9/22	10:12	H_2O	10
W-11 ✓		11:05		11
W-12 ✓		9:57		12
W-14		9:53		13
W-15		11:00		14
W-16		9:45		15
W-17		9:40		16
W-18 ✓		9:31		17
W-19 ✓		9:36		18

ANALYSIS REQUEST

Petroleum Hydrocarbons (418.1)	(MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE/MTBE (MOD 8015/8020)	BTXE/MTBE (8020)			Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	SDWA Volatiles (502.1/503.1), 502.2 Reg. & Unreg.	EDB	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)			SDWA Primary Standards - Arizona	SDWA Secondary Standards - Arizona	SDWA Primary Standards - Federal	SDWA Secondary Standards - Federal		The 13 Priority Pollutant Metals	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)		NUMBER OF CONTAINERS
						X	X		X																	2
			X																						2
			X																						2
			X																						2
																									2
																									2
																									2
			X																						2
									X																2

PROJECT INFORMATION

PROJ. NO.: SEE PG 1
PROJ. NAME:
P.O. NO.:
SHIPPED VIA:

SAMPLE RECEIPT

NO. CONTAINERS: 18
CUSTODY SEALS: Y / N (NA)
RECEIVED INTACT: Y
RECEIVED COLD: Y

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒ 2 WEEK

Comments:
SEE PG 1

SAMPLED & RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Time: 1348	Signature: Time:	Signature: Time:
Printed Name: KELLY KOSKINEN Date: 9/22/92	Printed Name: Date:	Printed Name: Date:
Company: CDM Phone: 8813077	Company:	Company:

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY:(LAB) 3.
Signature: Time:	Signature: Time:	Signature: Time: 1348
Printed Name: Date:	Printed Name: Date:	Printed Name: Terri Dethe Date: 9/22/92
Company:	Company:	Analytical Technologies, Inc.

Analytical**Technologies,**Inc., Albuquerque, NM
San Diego ▪ Phoenix ▪ Seattle ▪ Pensacola ▪ Ft. Collins ▪ Portland ▪ Albuquerque

CHAIN OF CUSTODY

DATE: 9/22/92 PAGE 3 OF 3

ATI LAB I.D. 209331

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER: PETE MAGGIORE

COMPANY: CDM
ADDRESS:

PHONE:
FAX:

BILL TO: "
COMPANY:
ADDRESS:

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
W-20 ✓	9/22	10:38	H_2O	19
W-21 ✓		11:40		20
W-22		9:22		21
W-23		9:27		22
W-24		9:49		23
W-D25 ✓		10:08		24
W-26 ✓		9:15		25
W-27 ✓		10:33		26

ANALYSIS REQUEST

Petroleum Hydrocarbons (418.1)	(MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE/MTBE (MOD 8015/8020)	BTXE/MTBE (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	SDWA Volatiles (502.1/503.1), 502.2 Reg. & Unreg.	EDB	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	SDWA Primary Standards - Arizona	SDWA Secondary Standards - Arizona	SDWA Primary Standards - Federal	SDWA Secondary Standards - Federal	The 13 Priority Pollutant Metals	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)	NUMBER OF CONTAINERS
				X	X		X													2
			X				X													2
			X																	2
			X																	2
			X																	2
			X				X													2
			X				X			X	X									4
			X				X													2

PROJECT INFORMATION

PROJ. NO.:
PROJ. NAME: SEE PG 1
P.O. NO.:
SHIPPED VIA:

SAMPLE RECEIPT

NO. CONTAINERS	18
CUSTODY SEALS	Y / N (NA)
RECEIVED INTACT	Y
RECEIVED COLD	Y

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒ 2 WEEK

Comments:

SEE PG 1

SAMPLED & RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Time: 13:48	Signature: Time:	Signature: Time:
Printed Name: KELLY WADE Date: 9/22/92	Printed Name: Date:	Printed Name: Date:
Company: CDM Phone: 8813077	Company:	Company:

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY:(LAB) 3.
Signature: Time:	Signature: Time:	Signature: Time: 1348
Printed Name: Date:	Printed Name: Date:	Printed Name: Terri Dotts Date: 9/22/92
Company:	Company:	Analytical Technologies, Inc.

Analytical Technologies, Inc. Albuquerque, NM

Chain of Custody

DATE 9/22/92 PAGE 1 OF 3

NETWORK PROJECT MANAGER: BETH PROFFITT

COMPANY: Analytical Technologies, Inc.
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87106

CLIENT PROJECT MANAGER:
CP

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	TOX	TOC	ORGANIC LEAD	SULFIDE	SURFACTANTS (MBAS)	601/602	632/632 MOD	619/619 MOD	610/8310	601/602 + EDB	624/625	8240 (TCLP 1311) ZHE	601/602 + MTBE	Diesel/Gasoline/BTXE/MTBE/ (MOD 8015/8020)	Volatile Organics GC/MS (624/8240)	NACE	ASBESTOS	BOD	TOTAL COLIFORM	FECAL COLIFORM	GROSS ALPHA/BETA	RADIUM 226/228	AIR - O_2, CO_2, METHANE	AIR/Diesel/Gasoline/BTXE/ (MOD 8015/8020)	NUMBER OF CONTAINERS
209331-1	9/22/92	1024	AQ	1						X				X															2
209331-2	"	1028	"	2						X																			2
209331-3	"	1045	"	3						X																			2
209331-4	"	1050	"	4						X				X															4
209331-5	"	1055	"	5						X					X														2
209331-6	"	1021	"	6						X																			2
209331-7	"	1120	"	7						X																			2
209331-8	"	1130	"	8						X																			2
209331-9	"	1110	"	9						X				X															2

PROJECT INFORMATION	
PROJECT NUMBER:	209331
PROJECT NAME:	COM
QC LEVEL: (SID.) IV	
QC REQUIRED: MS MSD BLANK	
TAT (STANDARD) RUSH!	

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	20
CHAIN OF CUSTODY SEALS	N/A
INTACT?	Y
RECEIVED GOOD COND./COLD	Y
LAB NUMBER	209331

DUE DATE: 10/6/92
RUSH SURCHARGE: ____
CLIENT DISCOUNT: 10 %

W.O.# BP020

SAMPLES SENT TO:	
SAN DIEGO	
FT. COLLINS	
RENTON	
PENSACOLA	
PHOENIX	X
BARRINGER	
FIBERQUANT	

RELINQUISHED BY: 1.	
Signature:	Time: 1600
Printed Name: Terri Dettre	Date 9/22/92
Analytical Technologies, Inc. Albuquerque	
RECEIVED BY: (LAB) 1.	
Signature:	Time:
Printed Name:	Date:
Company:	

RELINQUISHED BY: 2.	
Signature:	Time:
Printed Name:	Date
Company:	
RECEIVED BY: (LAB) 2.	
Signature: Tom Sochs	Time: 10:01
Printed Name: Tom Sochs	Date: 9/23/92
Company: ATI - AZ	

AnalyticalTechnologies, Inc. Albuquerque, NM

Chain of Custody

DATE 9/22/92 PAGE 2 OF 3

NETWORK PROJECT MANAGER: BETH PROFFITT

COMPANY: **Analytical Technologies, Inc.**
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87106

CLIENT PROJECT MANAGER:
GR

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	TOX	TOC	ORGANIC LEAD	SULFIDE	SURFACTANTS (MBAS)	601 / 602 + MTBE - EP	632/632 MOD	619/619 MOD	610/8310	BTEX (NO) EP MTBE	601/602 + EDB	8240 (TCLP 1311) ZHE	Diesel/Gasoline/BTXE/MTBE/ (MOD 8015/8020)	Volatile Organics GC/MS (624/8240)	NACE	ASBESTOS	BOD	TOTAL COLIFORM	FECAL COLIFORM	GROSS ALPHA/BETA	RADIUM 226/228	AIR - O2, CO2, METHANE	AIR/Diesel/Gasoline/BTXE/ (MOD 8015/8020)	NUMBER OF CONTAINERS
209331-10	9/22/92	1017	AQ	10					X	X					X													2
209331-11		1105		11					X	X																		2
209331-12		0957		12					X	X																		2
209331-13		0953		13					X	X				X														2
209331-14		1100		14					X	X																		2
209331-15		0945		15					X	X																		2
209331-16		0940		16					X	X																		2
209331-17		0931		17					X	X																		2
209331-18		0936		18					X	X					X													2

PROJECT INFORMATION		SAMPLE RECEIPT	
PROJECT NUMBER:	209331	TOTAL NUMBER OF CONTAINERS	18
PROJECT NAME:	COM	CHAIN OF CUSTODY SEALS	N/A
QC LEVEL:	~~STD.~~ IV	INTACT?	Y
QC REQUIRED:	~~MS~~ MSD BLANK	RECEIVED GOOD COND./COLD	Y
TAT:	STANDARD ~~RUSH!~~	LAB NUMBER	209331

DUE DATE: 10/6/92
RUSH SURCHARGE: —
CLIENT DISCOUNT: 10 %

SAMPLES SENT TO:	
SAN DIEGO	
FT. COLLINS	
RENTON	
PENSACOLA	
PHOENIX	X
BARRINGER	
FIBERQUANT	

RELINQUISHED BY: 1.
Signature: Terri Dottre Time: 1600
Printed Name: Terri Dottre Date: 9/22/92
Analytical Technologies, Inc.
Albuquerque

RECEIVED BY: (LAB) 1.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date
Company:

RECEIVED BY: (LAB) 2.
Signature: Tom Socha Time: 10:01
Printed Name: Tom Socha Date: 9/23/92
Company: ATI-AZ

Analytical**Technologies,**Inc. Albuquerque NM

Chain of Custody

DATE 9/22/92 PAGE 3 OF 3

NETWORK PROJECT MANAGER: BETH PROFFITT

COMPANY: **Analytical Technologies, Inc.**
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87106

CLIENT PROJECT MANAGER:

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	TOX	TOC	ORGANIC LEAD	SULFIDE	SURFACTANTS (MBAS)	601/602 + BTEX (NO) EDB MTBE	632/632 MOD	619/619 MOD	610/8310	BTEX (NO) EDB MTBE	601/602 + EDB	8240 /TCLP 1311) ZHE	624+625	Diesel/Gasoline/BTXE/MTBE/ (MOD 8015/8020)	Volatile Organics GC/MS (624/8240)		NACE	ASBESTOS		BOD	TOTAL COLIFORM	FECAL COLIFORM		GROSS ALPHA/BETA	RADIUM 226/228		AIR - O2, CO2, METHANE	AIR/Diesel/Gasoline/BTXE/ (MOD 8015/8020)	NUMBER OF CONTAINERS
209331 - 19	9/22/92	1038	AQ	19					X	X					X																	2
209331 - 20		1140		20					X	X					X																	2
209331 - 21		0922		21					X																							2
209331 - 22		0927		22					X																							2
209331 - 23		0949		23					X																							2
209331 - 24		1005		24					X	X				X	X																	2
209331 - 25		0915		25					X	X				X	X		X															4
209331 - 26		1033		26					X	X				X	X																	2

PROJECT INFORMATION		SAMPLE RECEIPT	
PROJECT NUMBER:	209331	TOTAL NUMBER OF CONTAINERS	18
PROJECT NAME:	CDM	CHAIN OF CUSTODY SEALS	N/A
~~QC LEVEL:~~ ~~STD.~~ IV		INTACT?	Y
QC REQUIRED: ~~MS~~ MSD BLANK		RECEIVED GOOD COND./COLD	Y
TAT: STANDARD RUSH!		LAB NUMBER	209331

DUE DATE: 10/6/92
RUSH SURCHARGE: ——
CLIENT DISCOUNT: 10 %

SAMPLES SENT TO:	
SAN DIEGO	
FT. COLLINS	
RENTON	
PENSACOLA	
PHOENIX	X
BARRINGER	
FIBERQUANT	

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Terri Dottre Time: 1600	Signature: Time:
Printed Name: Terri Dottre Date: 9/22	Printed Name: Date
Analytical Technologies, Inc. Albuquerque	Company:
RECEIVED BY: (LAB) 1.	**RECEIVED BY: (LAB) 2.**
Signature: Time:	Signature: Tom Socha Time: 10:01
Printed Name: Date:	Printed Name: Tom Socha Date: 9/23/92
Company:	Company: ATI-AZ

Analytical **Technologies,** Inc.

2709-D Pan American Freeway, NE Albuquerque, NM 87107
Phone (505) 344-3777 FAX (505) 344-4413

ATI I.D. **210352**

November 12, 1992

Camp, Dresser & McKee
2400 Louisiana Blvd., NE, #740
Albuquerque, NM 87110

Project Name/Number: CHEV ISLETA 8557-113-SI

Attention: Pete Maggiore

On **10/22/92**, Analytical Technologies, Inc. received a request to analyze **aqueous** sample(s). The sample(s) were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

EPA Method 601 & EDB analyses was performed by ATI, Portland.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Elizabeth Proffitt
Laboratory Manager

EP:td
Enclosure

Analytical Technologies, Inc.

CLIENT : CAMP, DRESSER & MCKEE
PROJECT # : 8557-113-SI
PROJECT NAME: CHEV ISLETA

DATE RECEIVED: 10/22/92
REPORT DATE : 11/12/92

ATI I.D.: 210352

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	W-28	AQUEOUS	10/22/92
02	W-13A	AQUEOUS	10/22/92

----TOTALS----

MATRIX	# SAMPLES
AQUEOUS	2

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

EST : EPA METHOD 602 & MTBE
CLIENT : CAMP, DRESSER & MCKEE ATI I.D.: 210352
ROJECT # : 8557-113-SI
ROJECT NAME: CHEV ISLETA

AMPLE .D. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	W-28	AQ	10/22/92	NA	11/03/92	1
02	W-13A	AQ	10/22/92	NA	11/03/92	1

PARAMETER	UNITS	01	02
ENZENE	UG/L	<0.5	<0.5
TOLUENE	UG/L	<0.5	<0.5
THYLBENZENE	UG/L	<0.5	<0.5
OTAL XYLENES	UG/L	<0.5	<0.5
ETHYL-t-BUTYL ETHER	UG/L	10	8.8
CHLOROBENZENE	UG/L	<0.5	<0.5
,3-DICHLOROBENZENE	UG/L	<0.5	<0.5
,4-DICHLOROBENZENE	UG/L	<0.5	<0.5
1,2-DICHLOROBENZENE	UG/L	<0.5	<0.5
ROMOFLUOROBENZENE (%)		95	97

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

REAGENT BLANK

TEST	: EPA METHOD 602 & MTBE	ATI I.D.	: 210352
LANK I.D.	: 110392	DATE EXTRACTED	: NA
CLIENT	: CAMP, DRESSER & MCKEE	DATE ANALYZED	: 11/03/92
PROJECT #	: 8557-113-SI	DILUTION FACTOR:	1
ROJECT NAME:	CHEV ISLETA		

PARAMETER	UNITS	
ENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
THYLBENZENE	UG/L	<0.5
OTAL XYLENES	UG/L	<0.5
METHYL-t-BUTYL ETHER	UG/L	<2.5
CHLOROBENZENE	UG/L	<0.5
,3-DICHLOROBENZENE	UG/L	<0.5
,4-DICHLOROBENZENE	UG/L	<0.5
1,2-DICHLOROBENZENE	UG/L	<0.5
ROMOFLUOROBENZENE (%)		98

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - QUALITY CONTROL

MSMSD

EST	: EPA METHOD 602 & MTBE	ATI I.D.	: 210352
MSMSD #	: 110392	DATE EXTRACTED	: NA
CLIENT	: CAMP, DRESSER & MCKEE	DATE ANALYZED	: 11/03/92
		SAMPLE MATRIX	: AQUEOUS
PROJECT #	: 8557-113-SI	REF. I.D.	: 110392
PROJECT NAME	: CHEV ISLETA	UNITS	: UG/L

PARAMETERS	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD
BENZENE	<0.5	10	9.8	98	9.6	96	2
TOLUENE	<0.5	10	9.8	98	9.7	97	1
ETHYL BENZENE	<0.5	10	10	100	9.8	98	2
TOTAL XYLENES	<0.5	30	30	100	29	97	3
MTBE	<2.5	20	21	105	21	105	0

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 601 & EDB
LIENT : CAMP, DRESSER & MCKEE ATI I.D.: 210352
ROJECT # : 8557-113-SI
PROJECT NAME: CHEV ISLETA

AMPLE I.D. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	W-28	AQUEOUS	10/22/92	NA	11/04/92	1
02	W-13A	AQUEOUS	10/22/92	NA	11/04/92	1

ARAMETER	UNITS	01	02
BROMODICHLOROMETHANE	UG/L	<0.2	<0.2
ROMOFORM	UG/L	<0.5	<0.5
ROMOMETHANE	UG/L	<2.0	<2.0
CARBON TETRACHLORIDE	UG/L	<0.2	<0.2
CHLOROBENZENE	UG/L	<0.5	<0.5
HLOROETHANE	UG/L	<2.0	<2.0
HLOROFORM	UG/L	<0.2	<0.2
CHLOROMETHANE	UG/L	<1.0	<1.0
,2-DIBROMOETHANE (EDB)	UG/L	<0.5	<0.5
,2-DICHLOROBENZENE	UG/L	<0.5	<0.5
1,3-DICHLOROBENZENE	UG/L	<0.5	<0.5
,4-DICHLOROBENZENE	UG/L	<0.5	<0.5
IBROMOCHLOROMETHANE	UG/L	<0.2	<0.2
,1-DICHLOROETHANE	UG/L	<0.2	<0.2
1,2-DICHLOROETHANE (EDC)	UG/L	<0.2	<0.2
,1-DICHLOROETHENE	UG/L	<0.2	<0.2
IS-1,2-DICHLOROETHENE	UG/L	38 D	9.3
TRANS-1,2-DICHLOROETHENE	UG/L	2.9	2.2
,2-DICHLOROPROPANE	UG/L	<0.2	<0.2
IS-1,3-DICHLOROPROPENE	UG/L	<0.2	<0.2
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.2	<0.2
ETHYLENE CHLORIDE	UG/L	<2.0	<2.0
,1,2,2-TETRACHLOROETHANE	UG/L	2.1	<0.2
TETRACHLOROETHENE	UG/L	<0.2	<0.2
1,1,1-TRICHLOROETHANE	UG/L	<0.5	<0.5
,1,2-TRICHLOROETHANE	UG/L	<0.2	<0.2
RICHLOROETHENE	UG/L	10	<0.2
TRICHLOROFLUOROMETHANE	UG/L	<0.5	<0.5
INYL CHLORIDE	UG/L	<1.0	<1.0
SURROGATE:			
ROMOFLUOROBENZENE (%)		105	110

D = DILUTED 10X

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

REAGENT BLANK

EST :	EPA 601 & EDB	ATI I.D. :	210352
CLIENT :	CAMP, DRESSER & MCKEE	DATE EXTRACTED :	NA
BLANK I.D. :	110492	DATE ANALYZED :	11/04/92
ROJECT # :	8557-113-SI	DILUTION FACTOR:	1
PROJECT NAME:	CHEV ISLETA		

ARAMETER	UNITS	
BROMODICHLOROMETHANE	UG/L	<0.2
ROMOFORM	UG/L	<0.5
ROMOMETHANE	UG/L	<2.0
CARBON TETRACHLORIDE	UG/L	<0.2
HLOROBENZENE	UG/L	<0.5
HLOROETHANE	UG/L	<2.0
HLOROFORM	UG/L	<0.2
CHLOROMETHANE	UG/L	<1.0
,2-DIBROMOETHANE (EDB)	UG/L	<0.5
2-DICHLOROBENZENE	UG/L	<0.5
1,3-DICHLOROBENZENE	UG/L	<0.5
,4-DICHLOROBENZENE	UG/L	<0.5
IBROMOCHLOROMETHANE	UG/L	<0.2
,1-DICHLOROETHANE	UG/L	<0.2
1,2-DICHLOROETHANE (EDB)	UG/L	<0.2
,1-DICHLOROETHENE	UG/L	<0.2
IS-1,2-DICHLOROETHENE	UG/L	<0.2
TRANS-1,2-DICHLOROETHENE	UG/L	<0.2
,2-DICHLOROPROPANE	UG/L	<0.2
IS-1,3-DICHLOROPROPENE	UG/L	<0.2
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.2
ETHYLENE CHLORIDE	UG/L	<2.0
,1,2,2-TETRACHLOROETHANE	UG/L	<0.2
TETRACHLOROETHENE	UG/L	<0.2
1,1,1-TRICHLOROETHANE	UG/L	<0.5
,1,2-TRICHLOROETHANE	UG/L	<0.2
RICHLOROETHENE	UG/L	<0.2
TRICHLOROFLUOROMETHANE	UG/L	<0.5
INYL CHLORIDE	UG/L	<1.0
SURROGATE:		
ROMOCHLOROMETHANE (%)		109

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

REAGENT BLANK

TEST	: EPA 601 & EDB	ATI I.D.	: 210352
CLIENT	: CAMP, DRESSER & MCKEE	DATE EXTRACTED	: NA
BLANK I.D.	: 110592	DATE ANALYZED	: 11/05/92
PROJECT #	: 8557-113-SI	DILUTION FACTOR:	1
PROJECT NAME:	CHEV ISLETA		

PARAMETER	UNITS	
BROMODICHLOROMETHANE	UG/L	<0.2
BROMOFORM	UG/L	<0.5
BROMOMETHANE	UG/L	<2.0
CARBON TETRACHLORIDE	UG/L	<0.2
CHLOROBENZENE	UG/L	<0.5
CHLOROETHANE	UG/L	<2.0
CHLOROFORM	UG/L	<0.2
CHLOROMETHANE	UG/L	<1.0
1,2-DIBROMOETHANE (EDB)	UG/L	<0.5
1,2-DICHLOROBENZENE	UG/L	<0.5
1,3-DICHLOROBENZENE	UG/L	<0.5
1,4-DICHLOROBENZENE	UG/L	<0.5
DIBROMOCHLOROMETHANE	UG/L	<0.2
1,1-DICHLOROETHANE	UG/L	<0.2
1,2-DICHLOROETHANE (EDB)	UG/L	<0.2
1,1-DICHLOROETHENE	UG/L	<0.2
CIS-1,2-DICHLOROETHENE	UG/L	<0.2
TRANS-1,2-DICHLOROETHENE	UG/L	<0.2
1,2-DICHLOROPROPANE	UG/L	<0.2
CIS-1,3-DICHLOROPROPENE	UG/L	<0.2
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.2
METHYLENE CHLORIDE	UG/L	<2.0
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.2
TETRACHLOROETHENE	UG/L	<0.2
1,1,1-TRICHLOROETHANE	UG/L	<0.5
1,1,2-TRICHLOROETHANE	UG/L	<0.2
TRICHLOROETHENE	UG/L	<0.2
TRICHLOROFLUOROMETHANE	UG/L	<0.5
VINYL CHLORIDE	UG/L	<1.0
SURROGATE:		
BROMOCHLOROMETHANE (%)		113

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - QUALITY CONTROL

MSMSD

EST	: EPA 601 & EDB	ATI I.D.	: 210352
SMSD #	: 110492	DATE EXTRACTED:	NA
CLIENT	: CAMP, DRESSER & MCKEE	DATE ANALYZED :	11/04/92
		SAMPLE MATRIX :	AQUEOUS
ROJECT #	: 8557-113-SI	REF. I.D.	: 110492
PROJECT NAME:	CHEV ISLETA	UNITS	: UG/L

PARAMETERS	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD
HLOROBENZENE	<0.5	10.0	8.2	82	8.4	84	2
,1-DICHLOROETHENE	<0.2	10.0	7.2	72	7.0	70	3
TRICHLOROETHENE	<0.2	10.0	9.1	91	9.3	93	2

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - QUALITY CONTROL

MSMSD

TEST	: EPA 601 & EDB	ATI I.D.	: 210352
SMSD #	: 110592	DATE EXTRACTED	: NA
LIENT	: CAMP, DRESSER & MCKEE	DATE ANALYZED	: 11/05/92
		SAMPLE MATRIX	: AQUEOUS
ROJECT #	: 8557-113-SI	REF. I.D.	: 110592
ROJECT NAME:	CHEV ISLETA	UNITS	: UG/L

ARAMETERS	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD
CHLOROBENZENE	<0.5	10.0	7.8	78	8.3	83	6
,1-DICHLOROETHENE	<0.2	10.0	6.8	68	7.1	71	4
RICHLOROETHENE	<0.2	10.0	8.4	84	9.0	90	7

Analytical Technologies, Inc., Albuquerque, NM
San Diego ▪ Phoenix ▪ Seattle ▪ Pensacola ▪ Ft. Collins ▪ Portland ▪ Albuquerque

CHAIN OF CUSTODY

DATE: 10/22 PAGE 1 OF 1

ATI I.D. 210352

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER: PETE MAGGIORE

COMPANY: CDM
ADDRESS: 2400 LOUISIANA STE 440
ABQ NM
PHONE: 8813077
FAX: 881 6169

BILL TO:
COMPANY:
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	NUMBER OF CONTAINERS
W-28	10/22	8:50	H_2O	1	WW
W-13A	10/22	9:40	H_2O	2	WW

Petroleum Hydrocarbons (418.1); (MOD 8015) Gas/Diesel; Diesel/Gasoline/BTXE/MTBE (MOD 8015/8020); BTXE/MTBE (8020); Chlorinated Hydrocarbons (601/8010): 1X 2X; Aromatic Hydrocarbons (602/8020) +MTBE: 1X 2X; SDWA Volatiles (502.1/503.1), 502.2 Reg. & Unreg.: EDB/EDC 1X 2X; Pesticides/PCB (608/8080); Herbicides (615/8150); Base/Neutral/Acid Compounds GC/MS (625/8270); Volatile Organics GC/MS (624/8240); Polynuclear Aromatics (610/8310); SDWA Primary Standards - Arizona; SDWA Secondary Standards - Arizona; SDWA Primary Standards - Federal; SDWA Secondary Standards - Federal; The 13 Priority Pollutant Metals; RCRA Metals by Total Digestion; RCRA Metals by TCLP (1311)

PROJECT INFORMATION		SAMPLE RECEIPT	
PROJ. NO.:	8557113-SI	NO. CONTAINERS	6
PROJ. NAME:	CHEV / SLETA	CUSTODY SEALS	Y / N / NA
P.O. NO.:		RECEIVED INTACT	Y
SHIPPED VIA:		RECEIVED COLD	Y

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒ 2 WEEK

Comments:

SAMPLED & RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Time: 1035	Signature: Time:	Signature: Time:
Printed Name: KELLY WADING Date: 10/22	Printed Name: Date:	Printed Name: Date:
Company: CDM Phone: 8813077	Company:	Company:

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY:(LAB) 3.
Signature: Time:	Signature: Time:	Signature: Time: 1035
Printed Name: Date:	Printed Name: Date:	Printed Name: Terri DeHre Date: 10/22/92
Company:	Company:	Analytical Technologies, Inc.

Analytical Technologies, Inc.

2709-D Pan American Freeway, NE Albuquerque, NM 87107
Phone (505) 344-3777 FAX (505) 344-4413

ATI I.D. 209321

September 21, 1992

Camp, Dresser & McKee
2400 Louisiana Blvd., NE #740
Albuquerque, NM 87110

Project Name/Number: CHEV. ISLETA/NMED 8557-113-SI

Attention: Kelly Kading

On 09/16/92, Analytical Technologies, Inc. received a request to analyze soil sample(s). The sample(s) were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Elizabeth Proffitt
Laboratory Manager

EP:td
Enclosure

Analytical Technologies, Inc.

CLIENT : CAMP, DRESSER & MCKEE DATE RECEIVED: 09/16/92
PROJECT # : 8557-113-SI
PROJECT NAME : CHEV. ISLETA/NMED REPORT DATE : 09/21/92

ATI I.D.: 209321

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	W-27-5'	SOIL	09/15/92
02	W-26-5'	SOIL	09/16/92

----TOTALS----

MATRIX	# SAMPLES
SOIL	2

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX, MTBE (EPA 8020)
CLIENT : CAMP, DRESSER & MCKEE ATI I.D.: 209321
PROJECT # : 8557-113-SI
PROJECT NAME: CHEV. ISLETA/NMED

SAMPLE I.D. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	W-27-5'	SOIL	09/15/92	09/17/92	09/17/92	1
02	W-26-5'	SOIL	09/16/92	09/17/92	09/17/92	1

PARAMETER	UNITS	01	02
BENZENE	MG/KG	<0.025	<0.025
TOLUENE	MG/KG	<0.025	<0.025
ETHYLBENZENE	MG/KG	<0.025	<0.025
TOTAL XYLENES	MG/KG	<0.025	<0.025
METHYL-t-BUTYL ETHER	MG/KG	<0.12	<0.12
BROMOFLUOROBENZENE (%)		100	97

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

REAGENT BLANK

TEST	: BTEX, MTBE (EPA 8020)	ATI I.D.	: 209321
BLANK I.D.	: 091792	DATE EXTRACTED	: 09/17/92
CLIENT	: CAMP, DRESSER & MCKEE	DATE ANALYZED	: 09/17/92
PROJECT #	: 8557-113-SI	DILUTION FACTOR:	1
PROJECT NAME:	CHEV. ISLETA/NMED		

PARAMETER	UNITS	
BENZENE	MG/KG	<0.025
TOLUENE	MG/KG	<0.025
ETHYLBENZENE	MG/KG	<0.025
TOTAL XYLENES	MG/KG	<0.025
METHYL-t-BUTYL ETHER	MG/KG	<0.12
BROMOFLUOROBENZENE (%)		106

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - QUALITY CONTROL

MSMSD

TEST	: BTEX, MTBE (EPA 8020)	ATI I.D.	: 209321
MSMSD #	: 091792	DATE EXTRACTED	: 09/17/92
CLIENT	: CAMP, DRESSER & MCKEE	DATE ANALYZED	: 09/17/92
		SAMPLE MATRIX	: SOIL
PROJECT	: 8557-113-SI	REF. I.D.	: 091792
PROJECT NAME	: CHEV. ISLETA/NMED	UNITS	: MG/KG

PARAMETERS	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD
BENZENE	<0.025	1.0	1.0	100	1.1	110	10
TOLUENE	<0.025	1.0	1.1	110	1.1	110	0
ETHYL BENZENE	<0.025	1.0	1.0	100	1.1	110	10
TOTAL XYLENES	<0.025	3.0	3.0	100	3.2	107	6
MTBE	<0.12	2.0	2.2	110	2.3	115	4

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - QUALITY CONTROL

MSMSD

TEST	: BTEX, MTBE (EPA 8020)	ATI I.D.	: 209321
MSMSD #	: 20932101	DATE EXTRACTED	: 09/17/92
CLIENT	: CAMP, DRESSER & MCKEE	DATE ANALYZED	: 09/17/92
		SAMPLE MATRIX	: SOIL
PROJECT	: 8557-113-SI	REF. I.D.	: 20932101
PROJECT NAME	: CHEV. ISLETA/NMED	UNITS	: MG/KG

PARAMETERS	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD
BENZENE	<0.025	1.0	1.0	100	1.0	100	0
TOLUENE	<0.025	1.0	1.0	100	1.1	110	10
ETHYL BENZENE	<0.025	1.0	1.0	100	1.1	110	10
TOTAL XYLENES	<0.025	3.0	3.0	100	3.1	103	3
MTBE	<0.12	2.0	2.2	110	2.2	110	0

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8015 MODIFIED
CLIENT : CAMP, DRESSER & MCKEE ATI I.D.: 209321
PROJECT # : 8557-113-SI
PROJECT NAME: CHEV. ISLETA/NMED

SAMPLE I.D. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	W-27-5'	SOIL	09/15/92	09/17/92	09/17/92	1
02	W-26-5'	SOIL	09/16/92	09/17/92	09/17/92	1

PARAMETER	UNITS	01	02
FUEL HYDROCARBONS	MG/KG	<5	<5
HYDROCARBON RANGE	MG/KG	-	-
HYDROCARBONS QUANTITATED USING	MG/KG	-	-
DI-N-OCTYL PHTHALATE (%)		130	124

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

REAGENT BLANK

TEST	: EPA 8015 MODIFIED	ATI I.D.	: 209321
BLANK I.D.	: 091792	DATE EXTRACTED	: 09/17/92
CLIENT	: CAMP, DRESSER & MCKEE	DATE ANALYZED	: 09/17/92
PROJECT #	: 8557-113-SI	DILUTION FACTOR:	1
PROJECT NAME:	CHEV. ISLETA/NMED		

PARAMETER	UNITS	
FUEL HYDROCARBONS	MG/KG	<5
HYDROCARBON RANGE	MG/KG	-
HYDROCARBONS QUANTITATED USING	MG/KG	-
DI-N-OCTYL-PHTHALATE (%)		97

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - QUALITY CONTROL

MSMSD

TEST	: EPA 8015 MODIFIED	ATI I.D.	: 209321
MSMSD #	: 20932101	DATE EXTRACTED	: 09/17/92
CLIENT	: CAMP, DRESSER & MCKEE	DATE ANALYZED	: 09/17/92
		SAMPLE MATRIX	: SOIL
PROJECT #	: 8557-113-SI	REF. I.D.	: 20932101
PROJECT NAME	: CHEV. ISLETA/NMED	UNITS	: MG/KG

PARAMETERS	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD
FUEL HYDROCARBONS	<5	25	17	68	17	68	0

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - QUALITY CONTROL

MSMSD

TEST	: EPA 8015 MODIFIED	ATI I.D.	: 209321
MSMSD #	: 091792	DATE EXTRACTED	: 09/17/92
CLIENT	: CAMP, DRESSER & MCKEE	DATE ANALYZED	: 09/17/92
		SAMPLE MATRIX	: SOIL
PROJECT #	: 8557-113-SI	REF. I.D.	: 091792
PROJECT NAME	: CHEV. ISLETA/NMED	UNITS	: MG/KG

PARAMETERS	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD
DIESEL HYDROCARBONS	<5	25	18	72	17	68	6

Analytical Technologies, Inc., Albuquerque, NM
San Diego ▪ Phoenix ▪ Seattle ▪ Pensacola ▪ Ft. Collins ▪ Portland ▪ Albuquerque

CHAIN OF CUSTODY

DATE: 9/16/92 PAGE 1 OF 1

ATI LAB I.D. 20921

PROJECT MANAGER: Kelly Kading

COMPANY: CDM
ADDRESS: 2400 LOUISIANA NE
SUITE 740 ABQ NM
PHONE: 881 3077
FAX:

BILL TO:
COMPANY:
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1)	(MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE/MTBE (MOD 8015/8020)	BTXE/MTBE (8020)	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	SDWA Volatiles (502.1/503.1), 502.2 Reg. & Unreg.	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	SDWA Primary Standards - Arizona	SDWA Secondary Standards - Arizona	SDWA Primary Standards - Federal	SDWA Secondary Standards - Federal	The 13 Priority Pollutant Metals	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)	NUMBER OF CONTAINERS
W-27-5'	9/15	1350	SOIL	1		X	X																	1
W-26-5'	9/16	835	SOIL	2		X																		1

PROJECT INFORMATION

PROJ. NO.: 8567-113-SI
PROJ. NAME: CHEV. KLETA / NMED
P.O. NO.:
SHIPPED VIA:

SAMPLE RECEIPT

NO. CONTAINERS	2
CUSTODY SEALS	Y / N / (NA)
RECEIVED INTACT	Y
RECEIVED COLD	Y

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒ 2 WEEK

Comments:

SAMPLED & RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Time: 12:15	Signature: Time:	Signature: Time:
Printed Name: Date: KELLY W KADING 9/16/92	Printed Name: Date:	Printed Name: Date:
Company: CDM Phone: 8813077	Company:	Company:

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY:(LAB) 3.
Signature: Time:	Signature: Time:	Signature: Time: Terri Dottie 12:15
Printed Name: Date:	Printed Name: Date:	Printed Name: Date: Terri Dottie 9/16/92
Company:	Company:	Analytical Technologies, Inc.

Analytical Technologies, Inc.

2709-D Pan American Freeway, NE Albuquerque, NM 87107
Phone (505) 344-3777 FAX (505) 344-4413

ATI I.D. **210331**

October 21, 1992

Camp, Dresser & McKee
2400 Louisiana Blvd., NE #740
Albuquerque, NM 87110

Project Name/Number: NMED CHEVRON ISLETA 8557-113-SI

Attention: Pete Maggiore

On **10/14/92**, Analytical Technologies, Inc. received a request to analyze **soil** sample(s). The sample(s) were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Elizabeth Proffitt
Laboratory Manager

EP:td
Enclosure

Analytical Technologies, Inc.

CLIENT : CAMP, DRESSER & MCKEE
PROJECT # : 8557-113-SI
PROJECT NAME: NMED CHEVRON ISLETA

DATE RECEIVED: 10/14/92
REPORT DATE : 10/21/92

ATI I.D.: 210331

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	W-28-10	SOIL	10/14/92
02	W-13A-5	SOIL	10/14/92

----TOTALS----

MATRIX	# SAMPLES
SOIL	2

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX, MTBE (EPA 8020)
CLIENT : CAMP, DRESSER & MCKEE ATI I.D.: 210331
PROJECT # : 8557-113-SI
PROJECT NAME: NMED CHEVRON ISLETA

SAMPLE I.D. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	W-28-10	SOIL	10/14/92	10/15/92	10/15/92	1
02	W-13A-5	SOIL	10/14/92	10/15/92	10/15/92	1

PARAMETER	UNITS	01	02
BENZENE	MG/KG	<0.25	<0.025
TOLUENE	MG/KG	<0.25	<0.025
ETHYLBENZENE	MG/KG	<0.25	<0.025
TOTAL XYLENES	MG/KG	<0.25	<0.025
METHYL-t-BUTYL ETHER	MG/KG	<0.12	<0.12
BROMOFLUOROBENZENE (%)		82	93

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

REAGENT BLANK

TEST	: BTEX, MTBE (EPA 8020)	ATI I.D.	: 210331
BLANK I.D.	: 101592	DATE EXTRACTED	: 10/15/92
CLIENT	: CAMP, DRESSER & MCKEE	DATE ANALYZED	: 10/15/92
PROJECT #	: 8557-113-SI	DILUTION FACTOR:	1
PROJECT NAME:	NMED CHEVRON ISLETA		

PARAMETER	UNITS	
BENZENE	MG/KG	<0.025
TOLUENE	MG/KG	<0.025
ETHYLBENZENE	MG/KG	<0.025
TOTAL XYLENES	MG/KG	<0.025
METHYL-t-BUTYL ETHER	MG/KG	<0.12
BROMOFLUOROBENZENE (%)		96

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - QUALITY CONTROL

MSMSD

TEST : BTEX, MTBE (EPA 8020)
MSMSD # : 101592
CLIENT : CAMP, DRESSER & MCKEE

PROJECT # : 8557-113-SI
PROJECT NAME: NMED CHEVRON ISLETA

ATI I.D. : 210331
DATE EXTRACTED: 10/15/92
DATE ANALYZED : 10/16/92
SAMPLE MATRIX : SOIL
REF. I.D. : 101592
UNITS : MG/KG

PARAMETERS	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD
BENZENE	<0.025	1.0	0.83	83	0.81	81	2
TOLUENE	<0.025	1.0	0.90	90	0.86	86	5
ETHYL BENZENE	<0.025	1.0	0.81	81	0.79	79	2
TOTAL XYLENES	<0.025	3.0	2.7	90	2.6	87	4
MTBE	<0.12	2.0	1.4	70	1.4	70	0

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8015 MODIFIED
CLIENT : CAMP, DRESSER & MCKEE ATI I.D.: 210331
PROJECT # : 8557-113-SI
PROJECT NAME: NMED CHEVRON ISLETA

SAMPLE I.D. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	W-28-10	SOIL	10/14/92	10/15/92	10/15/92	1
02	W-13A-5	SOIL	10/14/92	10/15/92	10/15/92	1

PARAMETER	UNITS	01	02
FUEL HYDROCARBONS	MG/KG	<5	<5
HYDROCARBON RANGE	MG/KG	-	-
HYDROCARBONS QUANTITATED USING	MG/KG	-	-
DI-N-OCTYL PHTHALATE (%)		91	88

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

REAGENT BLANK

TEST	: EPA 8015 MODIFIED	ATI I.D.	: 210331
BLANK I.D.	: 101592	DATE EXTRACTED	: 10/15/92
CLIENT	: CAMP, DRESSER & MCKEE	DATE ANALYZED	: 10/15/92
PROJECT #	: 8557-113-SI	DILUTION FACTOR:	1
PROJECT NAME:	NMED CHEVRON ISLETA		

PARAMETER	UNITS	
FUEL HYDROCARBONS	MG/KG	<5
HYDROCARBON RANGE	MG/KG	-
HYDROCARBONS QUANTITATED USING	MG/KG	-
DI-N-OCTYL-PHTHALATE (%)		102

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - QUALITY CONTROL

MSMSD

TEST	: EPA 8015 MODIFIED	ATI I.D.	: 210331
MSMSD #	: 21033101	DATE EXTRACTED	: 10/15/92
CLIENT	: CAMP, DRESSER & MCKEE	DATE ANALYZED	: 10/15/92
		SAMPLE MATRIX	: SOIL
PROJECT #	: 8557-113-SI	REF. I.D.	: 21033101
PROJECT NAME	: NMED CHEVRON ISLETA	UNITS	: MG/KG

PARAMETERS	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD
FUEL HYDROCARBONS	<5	101	89	88	94	93	5

Analytical Technologies, Inc., Albuquerque, NM

San Diego ▪ Phoenix ▪ Seattle ▪ Pensacola ▪ Ft. Collins ▪ Portland ▪ Albuquerque

CHAIN OF CUSTODY

DATE: 10/14 PAGE 1 OF 1

ATI LAB I.D. 210331

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER: PETER MAGGIORE

COMPANY: CDM
ADDRESS: 2400 LOUISIANA BLVD NE. STE 740
PHONE: 881 3077
FAX: 881 6169

BILL TO:
COMPANY:
ADDRESS:

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
W-28-10	10/14	9:38	SOIL	1
W-13A-5	10/14	11:15	SOIL	2

ANALYSIS REQUEST

Petroleum Hydrocarbons (418.1)	(MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE/MTBE (MOD 8015/8020)	BTXE/MTBE (8020)			Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	SDWA Volatiles (502.1/503.1), 502.2 Reg. & Unreg.			Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)			SDWA Primary Standards - Arizona	SDWA Secondary Standards - Arizona	SDWA Primary Standards - Federal	SDWA Secondary Standards - Federal			The 13 Priority Pollutant Metals	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)		NUMBER OF CONTAINERS
		X																										1
		X																										1

PROJECT INFORMATION

PROJ. NO.: 8557-113-SI
PROJ. NAME: NMED CHEVRON ISLETA
P.O. NO.:
SHIPPED VIA: HAND DEL

SAMPLE RECEIPT

NO. CONTAINERS	2
CUSTODY SEALS	Y / N / (NA)
RECEIVED INTACT	Y
RECEIVED COLD	Y

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒ 2 WEEK

Comments:

SAMPLED & RELINQUISHED BY: 1.

Signature: [signature] Time: 1400
Printed Name: KELLY WADING Date: 10/14
Company: CDM Phone: 881 3077

RELINQUISHED BY: 2.

Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 3.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 1.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 2.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY:(LAB) 3.

Signature: Time: 1400
Printed Name: Terri DeTore Date: 10/14/92
Analytical Technologies, Inc.

APPENDIX D

MICROBIOLOGICAL CHARACTERIZATION REPORT
(IDAHO STATE UNIVERSITY)

Project Report: **Preliminary Microbial Characterization**
Isleta Blvd site (Proj. 85557-1133-SI)

To: **Kelly W. Kading**
Camp Dresser & McKee

From: **Mary E. Watwood, Ph.D. and Michael M. Morse**

Date: **November 3, 1992**

A microbial characterization was performed on two soil samples collected from the NME/Chevron Isleta Blvd site (Proj. 8557-113-SI). The two samples will be denoted throughout the report as Clean and Impacted. The clean sample was collected 4' below grade at W-26. The impacted sample was collected 5' below grade at HA-X, east of the tank basin.

The microbial characterization included enumeration of active microbiological populations in the two samples, including total heterotrophs and hydrocarbon degraders. Total heterotrophic populations (those capable of using general carbon substrate for growth) were cultured on nutrient agar and dilute nutrient agar. Plates were counted after 4 days of incubation at room temperature.

Hydrocarbon degraders were assayed by plating on mineral salts medium with no added organic carbon. Subsequent to plating, a mixture of diesel, leaded gasoline and unleaded gasoline (2:2:1; leaded: unleaded: diesel) added to the bottom of the plate to act as sole carbon source. Therefore, any colonies which grew up on these plates were capable of degrading the contaminant hydrocarbon as sole source of carbon.

The results of the analysis are indicated in the following table. Numbers reported are cells per gram wet weight of sample and represent a mean value based on all analyses. The observed range of counts is given in parentheses.

	Clean sample	Impacted sample
Nutrient agar	2.4×10^4 ($2.56 - 2.25 \times 10^4$)	4.2×10^5 ($4.5 - 3.9 \times 10^5$)
Dilute nutrient agar	2.0×10^4	3.3×10^5 ($2.3 - 4.2 \times 10^5$)
Mineral salts - hydrocarbon	2.6×10^3 ($2.7 - 2.4 \times 10^3$)	0

These results indicate that (1) There is a close match between enriched and dilute nutrient agar counts. This can be interpreted to mean that the total heterotrophic populations present in the two samples are not particularly fastidious with respect to their carbon requirement, and can grow well under a variety of environmental conditions. (2) Total heterotrophic population numbers are increased by an order of magnitude in the impacted sample, compared with the clean sample. This is not unexpected in view of the frequent observation that carbon and other nutrients can be elevated in hydrocarbon contaminated subsurface regions, and therefore higher levels of population growth can be supported. In this situation the clear implication is that the hydrocarbon contamination is definitely not toxic to the subsurface heterotrophic microbial populations. (3) The clean sample contains hydrocarbon degraders at levels approximately one tenth the number of total heterotrophs. However, the contaminated sample does not contain culturable hydrocarbon degraders. While the reasons for this result are not immediately clear, it is important to note that the plating experiment was repeated three times to verify the result.

Based on these results, it is our conclusion that substantial population enrichment will be required in order to successfully bioremediate the site. Within the heavily contaminated areas, active hydrocarbon degraders simply cannot be observed. Within the clean site, hydrocarbon degrading population numbers are still somewhat low; some type of nutritional amendment would perhaps increase these populations, resulting in higher potential levels of contaminant degradation. A complete microbial analysis with toxicological studies and nutrient/oxygen amendment tests would provide data necessary for developing an enrichment plan.